We are in the midst of publishing a new and improved Test Catalog, so please bear with us while it is under construction. In the meantime, we have provided you with this comprehensive document that contains all test information that was in our previous catalog. To quickly find a test, press Ctrl F to Find the test name or code that you are looking for.

Thank you!
Alphabetical Test Listing
**DOC 11-Deoxycorticosterone, Serum**

*Mayo Clinic Laboratories in Rochester*

**Specimen Required**

**Container/Tube:**
- **Preferred:** Red top
- **Acceptable:** Serum gel

**Specimen Volume:** 0.5 mL

**Collection Instructions:** Morning (8 a.m.) specimen is preferred.

**Secondary ID**

46919

**Useful For**

Diagnosis of suspected 11-hydroxylase deficiency, including the differential diagnosis of 11 beta-hydroxylase 1 (CYP11B1) versus 11 beta-hydroxylase 2 (CYP11B2) deficiency, and in the diagnosis of glucocorticoid-responsive hyperaldosteronism

Evaluating congenital adrenal hyperplasia newborn screen-positive children, when elevations of 17-hydroxyprogesterone are only moderate, suggesting possible 11-hydroxylase deficiency

**Testing Algorithm**

See Steroid Pathways in Special Instructions.

**Special Instructions**

- Steroid Pathways

**Method Name**

Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Reporting Name**

11-Deoxycorticosterone, S

**Specimen Type**

Serum

**Specimen Minimum Volume**

0.4 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: OK
- Gross icterus: OK

**Reference Values**

≤18 years: <30 ng/dL
>18 years: <10 ng/dL

**CPT Code Information**

82633

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOCS</td>
<td>11-Deoxycorticosterone, S</td>
<td>1656-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>46922</td>
<td>11-Deoxycorticosterone, S</td>
<td>1656-8</td>
</tr>
</tbody>
</table>

**DOC11 11-Deoxycortisol, Serum**

*Mayo Clinic Laboratories in Rochester*

**Secondary ID**

46920

**Useful For**

Diagnostic workup of patients with congenital adrenal hyperplasia

Part of metyrapone testing in the workup of suspected secondary or tertiary adrenal insufficiency

Part of metyrapone testing in the differential diagnostic workup of Cushing syndrome

**Testing Algorithm**

See Steroid Pathways in Special Instructions.

**Special Instructions**

- Steroid Pathways

**Method Name**

Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Reporting Name**

11-Deoxycortisol, S

**Specimen Type**

Serum

**Necessary Information**

Indicate if specimen was drawn before or after metyrapone.

**Specimen Required**

**Container/Tube:**
- **Preferred:** Red top
- **Acceptable:** Serum gel

**Specimen Volume:** 0.5 mL

**Collection Instructions:** Morning (8 a.m.) specimen is preferred.

**Specimen Minimum Volume**

0.4 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>
Reference Values
≤18 years: <344 ng/dL
>18 years: 10-79 ng/dL

For SI unit Reference Values, see https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html

Day(s) and Time(s) Performed
Tuesday; 10 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82634

LOINC Code Information
<table>
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<th>Test ID</th>
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<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>DCORT</td>
<td>11-Deoxycortisol, S</td>
<td>1657-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>46923</td>
<td>11-Deoxycortisol, S</td>
<td>1657-6</td>
</tr>
</tbody>
</table>

PRIPRO 14-3-3 (CJD) Prion Protein

Baystate Reference Laboratories

Additional Information

Collection Container
Other

Other Acceptable Specimen Types

Special Handling Instructions

Specimen Volume
1 mL

Minimum Specimen Volume

Transport Temperature

Specimen Stability

Reasons for Rejection

Methodology

Days and Times Performed

Turnaround Time

CPT Code

EMR Interface Order Code
04235

NBOHPR 17 OH Progesterone, Newborn <30 Days Old

Esoterix Inc

Collection Container
Red
Serum

Specimen Volume
0.3 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 7 days, Refrigerated: 7 days, Frozen: up to 14 days

CPT Code
83498

EMR Interface Order Code
26851

P17OHP 17 OH Progesterone, Pediatric <13 Yrs

LabCorp

Collection Container
Serum gel
Serum

Special Handling Instructions
Serum/plasma must be separated within 1 hour of collection

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 7 days, Refrigerated: 7 days, Frozen: 14 days

CPT Code
83498

EMR Interface Order Code
26885
**U17HCQ  17-Hydroxycorticosteroids, Urine**

*LabCorp*

**Collection Container**

Jug

24 Hour urine

**Special Handling Instructions**

Urine should be well-mixed before aliquoting.

Also acceptable: Specimens refrigerated with preservatives.

Sample pH must be 5.0 - 7.0

Mix well, add 1 g boric acid/100 mL urine, adjust pH (with boric acid) to 5.0 - 7.0 and freeze.

Record total volume, collection time, and pH on transport tube and test request form

**Specimen Volume**

12 mL

**Transport Temperature**

Freeze

**Specimen Stability**

Room temperature: 4 hours, Refrigerated: 7 days, Frozen: 1 month

**Reasons for Rejection**

Alkali preservatives (e.g. specimens previously preserved with NaOH)

**Methodology**

Quantitative Porter-Silber

**Turnaround Time**

3 - 7 days

**CPT Code**

83491

**LOINC Code**

21036-9

**EMR Interface Order Code**

11415

---

**OH17PG  17-Hydroxypregnenolone, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**

17-Hydroxypregnenolone, S

**Useful For**

As an ancillary test for congenital adrenal hyperplasia (CAH), particularly in situations in which a diagnosis of 21-hydroxylase and 11-hydroxylase deficiency have been ruled out

Confirming a diagnosis of 3-beta-hydroxy dehydrogenase (3-beta-HSD) deficiency

Analysis for 17-hydroxypregnenolone is also useful as part of a battery of tests to evaluate females with hirsutism or infertility; both can result from adult-onset CAH.

**Testing Algorithm**

See Steroid Pathways in Special Instructions.

**Specimen Type**

Serum

---

**Specimen Required**

**Collection Container/Tube:**

Preferred: Red top

Acceptable: Serum gel

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 1 mL

**Specimen Minimum Volume**

0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**

- Steroid Pathways

**Reference Values**

**CHILDREN**

**Males**

Premature (26-28 weeks): 1,219-9,799 ng/dL

Premature (29-36 weeks): 346-8,911 ng/dL

Full term (1-5 months): 229-3,104 ng/dL

6 months-364 days: 221-1,981 ng/dL

1-2 years: 35-712 ng/dL

3-6 years: <277 ng/dL

7-9 years: <188 ng/dL

10-12 years: <393 ng/dL

13-15 years: 35-465 ng/dL

16-17 years: 32-478 ng/dL

**Females**

Premature (26-28 weeks): 1,219-9,799 ng/dL

Premature (29-36 weeks): 346-8,911 ng/dL

Full term (1-5 months): 229-3,104 ng/dL

6 months-364 days: 221-1,981 ng/dL

1-2 years: 35-712 ng/dL

3-6 years: <277 ng/dL

7-9 years: <213 ng/dL

10-12 years: <399 ng/dL

13-15 years: <408 ng/dL

16-17 years: <424 ng/dL

**TANNER STAGES**

Stage I: <209 ng/dL

Stage II: <356 ng/dL

Stage III: <451 ng/dL

Stage IV-V: <35-478 ng/dL

**Females**

Premature (26-28 weeks): 1,219-9,799 ng/dL

Premature (29-36 weeks): 346-8,911 ng/dL

Full term (1-5 months): 229-3,104 ng/dL

6 months-364 days: 221-1,981 ng/dL

1-2 years: 35-712 ng/dL

3-6 years: <277 ng/dL

7-9 years: <213 ng/dL

10-12 years: <399 ng/dL

13-15 years: <408 ng/dL

16-17 years: <424 ng/dL

**TANNER STAGES**

Stage I: <236 ng/dL

Stage II: <368 ng/dL

Stage III: <431 ng/dL

Stage IV-V: <413 ng/dL

**ADULTS**

Males

≥18 years: 55-455 ng/dL

Females

≥18 years: 31-455 ng/dL


**Day(s) and Time(s) Performed**

Monday, Tuesday, Thursday; 8 a.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA
requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
84143

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>17OHP</td>
<td>17-Hydroxyprogrenolone, S</td>
<td>6765-2</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>81151</td>
<td>17-Hydroxyprogrenolone, S</td>
<td>6765-2</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

PR17OH  17-Hydroxyprogesterone, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
17-Hydroxyprogesterone, S

Useful For
The analysis of 17-hydroxyprogesterone (17-OHPG) is 1 of the 3 analytes along with cortisol and androstenedione, that constitutes the best screening test for congenital adrenal hyperplasia (CAH), caused by either 11- or 21-hydroxylase deficiency.

Analysis for 17-OHPG is also useful as part of a battery of tests to evaluate females with hirsutism or infertility; both can result from adult-onset CAH

Testing Algorithm
See Steroid Pathways in Special Instructions.

Specimen Type
Serum Red

Specimen Required

Container/Tube: Red top
Specimen Volume: 0.6 mL
Additional Information: Indicate patient's age and sex.

Specimen Minimum Volume
0.25 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Steroid Pathways

Reference Values
Children
Preterm infants may exceed 630 ng/dL, however, it is uncommon to see levels reach 1,000 ng/dL.
Term infants
0-28 days: <630 ng/dL
Levels fall from newborn (<630 ng/dL) to prepubertal gradually within 6 months.
Prepubertal males: <110 ng/dL
Prepubertal females: <100 ng/dL
Adults
Males: <220 ng/dL
Females
Follicular: <80 ng/dL
Luteal: <285 ng/dL
Postmenopausal: <51 ng/dL


Day(s) and Time(s) Performed
Monday through Friday; 4 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83498

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>OHPG</td>
<td>17-Hydroxyprogesterone, S</td>
<td>1668-3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>9231</td>
<td>17-Hydroxyprogesterone, S</td>
<td>1668-3</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: OK
- Other: Serum gel tube

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

GLIOF  1p/19q Deletion in Gliomas, FISH, Tissue

Mayo Clinic Laboratories in Rochester

Useful For
Aids in diagnosing oligodendroglioma tumors and predicting the response of an oligodendroglioma to therapy

May be useful in tumors with a complex "hybrid" morphology requiring differentiation from pure astrocytomas to support the presence of oligodendrogliol differentiation/lineage

Indicated when a diagnosis of oligodendroglioma, both low-grade World Health Organization (WHO, grade II) and anaplastic (WHO, grade III) is rendered

Strongly recommended when a diagnosis of mixed oligoastrocytomas is rendered
**Reflex Tests**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>I099</em></td>
<td>Interphases, 25-99</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td><em>I300</em></td>
<td>Interphases, &gt;=100</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td><em>IL25</em></td>
<td>Interphases, &lt;25</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td><em>PADD</em></td>
<td>Probe, +1</td>
<td>No, (Bill Only)</td>
<td>No</td>
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<tr>
<td><em>PB02</em></td>
<td>Probe, +2</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td><em>PB03</em></td>
<td>Probe, +3</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td><em>PBCT</em></td>
<td>Probe, +2</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
</tbody>
</table>

**Testing Algorithm**

This test does not include a pathology consult. If a pathology consultation is requested, PATHC / Pathology Consultation should be ordered and the appropriate FISH test will be ordered and performed at an additional charge.

This test includes a charge for application of the first probe set (2 FISH probes) and professional interpretation of results. Additional charges will be incurred for all reflex probes performed. Analysis charges will be incurred based on the number of cells analyzed per probe set. If no cells are available for analysis, no analysis charges will be incurred.

Chromosomal microarray (CMA#, / Chromosomal Microarray, Tumor, Formalin-Fixed Paraffin-Embedded), rather than FISH, may be of benefit to evaluate for acquired alterations associated with the molecular classification of glioma. See Cytogenetic Analysis of Glioma in Special Instructions.

**Special Instructions**

- Incidence of 1p and 19q Losses versus Glioma Subtype and Primary Status
- Cytogenetic Analysis of Glioma

**Method Name**

Fluorescence In Situ Hybridization (FISH) Using DNA Probes

**Reporting Name**

1p/19q Deletion, Glioma, FISH, Ts

**Specimen Type**

Tissue

**Shipping Instructions**

Advise Express Mail or equivalent if not on courier service.

**Necessary Information**

A reason for referral and pathology report are required in order for testing to be performed. Send information with specimen. Acceptable pathology reports include working drafts, preliminary pathology or surgical pathology reports.

**Specimen Required**

Submit only 1 of the following specimens:

- **Specimen Type:** Tissue
- **Preferred:** Tissue block

**Collection Instructions:** Submit a formalin-fixed, paraffin-embedded (FFPE) tumor tissue block. Blocks prepared with alternative fixation methods may be acceptable; provide fixation method used.

**Acceptable:** Slides

---

**Collection Instructions:** Six consecutive, unstained, 5 micron-thick sections placed on positively charged slides, and 1 hematoxylin and eosin-stained slide.

**Specimen Minimum Volume**

Four consecutive, unstained, 5-micron-thick sections placed on positively charged slides and 1 hematoxylin and eosin-stained slide

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tissue</td>
<td>Ambient (preferred)</td>
<td></td>
<td>Refrigerated</td>
</tr>
</tbody>
</table>

**Reject Due To**

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Reference Values**

An interpretive report will be provided.

**Day(s) and Time(s) Performed**

Samples processed Monday through Sunday. Results reported Monday through Friday, 8 a.m.-5 p.m.

**Test Classification**

This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

- 88271x2, 88291 1C,−1C- DNA probe, each (first probe set), Interpretation and report
- 88276x2 1C,−1C- DNA probe, each; each additional probe set (if appropriate)
- 88271x1 1C,−1C- DNA probe, each; coverage for sets containing 3 probes (if appropriate)
- 88271x2 1C,−1C- DNA probe, each; coverage for sets containing 4 probes (if appropriate)
- 88271x3 1C,−1C- DNA probe, each; coverage for sets containing 5 probes (if appropriate)
- 88274 w/modifier 52 1C,−1C- Interphase in situ hybridization, <25 cells, each probe set (if appropriate)
- 88274 1C,−1C- Interphase in situ hybridization, 25 to 99 cells, each probe set (if appropriate)
- 88275 1C,−1C- Interphase in situ hybridization, 100 to 300 cells, each probe set (if appropriate)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLIOF</td>
<td>1p/19q Deletion, Glioma, FISH, Ts</td>
<td>In Process</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
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<tbody>
<tr>
<td>52107</td>
<td>Result Summary</td>
<td>50397-9</td>
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<tr>
<td>52109</td>
<td>Interpretation</td>
<td>69965-2</td>
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<tr>
<td>52108</td>
<td>Result</td>
<td>62356-1</td>
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<tr>
<td>CG739</td>
<td>Reason For Referral</td>
<td>42349-1</td>
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<td>Specimen</td>
<td>31208-2</td>
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<td>52111</td>
<td>Source</td>
<td>31208-2</td>
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<tr>
<td>52112</td>
<td>Tissue ID</td>
<td>80398-1</td>
</tr>
<tr>
<td>52113</td>
<td>Method</td>
<td>49549-9</td>
</tr>
<tr>
<td>54579</td>
<td>Additional Information</td>
<td>48767-8</td>
</tr>
<tr>
<td>53836</td>
<td>Disclaimer</td>
<td>62364-5</td>
</tr>
<tr>
<td>52114</td>
<td>Released By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>
**Forms**
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

**Secondary ID**
35272

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**BPGF2  2,3-Dinor-11 Beta-Prostaglandin F2 Alpha, Urine**

*Mayo Clinic Laboratories in Rochester*

**Useful For**
Screening for mast cell activation disorders including systemic mastocytosis

**Testing Algorithm**
When this test is performed, urine creatinine will always be performed at no additional charge.

**Method Name**
23BPG: Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
AACT: Enzymatic Colorimetric Assay

**Reporting Name**
2,3-dinor 11B-Prostaglandin F2a, U

**Specimen Type**
Urine

**Advisory Information**

**Specimen Required**
Submit only 1 of the following specimens:

**Patient Preparation:** Patients taking aspirin or nonsteroidal anti-inflammatory drugs (NSAIDs) may have decreased concentrations of prostaglandin F2 alpha. If possible, discontinue for 2 weeks or 72 hours, respectively, prior to collecting a specimen.

**Preferred:** 24-hour urine collection
**Supplies:** Plastic, 5-mL tube (T465)
**Specimen Volume:** 4 mL
**Collection Instructions:**
1. Collect urine for 24 hours.
2. Refrigerate specimen during collection, and send specimen refrigerated.

**Additional Information:** See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Acceptable:** Random collection
**Supplies:** Plastic, 5-mL tube (T465)
**Specimen Volume:** 4 mL
**Collection Instructions:**
1. Collect a random urine specimen.
2. Refrigerate specimen after collection. Send specimen refrigerated or frozen; do not add any preservative.

**Specimen Minimum Volume**
3 mL

---

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
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</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>8 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Reference Values**
<5,205 pg/mg creatinine

**Day(s) and Time(s) Performed**
Monday, Thursday; 11 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
84150

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>23BPG</td>
<td>2,3-dinor 11B-Prostaglandin F2a, U</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>37931</td>
<td>2,3-dinor 11B-Prostaglandin F2a, U</td>
<td>In Process</td>
</tr>
</tbody>
</table>

**Special Instructions**
- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens

**Urine Preservative Collection Options**

**Note:** The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.

<table>
<thead>
<tr>
<th>Preserve</th>
<th>Acceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>50% Acetic Acid</td>
<td>OK</td>
</tr>
<tr>
<td>Boric Acid</td>
<td>OK</td>
</tr>
<tr>
<td>Diazolidinyl Urea</td>
<td>No</td>
</tr>
<tr>
<td>6M Hydrochloric Acid</td>
<td>No</td>
</tr>
<tr>
<td>6M Nitric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Sodium Carbonate</td>
<td>OK</td>
</tr>
<tr>
<td>Thymol</td>
<td>No</td>
</tr>
<tr>
<td>Toluene</td>
<td>No</td>
</tr>
</tbody>
</table>

**Secondary ID**
37931

---

**VITDMS  25-Hydroxyvitamin D2 and D3, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
25-Hydroxyvitamin D2 and D3, S

**Useful For**
Diagnosis of vitamin D deficiency
Differential diagnosis of causes of rickets and osteomalacia
Monitoring vitamin D replacement therapy

Diagnosis of hypervitaminosis D

**Specimen Type**
Serum

**Specimen Required**

<table>
<thead>
<tr>
<th>Container/Tube:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preferred:</strong></td>
<td>Serum gel</td>
</tr>
<tr>
<td><strong>Acceptable:</strong></td>
<td>Red top</td>
</tr>
</tbody>
</table>

**Specimen Volume:** 0.5 mL

**Specimen Minimum Volume**

0.25 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature (preferred)</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

TOTAL 25-HYDROXYVITAMIN D2 AND D3 (25-OH-VitD)

<10 ng/mL (severe deficiency)*

10-19 ng/mL (mild to moderate deficiency)**

20-50 ng/mL (optimum levels)***

51-80 ng/mL (increased risk of hypercalcemia)****

>80 ng/mL (toxicity possible)*****

*Could be associated with osteomalacia or rickets

**May be associated with increased risk of osteoporosis or secondary hyperparathyroidism

***Optimum levels in the healthy population; patients with bone disease may benefit from higher levels within this range

****Sustained levels >50 ng/mL 25OH-VitD along with prolonged calcium supplementation may lead to hypercalcemia and decreased renal function

*****80 ng/mL is the lowest reported level associated with toxicity in patients without primary hyperparathyroidism who have normal renal function. Most patients with toxicity have levels >150 ng/mL. Patients with renal failure can have very high 25-OH-VitD levels without any signs of toxicity, as renal conversion to the active hormone 1,25-OH-VitD is impaired or absent.

These reference ranges represent clinical decision values, based on the 2011 Institute of Medicine report, that apply to males and females of all ages, rather than population-based reference values. Population reference ranges for 25-OH-VitD vary widely depending on ethnic background, age, geographic location of the studied populations, and the sampling season. Population-based ranges correlate poorly with serum 25-OH-VitD concentrations that are associated with biologically and clinically relevant vitamin D effects and are therefore of limited clinical value.

For SI unit Reference Values, see https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html

**Day(s) and Time(s) Performed**

Monday through Friday; Continuous until 2:30 p.m.

Specimens on patients who are less than 1 year old are only performed on Tuesday and Friday.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

---

**CPT Code Information**

82306

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>25HDN</td>
<td>25-Hydroxyvitamin D2 and D3, S</td>
<td>49590-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2897</td>
<td>25-Hydroxy D2</td>
<td>49054-0</td>
</tr>
<tr>
<td>2898</td>
<td>25-Hydroxy D3</td>
<td>1989-3</td>
</tr>
<tr>
<td>83670</td>
<td>25-Hydroxy D Total</td>
<td>62292-8</td>
</tr>
</tbody>
</table>

**Reject Due To**

Gross hemolysis OK

Gross lipemia OK

Gross icterus OK

**Method Name**

Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Forms**

If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

**VITD25  25OH Vitamin D**

Baystate Reference Laboratories

**Collection Container**

Serum gel preferred. Heparinized plasma and EDTA plasma also accepted

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.3 mL serum

**Specimen Stability**

Room Temperature: 8 hours, Refrigerated: 4 days, Frozen: 24 weeks

**Methodology**

Electrochemiluminescence immunoassay (ECLIAl)

**Days and Times Performed**

Monday - Sunday

**Turnaround Time**

24 hours

**Reference Ranges**

Male and Female: 20 - 50 ng/mL

<12 ng/mL: At risk of Vitamin D deficiency

12 - 19 ng/mL: At risk of Vitamin D inadequacy

20 - 50 ng/mL: Sufficient in Vitamin D

>50 ng/mL: Possibly harmful Vitamin D

**Units of Measure**

ng/mL

**CPT Code**

82306

**EMR Interface Order Code**

27525
**CFMTHF 5 Methyltetrahydrofolate, CSF**

**Medical Neurogenetics**

**Collection Container**
Call lab
Call Lab for insructions

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Specimen Stability**
Frozen

**Methodology**
HPLC/Electrochemistry

**CPT Code**
82542

**EMR Interface Order Code**
13565

---

**FLU5 5-Flucytosine, Serum**

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
5-Flucytosine, S

**Useful For**
Monitoring serum concentration during therapy
Evaluating potential toxicity
May be useful to evaluate patient compliance

**Specimen Type**
Serum

**Specimen Required**

**Container/Tube:**
Preferred: Red top
Acceptable: Serum gel

**Specimen Volume:** 0.5 mL

**Collection Instructions:**
1. Serum for a peak level should be drawn 1 to 2 hours after oral dose or 30 minutes after intravenous infusion. Trough specimens should be drawn immediately prior to next scheduled dose.
2. Spin down within 2 hours of draw.

**Specimen Minimum Volume**
0.3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
Therapeutic concentration:
Peak >25.0 mcg/mL (difficult infections may require higher concentrations)
Toxic concentration:
Peak >100.0 mcg/mL

**Day(s) and Time(s) Performed**
Tuesday, Thursday, 9 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
82542

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLUC</td>
<td>5-Flucytosine, S</td>
<td>3639-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>82741</td>
<td>5-Flucytosine, S</td>
<td>3639-2</td>
</tr>
</tbody>
</table>

**Reject Due To**
Gross hemolysis: OK
Gross lipemia: OK
Gross icterus: OK

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Secondary ID**
82741

**Forms**
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

---

**UHIAAQ 5-HIAA Quantitative, Urine**

**LabCorp**

**Patient Instructions**
Avoid bananas, avocados, plums, eggplant, tomatoes, avocados plums, eggplant, tomatoes, plantain, pineapple, walnuts, and interfering drugs for a 72 hour period prior to and during collection.
Foods and medications associated with altered urinary HIAA results:
Decreased HIAA: Aspirin, chlorpromazine (Thorazine), corticotropin, dihydroxyphenylacetic acid, alcohol, gentisic acid, homogentisic acid, hydrazine derivatives, imipramine (Tofranil ), <i>l</i>-carnitine (Marplan), keto acids, levodopa, MAO inhibitors, methenamine methylbipiperazine (Aldomet ), perchlorperazine, phenothiazines (Compazine ), promazine, promethazine (Mepergan ).
Increased HIAA:
Acetaminophen, acetanilide, caffeine, coumaric acid, diazepam (Valium ), ephedrine, fluorouracil, glycerol guaiacolate (Guaifenesin), melphalan (Alkeran ), mephenesin, methamphetamine (Desoxyn), methocarbamol (Robaxin ), naproxen, nicotine, phenacetin, phenmetrazine, phenobarbital, phentolamine, rauwolfia, reserpine.

**Collection Container**
24 hour urine jug, kept refrigerated during and after collection
24 hour urine
Refrigerate during and after collection period

**Specimen Volume**
Entire 24 hour collection
Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Turnaround Time
5-9 days

CPT Code
83497

EMR Interface Order Code
06750

**URHIAA  5-HIAA Random Urine**

*LabCorp*

**Patient Instructions**
Patients should not eat bananas, avocados, plums, eggplant, tomatoes, avocados plums, eggplant, tomatoes, plantain, pineapple, walnuts, and interfering drugs for a 72 hour period prior to and during collection. Foods and medications associated with altered urinary HIAA results: Decreased HIAA: Aspirin, chlorpromazine (Thorazine), corticotropin, dihydroxyphenylacetic acid, alcohol, gentisic acid, homogentisic acid, hydrazine derivatives, imipramine (Tofranil.), <isocarboxazid (Marplan), keto acids, levodopa, MAO inhibitors, methenamine methylmephenyl (Aldomet.), perchorperazine, phenothiazines (Compazine.), promazine, promethazine (Mepergan.). Increased HIAA: Acetaminophen, acetanilide, caffeine, coumaric acid, diazepam (Valium.), ephedrine, fluorouracil glycerol guaiacolate (Guaifenesin), melphalan (Alkeran.), mephenesin, methamphetamine (Desoxyn), methocarbamol (Robaxin.), naproxen, nicotine, phenacetin, phenmetrazine, phenobarbital, phenolamine, rauwolfia, reserpine.

**Collection Container**
Urine container
Random urine

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerated

**Turnaround Time**
5-9 days

**CPT Code**
82570, 83497

**EMR Interface Order Code**
65480

**NTP5  5’Nucleotidase**

*ARUP Laboratories*

**Reporting Name**
5’ Nucleotidase

**Specimen Type**
Serum

---

**Specimen Required**

**Specimen Type:** Serum
**Container/Tube:** SST or Red
**Specimen Volume:** 1 mL
**Collection Instructions:** Draw blood in a serum gel tube(s), plain red-top tube(s) is acceptable. Spin down and send 1 mL of serum refrigerate in a plastic vial.

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>4 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
0 - 15 U/L

**Day(s) and Time(s) Performed**
Sunday through Saturday

**CPT Code Information**
83915

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>F5NUL</td>
<td>5’ Nucleotidase</td>
<td>1690-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z2607</td>
<td>5’ Nucleotidase</td>
<td>1690-7</td>
</tr>
</tbody>
</table>

**Reject Due To**

- **Hemolysis:** Mild; reject, Gross; reject
- **Thawing:** Warm reject; Cold OK
- **Lipemia:** NA
- **Icterus:** NA
- **Other:** NA

**Method Name**
Quantitative Enzymatic

**Secondary ID**
57285

**Test Classification**
This test was developed and its performance characteristics determined by ARUP Laboratories. The U.S. Food and Drug Administration has not approved or cleared this test; however, FDA clearance or approval is not currently required for clinical use. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions.

**DEHYCH  7 Dehydrocholesterol**

*Kennedy Institute For Handicapped Children*

**Collection Container**
Lavender (EDTA)

**Plasma**
Other Acceptable Specimen Types
Heparinized plasma

Specimen Volume
1 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate or freeze

Specimen Stability
Frozen

Methodology
Column chromatography

CPT Code
82542

EMR Interface Order Code
04865

7AC4 7AC4, Bile Acid Synthesis, Serum
Mayo Clinic Laboratories in Rochester

Specimen Required

Patient Preparation:
1. Patient must be fasting for at least 12 hours; fasting morning specimen is preferred.
2. Patient should not be taking bile acid sequestrants or statins.

Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL

Secondary ID
65504

Useful For
Screening for bile acid malabsorption in patients with irritable bowel syndrome-diarrhea (IBS-D)

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
Stable Isotope Dilution Analysis

Reporting Name
7AC4, Bile Acid Synthesis, S

Specimen Type
Serum

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>90 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>72 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis OK
- Gross lipemia OK
- Gross icterus OK

Reference Values
≥18 years: 2.5-63.2 ng/mL
Reference values have not been established for patients who are <18 years of age.

Day(s) and Time(s) Performed
Wednesday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82542

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7AC4</td>
<td>7AC4, Bile Acid Synthesis, S</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>65504</td>
<td>7AC4, Bile Acid Synthesis, S</td>
<td>In Process</td>
</tr>
</tbody>
</table>

Forms
If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Client Test Request (T728) with the specimen.

HABRH  ABO Blood Type and Rh (D)
Baystate Reference Laboratories

Additional Information
Detects presence/absence of the A and B antigens on the red blood cells and the corresponding antibodies in the plasma. In some patients (eg: newborns, elderly, or immunocompromised patients), the expected ABO antibodies may be weak or missing. The test may be limited in its ability to detect some subgroups of type A patients.

Collection Container
Lavender (EDTA)

Special Handling Instructions
Positive identification of the patient. When applicable, compare the hospital wristband with the patient information on the request form. Label the tubes with the patients’ full name, unique identification number (eg: medical record number, typenex number), date, time, and initials of collector (two sets of initials for patients to be transfused)

Specimen Volume
4 mL

Minimum Specimen Volume
4 mL

Reasons for Rejection
Specimen improperly labeled; specimen grossly hemolyzed

Methodology
Hemagglutination (HA)

Days and Times Performed
Daily, 24 hours
**HABRHD  ABO Group, Rh Type and Direct Antiglobulin Test (DAT)**

**Additional Information**

Detects presence/absence of the A and B antigens on the red blood cells and the corresponding antibodies in the plasma. In some patients (eg: newborns, elderly, or immunocompromised patients), the expected ABO antibodies may be weak or missing. The test may be limited in its ability to detect some subgroups of type A patients.

A Direct Antiglobulin Test (DAT) includes testing with a polyspecific antihuman and monospecific reagents (anti-IgG and anti-C3b- C3d) except cord blood which is tested with anti-IgG antihuman serum only. Eluates from positive cells are prepared and antibody identification performed as indicated on recently transfused patients, for investigation of immune hemolytic anemia, transfusion reactions cause by red cell incompatibility, and investigation of hemolytic disease of the newborn.

Agglutination of red blood cells in the presence of antihuman serum is a positive test result which indicates the presence of human IgG and/or complement (C3b and/or C3d) on the red blood cells. Methods detect IgG immunoglobulins or complement absorbed on red cells for immune hemolytic anemias caused by antibody and/or complement components being bound to patients' red cells, transfusion reactions due to red cell incompatibility and hemolytic disease of the newborn.

**Collection Container**

Lavender (EDTA)

**Special Handling Instructions**

Positive identification of the patient. When applicable, compare the hospital wristband with the patient information on the request form. Label the tubes with the patients’ full name, unique identification number (eg: medical record number, typenex number), date, time, and initials of collector (two sets of initials for patients to be transfused)

**Specimen Volume**

4 mL

**Minimum Specimen Volume**

4 mL

**Reasons for Rejection**

Specimen improperly labeled; specimen grossly hemolyzed

**Methodology**

Hemagglutination (HA)

**Days and Times Performed**

Daily, 24 hours

**Reference Ranges**

Report includes interpretation as appropriate

**CPT Code**

86900 (ABO); 86901 (Rh(D)); 86880 (each Direct Antiglobulin Test)

**EMR Interface Order Code**

60040

---

**ACACGM  Acacia Gum IgE**

**Contracted Reference Lab**

**Collection Container**

Serum gel or red top tube

**Specimen Volume**

For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**

0.1 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**

ImmunoCAP

**Turnaround Time**

3-5 days

**CPT Code**

86003

**EMR Interface Order Code**

48805

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**ACACIA  Acacia Tree IgE**

**Contracted Reference Lab**

**Collection Container**

Serum gel or red top tube

**Specimen Volume**

For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**

0.1 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**

ImmunoCAP

**Turnaround Time**

3-5 days

**CPT Code**

86003

**EMR Interface Order Code**

48425
**ACETAL Acetaldehyde**

*LabCorp*

**Collection Container**
Red

**Serum**

**Other Acceptable Specimen Types**
EDTA or sodium fluoride plasma

**Special Handling Instructions**
Serum or plasma should be separated from cells within 45 minutes of venipuncture.
Send serum or plasma in a plastic transport tube and store frozen both post-collection and during transport to the lab.
Freeze serum/plasma as soon as it is separated.

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
0.7 mL

**Transport Temperature**
Freeze

**Specimen Stability**
Room temperature: unstable, Refrigerated: unstable, Frozen: undetermined

**Reasons for Rejection**
Gel-barrier tube received room temperature or refrigerated.

**Methodology**
Headspace Gas Chromatography (HS-GC)

**CPT Code**
80329

**LOINC Code**
3298-7

**EMR Interface Order Code**
10050

---

**ACTMPH Acetaminophen**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel

**Serum**

**Other Acceptable Specimen Types**
EDTA Plasma, Heparinized plasma

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.15 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room Temp: 24 hours capped
Refrigerated: 7 days capped
Frozen: 6 months

---

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours for routine, 1 hour for stats

**Reference Ranges**
Male and Female: 15-30 mg/L

**Critical Results**
>37 mg/L

**Units of Measure**
mg/L

**CPT Code**
80329

**LOINC Code**
3298-7

**EMR Interface Order Code**
10050

---

**Acetoacetate Acetoacetate, Serum**

*NMS Labs*

**Specimen Required**

**Specimen Type**: Serum
**Container/Tube**: Red
**Specimen Volume**: 3 mL

Draw blood in a plain, red-top tube(s). **Serum gel tube is not acceptable.** Spin down and send 3 mL of serum frozen in a plastic, preservative-free vial.

**Secondary ID**
75388

**Method Name**
Gas Chromatography (GC)

**Reporting Name**
Acetoacetate, Serum

**Specimen Type**
Serum Red

**Specimen Minimum Volume**
1.2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Frozen (preferred)</td>
<td>4 days</td>
<td>Refrigerated</td>
</tr>
</tbody>
</table>

**Reject Due To**

- **Hemolysis**: NA
- **Lipemia**: NA
- **Icterus**: NA
- **Other**: Room Temperature; Serum gel tube (SST), Plasma gel tube (PST)

**Reference Values**
Reporting limit determined each analysis.
Acetoacetate
Normal range for adults: 5-30 mcg/mL

**Day(s) and Time(s) Performed**
Monday - Sunday

**CPT Code Information**
82010

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
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<tbody>
<tr>
<td>FACES</td>
<td>Acetoacetate, Serum</td>
<td>1705-3</td>
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<table>
<thead>
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<tbody>
<tr>
<td>Z3524</td>
<td>Acetoacetate</td>
<td>1705-3</td>
</tr>
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</table>

**ACETO**  
*Acetone, Blood*

**Quest Diagnostics**

**Collection Container**
Red (Unopened)

**Blood**

**Other Acceptable Specimen Types**
Unopened green or gray top tube also acceptable

**Special Handling Instructions**
Do not centrifuge. Do not use alcohol-containing product to clean the site prior to venipuncture. Betadine is preferred.

**Specimen Volume**
3 mL

**Transport Temperature**
Room temperature

**Days and Times Performed**
Test performed daily

**Turnaround Time**
4 - 6 hours for STATS

**CPT Code**
80320

**EMR Interface Order Code**
03003

**ACHBI**  
*Acetylcholine Receptor (Muscle AChR) Binding Antibody, Serum*

**Mayo Clinic Laboratories in Rochester**

**Important Note**
If ordering both AChR Binding and Modulating, use test code MGAB

**Reporting Name**
ACh Receptor (Muscle) Binding Ab

**Useful For**
A first-order test for the laboratory diagnosis of myasthenia gravis (MG)

Detecting "subclinical MG" in recipients of D-penicillamine, in patients with thymoma without clinical evidence of MG, and in patients with graft-versus-host disease

Distinguishing acquired disease (90% positive) from congenital disease (negative)

Monitoring disease progression in MG or response to immunotherapy

An adjunct to the test for P/Q-type calcium channel binding antibodies as a diagnostic aid for Lambert-Eaton myasthenic syndrome (LES) or primary lung carcinoma

**Testing Algorithm**
This is the primary diagnostic test for myasthenia gravis.

See the following algorithms in Special Instructions:
Myasthenia Gravis Evaluation with MuSK Reflex Algorithm
Myasthenia Gravis/Lambert Eaton Syndrome Diagnostic Algorithm
Myasthenia Gravis: Adult Diagnostic Algorithm
Myasthenia Gravis: Pediatric Diagnostic Algorithm
Myasthenia Gravis: Thymoma Diagnostic Algorithm

**Specimen Type**
Serum

**Specimen Required**

**Patient Preparation:** This test should not be requested in patients who have recently received radioisotopes, therapeutically or diagnostically, because of potential assay interference. The specific waiting period before specimen collection will depend on the isotope administered, the dose given and the clearance rate in the individual patient. Specimens will be screened for radioactivity prior to analysis. Radioactive specimens received in the laboratory will be held 1 week and assayed if sufficiently decayed, or canceled if radioactivity remains.

**Container/Tube:**
Preferred: Red top
Acceptable: Serum gel

**Specimen Volume:** 1.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<td>28 days</td>
<td></td>
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<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
≤0.02 nmol/L

**Day(s) and Time(s) Performed**
Monday through Friday; 11 a.m., 6 p.m., 10 p.m.
Saturday; 6 a.m.
Sunday; 6 a.m., 10 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
83519

**LOINC Code Information**

<table>
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<tr>
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<th>Order LOINC Value</th>
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<td>ARBI</td>
<td>ACh Receptor (Muscle) Binding Ab</td>
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<table>
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<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>ACh Receptor (Muscle) Binding Ab</td>
<td>11034-6</td>
</tr>
</tbody>
</table>

### Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

### Special Instructions

- Myasthenia Gravis: Adult Diagnostic Algorithm
- Myasthenia Gravis/Lambert Eaton Syndrome Diagnostic Algorithm
- Myasthenia Gravis: Pediatric Diagnostic Algorithm
- Myasthenia Gravis: Thymoma Diagnostic Algorithm
- Myasthenia Gravis Evaluation with MuSK Reflex Algorithm

### Method Name

Radioimmunoassay (RIA)

### Forms

If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request (T732) with the specimen.

### ACHRBL — Acetylcholine Receptor Blocking Antibody

**Quest Diagnostics**

**Collection Container**

- Serum gel
- Serum

**Other Acceptable Specimen Types**

- Red top

**Specimen Volume**

- 1 mL

**Minimum Specimen Volume**

- 0.5 mL

**Transport Temperature**

- Refrigerated

**Specimen Stability**

- 14 days

**Reasons for Rejection**

- Gross hemolysis, Gross lipemia

**Methodology**

- Radioimmunoassay (RIA)

**CPT Code**

- 83519

**LOINC Code**

- 30192-9

**EMR Interface Order Code**

- 47845

### ACHEHB — Acetylcholinesterase, Amniotic Fluid (AChE-AF), Amniotic Fluid

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**

Acetylcholinesterase, AF

**Useful For**

Diagnosing open neural tube defects and, to a lesser degree, ventral wall defects

**Specimen Type**

Amniotic Fld

**Additional Testing Requirements**

If chromosome studies are also requested, see CHRAF / Chromosome Analysis, Amniotic Fluid for specimen requirements. When requested with chromosome analysis, the specimen cannot be frozen.

**Necessary Information**

Gestational age at amniocentesis is required.
Specimen Required

Container/Tube: Amniotic fluid container
Specimen Volume: 1 mL
Collection Instructions: A specimen from the 14 to 18 week gestational period of pregnancy is preferred. Amniotic fluid from the 14 to 21 week gestational period is acceptable.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
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<td>Amniotic Fld</td>
<td>Refrigerated (preferred)</td>
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<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
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</table>

Special Instructions
- Second Trimester Maternal Screening Alpha-Fetoprotein (AFP)/Quad Screen Patient Information
- Biochemical Genetics Patient Information

Reference Values
Negative (reported as negative [normal] or positive [abnormal] for inhibitable acetylcholinesterase)

Reference values were established in conjunction with alpha-fetoprotein testing and include only amniotic fluids from pregnancies between 14 and 21 weeks gestation.

Day(s) and Time(s) Performed
Tuesday, Thursday; 8 a.m. (not reported on Saturday and Sunday)

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82013

LOINC Code Information

<table>
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<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
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<td>ACHE</td>
<td>Acetylcholinesterase, AF</td>
<td>30106-9</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>9287</td>
<td>Acetylcholinesterase, AF</td>
<td>30106-9</td>
</tr>
<tr>
<td>GACHE</td>
<td>Gestational Age (ACHE)</td>
<td>18185-9</td>
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</tbody>
</table>

Reject Due To
- Gross hemolysis: OK
- Gross icterus: OK

Method Name
Polyacrylamide Electrophoresis

Forms
1. Second Trimester Maternal Screening Alpha-Fetoprotein (AFP)/QUAD Screen Patient Information (T595) is required; see Special Instructions.
2. Biochemical Genetics Patient Information (T602) in Special Instructions.
### Method Name
Spectrophotometric-Thiocholine Production

### GAA  Acid Maltase Activity (Acid Alpha Glucosidase)
*Duke University Medical Center*

**Collection Container**
Lavender (EDTA)

**Blood**

**Other Acceptable Specimen Types**
Pre-dried blood spots on a newborn screening card

**Special Handling Instructions**
Collect only on Monday through Thursday, must be received in the Chemistry Lab by 2:00 pm

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
3 mL

**Methodology**
Enzyme activity

**CPT Code**
82657

**EMR Interface Order Code**
06985

### BRLHEP  Acute Hepatitis Profile
*Baystate Reference Laboratories*

**Important Note**
This panel includes the following tests:
- Hepatitis B Surface Antigen
- Hepatitis A IgM
- Hepatitis C Antibody
- Hepatitis B Core IgM

**Reflex Tests**
HBSAGN (Hepatitis B Surface Antigen Confirmation by Neutralization)

**Collection Container**
Gel

Gel serum

**Other Acceptable Specimen Types**
Red top serum

**Specimen Volume**
7 mL

**Minimum Specimen Volume**
5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
7 days

### Reasons for Rejection
Specimens not centrifuged within 24 hours, specimens older than 7 days.

### Methodology
Chemilluminescence

### Units of Measure
Qualitative

**LOINC Code**
24363-4

**EMR Interface Order Code**
14400

### ALLFSH  Acute Lymphocytic Leukemia FISH Panel
*Mayo Medical Laboratories*

**Important Note**
Specify B cell or T cell panel

**Collection Container**
Blood: Green (Sodium Heparin)

Bone Marrow: Syringe with Heparin

Peripheral Blood or Bone Marrow

**Other Acceptable Specimen Types**
Bone Marrow Aspirate

**Special Handling Instructions**
Send to Cytogenetics Laboratory with copy of ordering requisition and copy of surgical pathology report (if available).

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Ambient

**Specimen Stability**
Stable at ambient temperature

**Reasons for Rejection**
Incorrect tube, insufficient quantity

**Methodology**
Fluorescent in-situ hybridization (FISH)

**Turnaround Time**
Preliminary results available in 2 - 3 days, final report within 10 - 14 days

**Reference Ranges**
Laboratory to provide interpretive report.

**CPT Code**
88237, 88271, 88275

**EMR Interface Order Code**
69180
ACARN  Acylcarnitines, Quantitative, Plasma

Mayo Clinic Laboratories in Rochester

Reporting Name
Acylcarnitines, Quantitative, P

Useful For
Diagnosis of fatty acid oxidation disorders and several organic acidurias in plasma specimens

Evaluating treatment during follow-up of patients with fatty acid beta-oxidation disorders and several organic acidurias

Testing Algorithm
The following algorithms are available in Special Instructions:
- Newborn Screening Follow-up for Elevations of C8, C6, and C10 Acylcarnitines (also applies to any plasma or serum C8, C6, and C10 acylcarnitine elevations)
- Newborn Screening Follow-up for Isolated C4 Acylcarnitine Elevations (also applies to any plasma or serum C4 acylcarnitine elevation)
- Newborn Screening Follow-up for Isolated C5 Acylcarnitine Elevations (also applies to any plasma or serum C5 acylcarnitine elevation)

Specimen Type
Plasma

Necessary Information
1. Patient's age is required.
2. Include family history, clinical condition (asymptomatic or acute episode), diet, and drug therapy information.

Specimen Required
Specimen Type: Plasma
Collection Container/Tube:
Preferred: Green top (sodium heparin)
Acceptable: Lavender top (EDTA) or lithium heparin
Submission Container/Tube: Plastic vial
Specimen Volume: 0.1 mL
Collection Instructions: Draw specimen just prior to a scheduled meal or feeding.

Specimen Minimum Volume
0.04 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma</td>
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<td></td>
<td>Refrigerated</td>
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<td></td>
<td>Ambient</td>
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</table>

Special Instructions
- Newborn Screening Follow-up for Isolated C4 Acylcarnitine Elevations (also applies to any plasma or serum C4 acylcarnitine elevations)
- Newborn Screening Follow-up for Elevations of C8, C6, and C10 Acylcarnitine Elevations (also applies to any plasma or serum C8, C6, and C10 acylcarnitine elevations)
- Newborn Screening Follow-up for Isolated C5 Acylcarnitines Elevations (also applies to any plasma or serum C5 acylcarnitine elevations)

Day(s) and Time(s) Performed
Monday through Friday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82017

LOINC Code Information

<table>
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<td>Acylcarnitines, Quantitative, P</td>
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<td>Propionyl carnitine, C3</td>
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<td>Formiminoglutarate, FIGLU</td>
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<td>Iso-/Butyryl carnitine, C4</td>
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<td>Isovaleryl-/2-Methylbutyrylcarn C5</td>
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<td>3-OH-/iso-/butyrylcarnitine, C4-OH</td>
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<td>Hexanoicarnitine, C6</td>
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<td>36503</td>
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<td>Phenylacetylcarnitine</td>
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<td>Salicylcarnitine</td>
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<td>Malonylcarnitine, C3-DC</td>
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<td>Decanoylcarnitine, C10</td>
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<td>Methylmalonyl-/succinylcarn, C4-DC</td>
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<td>36510</td>
<td>3-OH-decenoylcarnitine, C10:1-OH</td>
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<td>Glutarylcarnitine, C5-DC</td>
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<td>10308</td>
<td>Tetradecadienoicarnitine, C14:2</td>
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<td>Tetradecenoylcarnitine, C14:1</td>
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<td>Tetradecanoylcarnitine, C14</td>
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<td>3-OH-hexadecenoylcarnitine, C16:1-OH</td>
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</table>

**Reject Due To**
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

**Method Name**
Flow Injection Analysis-Tandem Mass Spectrometry (FIA-MS/MS)

**Forms**
If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.
<table>
<thead>
<tr>
<th>Acylcarnitine, C2</th>
<th>≤7 days (nmol/mL)</th>
<th>8 days-7 years (nmol/mL)</th>
<th>≥8 years (nmol/mL)</th>
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<tbody>
<tr>
<td>Acetylcarnitine, C2</td>
<td>2.14-15.89</td>
<td>2.00-27.57</td>
<td>2.00-17.83</td>
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<tr>
<td>Acrylylcarnitine, C3:1</td>
<td>&lt;0.04</td>
<td>&lt;0.05</td>
<td>&lt;0.07</td>
</tr>
<tr>
<td>Formiminoglutamate, FIGLU</td>
<td>&lt;0.43</td>
<td>&lt;0.08</td>
<td>&lt;0.14</td>
</tr>
<tr>
<td>Iso-/Butyrylcarnitine, C4</td>
<td>&lt;0.46</td>
<td>&lt;1.06</td>
<td>&lt;0.83</td>
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<td>Isovaleryl-/2-Methylbutyrylcarn C5</td>
<td>&lt;0.38</td>
<td>&lt;0.63</td>
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<td>&lt;0.13</td>
<td>&lt;0.51</td>
<td>&lt;0.18</td>
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<td>Hexenoicarnitine, C6:1</td>
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<td>&lt;0.15</td>
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<td>&lt;0.10</td>
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<td>&lt;0.05</td>
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<td>&lt;0.19</td>
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<tr>
<td>Phenylacetylcarnitine</td>
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<tr>
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<td>&lt;0.12</td>
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MCADU  Acylglycines, Quantitative, Urine

Mayo Clinic Laboratories in Rochester

Reporting Name
Acylglycines, QN, U

Useful For
Biochemical screening of asymptomatic patients affected with 1 of the following inborn errors of metabolism:
- Short chain acyl-CoA dehydrogenase (SCAD) deficiency
- Medium-chain acyl-CoA dehydrogenase (MCAD) deficiency
- Medium-chain 3-ketoacyl-CoA thiolase (MCKAT) deficiency
- Glutaric acidemia type II
- Ethylmalonic encephalopathy
- 2-Methylbutyryl-CoA dehydrogenase deficiency
- Isovaleryl-CoA dehydrogenase deficiency
- Glutaryl-CoA dehydrogenase deficiency

Testing Algorithm
The following algorithms are available in Special Instructions:
- Newborn Screening Follow-up for Elevations of C8, C6, and C10 Acylcarnitines (also applies to any plasma or serum C8, C6, and C10 acylcarnitine elevations)
- Newborn Screening Follow-up for Isolated C4 Acylcarnitine Elevations (also applies to any plasma or serum C4 acylcarnitine elevation)
- Newborn Screening Follow-up for Isolated C5 Acylcarnitines (also applies to any plasma or serum C5 acylcarnitine elevation)

Specimen Type
Urine

Advisory Information
Diagnostic specificity of inborn errors of metabolism via urine acylglycine testing is useful only for the selected inborn errors of metabolism; it is recommended that urine organic acids (OAU / Organic Acids Screen, Urine) be ordered and run simultaneously due to the limited number of metabolites included in this urine acylglycine test.

Necessary Information
1. Patient’s age is required.
2. Include family history, clinical condition (asymptomatic or acute episode), diet, and drug therapy information.

Specimen Required
Supplies: Urine Tubes, 10 mL (T068)
Container/Tube: Plastic, 10-mL urine tube (T068)
Specimen Volume: 10 mL
Pediatric: If insufficient collection volume, submit as much specimen as possible in a single container; the laboratory will determine if volume is sufficient for testing.
Collection Instructions:
1. Collect a random urine specimen.
2. No preservative.

Specimen Minimum Volume
4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature (preferred)</th>
<th>Time</th>
<th>Special Container</th>
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<tr>
<td></td>
<td>Refrigerated</td>
<td>9 days</td>
<td></td>
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</table>

Special Instructions
- Newborn Screening Follow-up for Isolated C4 Acylcarnitine Elevations (also applies to any plasma or serum C4 acylcarnitine elevations)
- Newborn Screening Follow-up for Elevations of C8, C6, and C10 Acylcarnitine Elevations (also applies to any plasma or serum C8, C6, and C10 acylcarnitine elevations)
- Newborn Screening Follow-up for Isolated C5 Acylcarnitines Elevations (also applies to any plasma or serum C5 acylcarnitine elevations)

Reference Values

<table>
<thead>
<tr>
<th>Control Values</th>
<th>Results Expressed as mg/g Creatinine</th>
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<tbody>
<tr>
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<td>Range</td>
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<tr>
<td>Ethylmalonic Acid</td>
<td>0.5-20.2</td>
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<tr>
<td>2-Methylsuccinic Acid</td>
<td>0.4-13.8</td>
</tr>
<tr>
<td>Glutaric Acid</td>
<td>0.6-15.2</td>
</tr>
<tr>
<td>Isobutyrylglycine</td>
<td>0.00-11.0</td>
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<tr>
<td>n-Butyrylglycine</td>
<td>0.1-2.1</td>
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<tr>
<td>2-Methylbutyrylglycine</td>
<td>0.3-7.5</td>
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<tr>
<td>Isovalerylglycine</td>
<td>0.3-14.3</td>
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<tr>
<td>n-Hexanoylglycine</td>
<td>0.2-1.9</td>
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<td>n-Octanoylglycine</td>
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<tr>
<td>3-Phenylpropionylglycine</td>
<td>0.00-1.1</td>
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<tr>
<td>Suberylglycine</td>
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<tr>
<td>trans-Cinnamoylglycine</td>
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<tr>
<td>Dodecanedioic Acid (12 DCA)</td>
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<td>Tetradecanedioic Acid (14 DCA)</td>
<td>0.00-1.0</td>
</tr>
<tr>
<td>Hexadecanedioic Acid (16 DCA)</td>
<td>0.00-1.0</td>
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Day(s) and Time(s) Performed
Monday, Wednesday, Friday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82542

LOINC Code Information

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<th>Order LOINC Value</th>
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<td>Result ID</td>
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<td>21011</td>
<td>Ethylmalonic Acid</td>
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<td>21013</td>
<td>Glutaric acid</td>
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<td>Dodecanedioic acid</td>
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<td>21020</td>
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<td>Hexadecanedioic acid</td>
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<td>23416</td>
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</table>

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Gas Chromatography-Mass Spectrometry (GC-MS) Stable Isotope Dilution Analysis

Forms
If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

ADAMST  ADAMST13 Activity and Inhibitor

Blood Center of Wisconsin

Additional Information
If the patients' Hematocrit exceeds 55%, the volume of citrate in the collection tube must be adjusted.

Reflex Tests
ADAMST13 Antibody, if indicated

Collection Container
Light Blue
Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Other Acceptable Specimen Types
Serum: refrigerated up to 7 days

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: two 1 mL aliquots, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Methodology
FRET-Based Kinetic Assay

Days and Times Performed
Monday - Friday

Turnaround Time
Activity: 1 - 3 days; Inhibitor: 2 - 4 days

Reference Ranges
Reported with result

Units of Measure
Activity %, Inhibitor Units

CPT Code
85397, 85335

LOINC Code
34589-2

EMR Interface Order Code
33235

A13AB  ADAMST13 Antibody

Blood Center of Wisconsin

Additional Information
If the patients' Hematocrit exceeds 55%, the volume of citrate in the collection tube must be adjusted.

Collection Container
Light Blue
Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Other Acceptable Specimen Types
Serum: refrigerated up to 7 days

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 1 mL aliquot, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Methodology
ELISA

Days and Times Performed
Monday - Friday

Turnaround Time
7 Days
**Reference Ranges**
Reported with result

**Units of Measure**
Arbitrary Units

**CPT Code**
83520

**EMR Interface Order Code**
33278

**ADB  Adenosine Deaminase, Blood**

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: NA, Refrigerated: 5 days, Frozen: 30 days

**Reasons for Rejection**
Not separated within 2 hours

**CPT Code**
84311

**EMR Interface Order Code**
10335

**ADCF  Adenosine Deaminase, CSF**

**ARUP Laboratories**

**Additional Test Codes**
EMR Interface Order Code: 00630

**Reporting Name**
Adenosine Deaminase, CSF

**Specimen Type**
CSF

**Specimen Required**
Collect CSF in a leak-proof container. Send 0.3 mL Frozen.

**Note:**
1. Centrifuge specimen at room temperature. Collect the specimen supernatant and freeze at -20° C. Specimen must remain frozen until received in lab.
2. Indicate source
3. Unacceptable: Turbid specimens, whole blood, bronchoalveolar Lavage (BAL)

**Specimen Minimum Volume**
0.1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
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<td>CSF</td>
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**Reject Due To**

<table>
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<th>Action</th>
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<tr>
<td>Hemolysis</td>
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<tr>
<td>Lipemia</td>
<td>NA</td>
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<tr>
<td>Icterus</td>
<td>NA</td>
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<tr>
<td>Other</td>
<td>Turbid specimens; whole blood; bronchoalveolar Lavage (BAL)</td>
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</tbody>
</table>

**Reference Values**

0.0  – 1.5 U/L

**Day(s) and Time(s) Performed**
Sunday, Tuesday, Thursday

**Test Classification**

This test was developed and its performance characteristics determined by ARUP Laboratories. The U. S. Food and Drug Administration has not approved or cleared this test; however, FDA clearance or approval is not currently required for clinical use. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions.

**CPT Code Information**

84311

**LOINC Code Information**

<table>
<thead>
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<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<td>Adenosine Deaminase, CSF</td>
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**Method Name**
Quantitative Spectrophotometry

**ADPC  Adenosine Deaminase, Pericardial Fluid**

**ARUP Laboratories**

**Method Name**
Quantitative Spectrophotometry

**Reporting Name**
Adenosine Deaminase Pericardial Fld

**Specimen Type**
Body Fluid

**Specimen Required**

**Specimen Type**: Pericardial Fluid

**Sources**: Pericardial Fluid

**Container/Tube**: Standard Transport Tube

**Specimen Volume**: 0.3 mL

**Collection Instructions**: Collect Pericardial Fluid in a leak-proof container. Centrifuge specimen at room temperature, transfer 0.3 mL pericardial fluid to plastic vial and freeze.

**Note:**
1. Source required
2. Specimen must remain frozen until received at performing lab.

Specimen Minimum Volume
0.1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
<tr>
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<tr>
<td></td>
<td>Refrigerated</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>2 hours</td>
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Reject Due To

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: Whole blood, Bronchoalveolar lavage (BAL) specimens, Turbid specimen

Reference Values
0.0 – 7.3 U/L

Day(s) and Time(s) Performed
Sunday, Tuesday, Thursday

Test Classification
This test was developed and its performance characteristics determined by ARUP Laboratories. The U. S. Food and Drug Administration has not approved or cleared this test; however, FDA clearance or approval is not currently required for clinical use. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions.

CPT Code Information
84311

LOINC Code Information

<table>
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Secondary ID

75004

ADPT  Adenosine Deaminase, Peritoneal Fluid

ARUP Laboratories

Additional Test Codes
EMR Interface Order Code: 00635

Method Name
Quantitative Spectrophotometry

Reporting Name
Adenosine Deaminase Peritoneal Fld

Specimen Type
Peritoneal

Specimen Required

Specimen Type: Peritoneal fluid

Sources:
Container/Tube: Standard transport container
Specimen volume: 0.3 mL

Collection Instructions: Collect Peritoneal Fluid in a leak-proof container. Centrifuge specimen at room temperature, transfer 0.3 mL peritoneal fluid to plastic vial and Ship frozen.

Note:
1. Source required.
2. Specimen must remain frozen until received at performing lab.

Specimen Minimum Volume
0.1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
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<tr>
<td></td>
<td>Ambient</td>
<td>2 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: Whole blood, Bronchoalveolar lavage (BAL) specimens, Turbid specimen

Reference Values
0.0 – 7.3 U/L

Day(s) and Time(s) Performed
Sunday, Tuesday, Thursday

Test Classification
This test was developed and its performance characteristics determined by ARUP Laboratories. The U. S. Food and Drug Administration has not approved or cleared this test; however, FDA clearance or approval is not currently required for clinical use. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions.

CPT Code Information
84311

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FADPT</td>
<td>Adenosine Deaminase Peritoneal Fld</td>
<td>49759-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z4381</td>
<td>Source</td>
<td>31208-2</td>
</tr>
<tr>
<td>Z4382</td>
<td>Adenosine Deaminase Peritoneal Fld</td>
<td>49759-4</td>
</tr>
</tbody>
</table>

Secondary ID

75003

ADPL  Adenosine Deaminase, Pleural Fluid

ARUP Laboratories

Additional Test Codes
EMR Interface Order Code: 00625
Method Name
Quantitative Spectrometry

Reporting Name
Adenosine Deaminase Pleural Fld

Specimen Type
Pleural Fluid

Specimen Required

Specimen Type: Pleural Fluid
Sources: Pleural Fluid
Container/Tube: Standard Transport Tube
Specimen Volume: 0.3 mL

Collection Instructions: Collect Pleural fluid in a leak proof container; centrifuge specimen at room temperature, transfer 0.3 mL to standard tube and freeze. Ship frozen.

Note: 1. Source is required.
2. Specimen must remain frozen until received at performing lab.

Specimen Minimum Volume
0.1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pleural Fluid</td>
<td>Frozen (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>2 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

Hemolysis: NA
Lipemia: NA
Icterus: NA
Other: Whole blood, Bronchoalveolar lavage (BAL) specimens, Turbid specimen

Reference Values
0.0–9.4 U/L

Day(s) and Time(s) Performed
Sunday, Tuesday, Thursday

Test Classification
This test was developed and its performance characteristics determined by ARUP Laboratories. The U. S. Food and Drug Administration has not approved or cleared this test; however, FDA clearance or approval is not currently required for clinical use. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions.

CPT Code Information
84311

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FADPL</td>
<td>Adenosine Deaminase Pleural Fld</td>
<td>35704-6</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name       | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Z4379</td>
<td>Source</td>
<td>31208-2</td>
</tr>
<tr>
<td>Z4380</td>
<td>Adenosine Deaminase Pleural Fld</td>
<td>35704-6</td>
</tr>
</tbody>
</table>

LCADP  Adenovirus, Molecular Detection, PCR, Plasma

Mayo Clinic Laboratories in Rochester

Reporting Name
Adenovirus PCR, P

Useful For
Aiding in diagnosing adenovirus infections using plasma specimens

Specimen Type
Plasma EDTA

Specimen Required

Collection Container/Tube: Lavender top (EDTA)
Submission Container/Tube: Screw-capped, sterile container
Specimen Volume: 1 mL
Collection Instructions: Spin down promptly.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Negative

Day(s) and Time(s) Performed
Monday, Wednesday, Friday; 6 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U. S. Food and Drug Administration.

CPT Code Information
87798

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCADP</td>
<td>Adenovirus PCR, P</td>
<td>21055-9</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name       | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>56088</td>
<td>Adenovirus PCR, P</td>
<td>21055-9</td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis | Reject

Method Name
Real-Time Polymerase Chain Reaction (PCR)/DNA Probe Hybridization

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.
**Adenovirus, Molecular Detection, PCR, Varies**

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
Adenovirus PCR

**Useful For**
Aiding in the diagnosis of adenovirus infections

**Specimen Type**
Varies

**Necessary Information**
Specimen source is required.

**Specimen Required**
Submit only 1 of the following specimens:

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Sources</th>
<th>Container/Tube</th>
<th>Specimen Volume</th>
<th>Collection Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body fluid</td>
<td>Pleural, peritoneal, ascites, pericardial, or amniotic</td>
<td>Sterile container</td>
<td>0.5 mL</td>
<td>Do not centrifuge</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Bronchial washing, bronchoalveolar lavage, nasopharyngeal aspirate or washing, sputum, or tracheal aspirate</td>
<td>Sterile container</td>
<td>1 mL</td>
<td></td>
</tr>
<tr>
<td>Spinal fluid</td>
<td></td>
<td>Sterile vial</td>
<td>0.5 mL</td>
<td>Do not centrifuge</td>
</tr>
<tr>
<td>Stool</td>
<td>Stool Collection Kit, Random (T635)</td>
<td>Sterile container</td>
<td>1 g</td>
<td></td>
</tr>
<tr>
<td>Swab</td>
<td>M4-RT (T605)</td>
<td>Multimicrobe media (M4-RT) and Eswabs</td>
<td>Entire specimen</td>
<td>Place swab back into a multimicrobe media (M4-RT, M4, or M5).</td>
</tr>
<tr>
<td>Tissue</td>
<td>M4-RT (T605)</td>
<td>Sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT, M4, or M5)</td>
<td>Entire collection</td>
<td>Collect fresh tissue specimen.</td>
</tr>
<tr>
<td>Urine</td>
<td></td>
<td>Sterile container</td>
<td>1 mL</td>
<td>Collect a random urine specimen.</td>
</tr>
</tbody>
</table>

**Specimen Minimum Volume**
- Body Fluid, Respiratory Specimen, Spinal Fluid, or Urine: 0.3 mL
- Stool: 0.5 g
- Swab or Tissue: NA

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
Negative

**Day(s) and Time(s) Performed**
Monday through Friday; 6 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
87798

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LADV</td>
<td>Adenovirus PCR</td>
<td>39528-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRC65</td>
<td>Specimen Source</td>
<td>31208-2</td>
</tr>
<tr>
<td>89074</td>
<td>Adenovirus PCR</td>
<td>39528-5</td>
</tr>
</tbody>
</table>

**Reject Due To**
Other: Calcium alginate-tipped swab Wood swab Transport swab containing gel

**Method Name**
Real-Time Polymerase Chain Reaction (PCR)/DNA Probe Hybridization

**Forms**
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

**Adrenocorticotrophic Hormone, Plasma**

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
Adrenocorticotropic Hormone, P

**Useful For**
Determining the cause of hypercortisolism and hypocortisolism

**Specimen Type**
Plasma EDTA

**Necessary Information**
Separate specimens should be submitted when multiple tests are ordered.
Specimen Required

**Patient Preparation:** For the 12 hours before specimen collection do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.

**Supplies:** Aliquot Tube, 5 mL (T465)

**Collection Container/Tube:** Ice-cooled, lavender top (EDTA)

**Submission Container/Tube:** Plastic, 5 mL, aliquot tube

**Specimen Volume:** 1 mL

**Collection Instructions:**
1. Morning (6 a.m.-10:30 a.m.) specimen is desirable.
2. Collect with a pre-chilled lavender top (EDTA) tube and transport to the laboratory on ice.
3. Centrifuge at refrigerated temperature within 2 hours and immediately separate plasma from cells.
4. Immediately freeze plasma.

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>3 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>2 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

7.2-63 pg/mL (a.m. draws)

No established reference values for p.m. draws

Pediatric reference values are the same as adults, as confirmed by peer reviewed literature.


For SI unit Reference Values, see [https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html](https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html)

**Day(s) and Time(s) Performed**

Monday through Friday; 5 a.m.-12 a.m., Saturday; 6 a.m.-6 p.m.

**Test Classification**

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions.

Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**

82024

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTH</td>
<td>Adrenocorticotropic Hormone, P</td>
<td>2141-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTH</td>
<td>Adrenocorticotropic Hormone, P</td>
<td>2141-0</td>
</tr>
</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
</tbody>
</table>

**Method Name**

Electrochemiluminescence Immunoassay
**FALB  Albumin, Fluid**

*Baystate Reference Laboratories*

**Collection Container**
Fluid
Identify source of body fluid

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours for routine, 1 hour for stats

**Units of Measure**
gm/dL

**CPT Code**
82042

**LOINC Code**
61151-7

**EMR Interface Order Code**
13555

---

**UALB  Albumin, Urine**

*Baystate Reference Laboratories*

**Collection Container**
Tiger Top tube, yellow top tube, urine cup
Urine

**Specimen Volume**
8 mL

**Minimum Specimen Volume**
3 mL

**Transport Temperature**
Tiger Top Tube: Room temperature, yellow top tube, urine cup: refrigerated

**Specimen Stability**
24 hours

**Reasons for Rejection**
Specimen frozen, >24 hours old, fecal contamination, grossly bloody urine

**Methodology**
IQ200

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Daily

---

**Reference Ranges**
Negative

**CPT Code**
81003

**LOINC Code**
20454-5

**EMR Interface Order Code**
64180

---

**QSALC  Alcohol Metabolites with Conf, Oral Fluid**

*Contracted Reference Lab*

**Reflex Tests**
If positive, will reflex to confirmations at an additional charge

**Collection Container**
Oral-Eze container
Oral fluid

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp:72 hr Refrigerated: 7 days Frozen: 30 days with swab removed

**Reasons for Rejection**
Not submitted in Oral-Eze device, no swab (unless frozen)

**Days and Times Performed**
Daily

**Turnaround Time**
4 days

**CPT Code**
80307

**EMR Interface Order Code**
71035

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

---

**QALC  Alcohol Metabolites, Quant, Urine**

*Contracted Reference Lab*

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

**Additional Information**
Includes Ethyl Glucuronide (EtG) and Ethyl Sulfate (EtS)
Urine

Specimen Volume
20 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Preserved samples

Methodology
Mass spectrometry

Days and Times Performed
Daily

Turnaround Time
2 days

Reference Ranges
Ethyl Glucuronide: <500 ng/mL; Ethyl Sulfate: <100 ng/mL

CPT Code
80321 (G0480)

LOINC Code
45324-1, 60676-4

EMR Interface Order Code
70234

ALDOLA  Aldolase

LabCorp

Important Note
Must be spun and separated within 30 minutes

Collection Container
Serum gel or red top tube.
Plasma from blue top, gray top, lavender or green top also acceptable

Serum or plasma
Must be spun and separated within 30 minutes

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temp: 1 day
Refrigerated: 7 days
Frozen: 15 days

CPT Code
82085

EMR Interface Order Code
13276

ALDOST  Aldosterone

LabCorp

Important Note
In order to facilitate interpretation of test results, the patient should be taken off medications for at least three weeks prior to sample collection.

Dietary sodium levels during the period prior to testing can affect aldosterone levels.

Reference intervals are based on the clinician’s verification that the patient has been on a normal sodium diet.

Since patient posture prior to collection affects aldosterone levels, it is recommended that the patient be ambulatory for at least 30 minutes before blood collection.

If inpatients are physically able, they should be asked to ambulate for 30 minutes before blood is drawn for aldosterone.

Reference intervals are provided for patients who have ambulated for at least 30 minutes prior to collection (standing patients).

Collection Container
Serum gel

Serum

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate
**Specimen Stability**  
Room temperature: 3 days, Refrigerated: 14 days, Frozen: 14 days

**Reasons for Rejection**  
Gross hemolysis; gross lipemia

**Methodology**  
Liquid chromatography/tandem mass spectrometry (LC/MS-MS)

**CPT Code**  
82088

**LOINC Code**  
1763-2

**EMR Interface Order Code**  
26076

** ARR  Aldosterone Renin Ratio **  
*LabCorp*

**Additional Information**  
Patients should be instructed to maintain an unrestricted dietary salt intake prior to testing.

Washout of all interfering antihypertensive medications may be considered in patients with mild hypertension, but is potentially problematic in others and perhaps unnecessary in that medications with minimal effect on the ARR can be used in their place.

The patient should not take drugs that markedly affect the ARR for at least four weeks prior to blood collection. These drugs include: Spironolactone, eplerenone, amiloride, triamterene, Potassium-wasting diuretics, Products derived from liquorice root (eg, confectionary licorice, chewing tobacco).

**Collection Container**  
Lavender (EDTA) and serum gel  
EDTA Plasma and serum

**Special Handling Instructions**  
Collect blood mid morning, after the patient has been up (sitting, standing, or walking) for at least two hours and seated for 5 to 15 minutes.

Refer to descriptions for individual tests, Renin Activity, Plasma and Aldosterone, LCMS, Serum for more detailed preparation and test collection information.

After collection IMMEDIATELY CENTRIFUGE THE LAVENDER-TOP TUBE at room temperature, transfer plasma to a transport tube, and freeze. Label this tube "frozen plasma-renin".

Transfer separated serum to a plastic transport tube Label the serum tube "serum-aldosterone"

**PSC Instructions:**  
Spin separate and make 2 aliquots. Rubber band together and send to the lab frozen. One EDTA plasma and 1 serum. Freeze immediately, if unable to freeze after centrifuging, send to Lab at room temperature unspun within 6 hours of collection.

**Specimen Volume**  
1 mL plasma and 1 mL serum

**Minimum Specimen Volume**  
0.8 mL plasma and 0.5 mL serum

**Transport Temperature**  
Plasma: frozen, Serum: frozen

---

**Specimen Stability**  
See individual test listings

**Reasons for Rejection**  
See individual test listings

**Methodology**  
See individual test listings

**CPT Code**  
82088, 84244

**LOINC Code**  
30894-0

**EMR Interface Order Code**  
26090

**UALDO  Aldosterone, Urine**  
*Contracted Reference Lab*

**Collection Container**  
24 Hour Urine container

Urine – Keep refrigerated during collection. No preservatives.

**Specimen Volume**  
10 mL

**Minimum Specimen Volume**  
1 mL

**Transport Temperature**  
Refrigerated

**Specimen Stability**  
Room temp: 7 days, Refrigerated: 14 days, Frozen: 14 days

**Reasons for Rejection**  
Original container with pH<2

**CPT Code**  
82088

**EMR Interface Order Code**  
26080

**ALKFISH Lung Ca  ALK (2p23) Lung Cancer FISH**  
*Baystate Reference Laboratories (Cytology)*

**Additional Information**  
Tested in conjunction with EGFR, KRAS and ROS1

**Collection Container**  
Paraffin Embedded Tissue

**Transport Temperature**  
Stable at room temperature.

**Reasons for Rejection**  
Insufficient Tumor

**CPT Code**  
88271 x2, 88274
**ALP  Alkaline Phosphatase**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel

**Serum**

**Other Acceptable Specimen Types**
Heparinized plasma

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Methodology**
Colorimetric (p-nitrophenol phosphate), AMP buffer

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours for routine, 1 hour for stats

**Reference Ranges**

<table>
<thead>
<tr>
<th>ALKALINE PHOSPHATASE (ALP)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 years+</td>
<td>40 - 129</td>
<td>35 - 104</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>13 - 17 years</td>
<td>0 - 390</td>
<td>0 - 187</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>7 - 12 years</td>
<td>0 - 300</td>
<td>0 - 300</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>4 - 6 years</td>
<td>0 - 269</td>
<td>0 - 269</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>1 - 3 years</td>
<td>0 - 281</td>
<td>0 - 281</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>7 - 12 months</td>
<td>0 - 462</td>
<td>0 - 462</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>6 days - 6 months</td>
<td>0 - 449</td>
<td>0 - 449</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>2 - 5 days</td>
<td>0 - 231</td>
<td>0 - 231</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>0 - 1 day</td>
<td>0 - 250</td>
<td>0 - 250</td>
<td></td>
<td>U/L</td>
</tr>
</tbody>
</table>

**CPT Code**
84075

**LOINC Code**
6768-6

**EMR Interface Order Code**
03225

**APISO  Alkaline Phosphatase, Total and Isoenzymes, Serum**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 03250

**Reporting Name**
Alkaline Phosphatase, Tot and Iso,S

**Useful For**

Diagnosis and treatment of liver, bone, intestinal, and parathyroid diseases

Determining the tissue source of increased alkaline phosphatase (ALP) activity in serum

Differentiating between liver and bone sources of elevated ALP

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALP</td>
<td>Alkaline Phosphatase, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ALKE</td>
<td>Alkaline Phosphatase Isoenzymes, S</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Specimen Type**
Serum

**Necessary Information**
Patient’s age and sex are required.

**Specimen Required**

**Collection Container/Tube:**
Preferred: Serum gel
Acceptable: Red top

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 1 mL divided into 2 tubes each containing 0.5 mL

**Specimen Minimum Volume**
0.5 mL divided into 2 tubes each containing 0.25 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

**ALKALINE PHOSPHATASE**

- **Males**
  - 0-14 days: 83-248 U/L
  - 15 days-<1 year: 122-469 U/L
  - 1-<10 years: 142-335 U/L
  - 10-<13 years: 129-417 U/L
  - 13-<15 years: 116-468 U/L
  - 15-<17 years: 82-331 U/L
  - 17-<19 years: 55-149 U/L
  - ≥19 years: 40-129 U/L

- **Females**
  - 0-14 days: 83-248 U/L
  - 15 days-<1 year: 122-469 U/L
  - 1-<10 years: 142-335 U/L
  - 10-<13 years: 129-417 U/L
  - 13-<15 years: 57-254 U/L
  - 15-<17 years: 50-117 U/L
  - ≥17 years: 35-104 U/L

**ALKALINE PHOSPHATASE ISOENZYMES**

- Liver 1%
  - 0-6 years: 5.1-49.0%
  - 7-9 years: 3.0-45.0%
  - 10-13 years: 2.9-46.3%
  - 14-15 years: 7.8-48.9%
Liver 1
0-6 years: 7.0-112.7 IU/L
7-9 years: 7.4-109.1 IU/L
10-13 years: 7.8-87.6 IU/L
14-15 years: 10.3-75.6 IU/L
16-18 years: 13.7-78.5 IU/L
≥19 years: 16.2-70.2 IU/L
Liver 1 %
0-6 years: 2.9-13.7%
7-9 years: 3.7-12.5%
10-13 years: 2.9-22.3%
14-15 years: 2.2-19.8%
16-18 years: 1.9-12.5%
≥19 years: 0.0-8.0%
Liver 2
0-6 years: 3.0-41.5 IU/L
7-9 years: 4.0-35.6 IU/L
10-13 years: 3.3-37.8 IU/L
14-15 years: 2.2-32.1 IU/L
16-18 years: 1.4-19.7 IU/L
≥19 years: 0.0-5.8 IU/L
Bone %
0-6 years: 41.5-82.7%
7-9 years: 39.9-85.8%
10-13 years: 31.8-91.1%
14-15 years: 30.6-85.4%
16-18 years: 38.9-72.6%
≥19 years: 19.1-67.7%
Bone
0-6 years: 43.5-208.1 IU/L
7-9 years: 41.0-258.3 IU/L
10-13 years: 39.4-346.1 IU/L
14-15 years: 36.4-320.5 IU/L
16-18 years: 32.7-214.6 IU/L
≥19 years: 12.1-42.7 IU/L
Intestine %
0-6 years: 0.0-18.4%
7-9 years: 0.0-18.3%
10-13 years: 0.0-11.8%
14-15 years: 0.0-8.2%
16-18 years: 0.0-8.7%
≥19 years: 0.0-20.6%
Intestine
0-6 years: 0.0-37.7 IU/L
7-9 years: 0.0-45.6 IU/L
10-13 years: 0.0-40.0 IU/L
14-15 years: 0.0-26.4 IU/L
16-18 years: 0.0-12.7 IU/L
≥19 years: 0.0-11.0 IU/L
Placental
Not present

Day(s) and Time(s) Performed
Alkaline Phosphatase: Monday through Sunday; Continuously
Alkaline Phosphatase Isoenzymes: Monday through Friday

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
Alkaline Phosphatase, Serum
84075
Alkaline Phosphatase Isoenzymes, Serum
84080

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALKI</td>
<td>Alkaline Phosphatase, Tot and Iso,S</td>
<td>24332-9</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALP</td>
<td>Alkaline Phosphatase, S</td>
<td>6768-6</td>
</tr>
<tr>
<td>89503</td>
<td>Alkaline Phosphatase Isoenzymes, S</td>
<td>49243-9</td>
</tr>
<tr>
<td>45488</td>
<td>Liver 1 %</td>
<td>15348-6</td>
</tr>
<tr>
<td>57034</td>
<td>Liver 1</td>
<td>13874-3</td>
</tr>
<tr>
<td>45489</td>
<td>Liver 2 %</td>
<td>15349-4</td>
</tr>
<tr>
<td>57035</td>
<td>Liver 2</td>
<td>13875-0</td>
</tr>
<tr>
<td>45490</td>
<td>Bone %</td>
<td>15013-6</td>
</tr>
<tr>
<td>57036</td>
<td>Bone</td>
<td>1777-2</td>
</tr>
<tr>
<td>45491</td>
<td>Intestine %</td>
<td>15014-4</td>
</tr>
<tr>
<td>57037</td>
<td>Intestine</td>
<td>1778-0</td>
</tr>
<tr>
<td>29324</td>
<td>Placental</td>
<td>40793-2</td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

Method Name
ALP: Photometric, p-Nitrophenol Phosphate
ALKE: Electrophoresis

Secondary ID
89503

PNCOMP Allergen, IgE Peanut Component Profile

LabCorp

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
Red top

Specimen Volume
1.5 mL

Minimum Specimen Volume
1.0 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Methodology
ImmunoCAP

CPT Code
86008 x6

EMR Interface Order Code
67882
**RSTFDG  Allergen, IgG Rast Food Panel**

*LabCorp*

**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
Red top

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**Methodology**
ImmunoCAP

**CPT Code**
86001 x14

**EMR Interface Order Code**
65090

---

**RALP  Allopurinol and Oxipurinol**

*LabCorp*

**Collection Container**
Red

**Other Acceptable Specimen Types**
EDTA Plasma

**Special Handling Instructions**
Serum or plasma should be separated from cells within two hours of venipuncture. Send serum or plasma in a plastic transfer tube.

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
0.7 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: undetermined, Refrigerated: undetermined, Frozen: undetermined

**Reasons for Rejection**
Gel barrier tube

**Methodology**
High Performance Liquid Chromatography (HPLC)

**CPT Code**
80375

**LOINC Code**
43133-8

**EMR Interface Order Code**
11165

---

**ALM  Almond IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days
**ATRPI  Alpha 1 Antitrypsin Phenotyping**

*LabCorp*

**Patient Instructions**
Overnight fasting is preferred.

**Collection Container**
Serum gel or red top

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
0.7 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 2 weeks

**Reasons for Rejection**
Hemolysis; specimen at room temperature

**Methodology**
Phenotype: isoelectric focusing (IEF); total: immunologic

**Turnaround Time**
3 – 6 days

**CPT Code**
82103, 82104

**LOINC Code**
6770-2

**EMR Interface Order Code**
03301

---

**CFAASA  Alpha Aminoadipic Semialdehyde, CSF**

*Medical Neurogenetics*

**Collection Container**
Call Lab

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Frozen

**Specimen Stability**
Frozen

---

**AGLSAM  Alpha Glucosaminidase, WBC**

*Jefferson Medical College Lysosomal Diseases Testing Laboratory*

**Additional Information**
A clinical and/or family history of the patient MUST accompany the sample

**Collection Container**
Green

**Special Handling Instructions**
Collect blood Monday - Thursday, excluding holidays. Specimen must arrive in the Chemistry laboratory before 2:00 PM.

**Specimen Volume**
6 mL

**Minimum Specimen Volume**
2 mL

---

**AFP  Alpha Fetoprotein**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Days and Times Performed**
Monday, Wednesday and Friday

**Turnaround Time**
2 - 4 days

**Reference Ranges**
0 - 4.9 ng/mL

**Units of Measure**
ng/mL

**CPT Code**
82105

**EMR Interface Order Code**
03360
Reasons for Rejection
Specimen frozen or centrifuged. Specimen not received within 24 hours of collection.

CPT Code
82657

EMR Interface Order Code
14785

AMSH  Alpha Melanocyte Stimulating Hormone
Pan Laboratories

Important Note
Spin down, separate plasma from cells and freeze ASAP.

Collection Container
Lavender top (EDTA) tube
Plasma

Specimen Volume
3 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Frozen

Specimen Stability
Room temperature: Not stable
Refrigerated: 6 hours
Frozen: 90 days

CPT Code
83520

LOINC Code
1820-0

EMR Interface Order Code
70943

AAT  Alpha-1-Antitrypsin
Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
EDTA or heparinized plasma

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.2 mL

Specimen Stability
Room temperature: 7 days, Refrigerated: 3 months, Frozen: 3 months

Methodology
Immunoturbimetric

Days and Times Performed
Test performed daily

Units of Measure
mg/dL

CPT Code
82103

LOINC Code
1825-9

EMR Interface Order Code
45050

A1ATCL  Alpha-1-Antitrypsin Clearance, Feces and Serum
Mayo Clinic Laboratories in Rochester

Important Note
Both serum and feces required. Stool collection can be 24,48, or 72 hours. Document time frame
MAYO STOOL CONTAINERS MUST BE USED.

Advisory Information
The recommended procedure for protein-losing enteropathy is A1AFS / Alpha-1-Antitrypsin Clearance, Feces and Serum.

Shipping Instructions
Feces and serum should be shipped together. Specimens shipped separately may delay testing.

Specimen Required
Both feces and serum are required.
Blood must be drawn during the stool collection period.

**Specimen Type:** Serum  
**Collection Container/Tube:** Red top or serum gel  
**Submission Container/Tube:** Plastic vial  
**Specimen Volume:** 1 mL  
**Collection Instructions:**  
1. Centrifuge within 2 hours.  
2. Aliquot and ship in plastic vial.

**Specimen Type:** Feces  
**Supplies:** Stool Containers - 24, 48, 72 Hour Kit (T291)  
**Specimen Volume:** Entire collection  
**Collection Instructions:**  
1. Collect a 24-hour fecal collection.  
2. If no specimen is obtained within 24 hours, extend collection time to 48 to 72 hours. Document time frame.

**Secondary ID**  
604982

**Useful For**  
Diagnosing protein-losing enteropathies

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>AATS</td>
<td>Alpha-1-Antitrypsin, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>A1ATF</td>
<td>Alpha-1-Antitrypsin, 24 Hr, F</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Method Name**  
Nephelometry

**Reporting Name**  
Alpha-1-Antitrypsin Clearance

**Specimen Type**  
Fecal  
Serum

**Specimen Minimum Volume**  
Homogenized feces: 1 mL  
Serum: 0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal</td>
<td>Frozen (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>OK</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
<tr>
<td>Feces</td>
<td>Collected in any preservative or fixative</td>
</tr>
</tbody>
</table>

**Reference Values**

<table>
<thead>
<tr>
<th>CLEARANCE:</th>
<th>≤27 mL/24 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FECAL ALPHA-1-ANTRYSIN CONCENTRATION:</td>
<td>≤54 mg/DL</td>
</tr>
<tr>
<td>SERUM ALPHA-1-ANTRYSIN CONCENTRATION:</td>
<td>100-190 mg/dL</td>
</tr>
</tbody>
</table>

**Day(s) and Time(s) Performed**  
Monday through Saturday; 2 p.m.

**Test Classification**  
This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**  
82103 x 2

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1AFS</td>
<td>Alpha-1-Antitrypsin Clearance</td>
<td>93419-0</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAT24</td>
<td>Alpha-1-Antitrypsin, 24 Hr, F</td>
<td>9407-8</td>
</tr>
<tr>
<td>AATS</td>
<td>Alpha-1-Antitrypsin, S</td>
<td>6771-0</td>
</tr>
<tr>
<td>CRCLR</td>
<td>Clearance</td>
<td>18271-7</td>
</tr>
</tbody>
</table>

**Forms**  
If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Client Test Request (T728) with the specimen.

**FEAAT**  
Alpha-1-Antitrypsin, Random, Feces

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**  
Alpha-1-Antitrypsin, Random, F

**Useful For**  
Diagnosing protein-losing enteropathies, especially when used in conjunction with serum alpha-1-antitrypsin (A1A) levels as a part of A1A clearance studies

**Specimen Type**  
Fecal

**Advisory Information**  
The preferred test for diagnosing protein-losing enteropathies is CA1A / Alpha-1-Antitrypsin Clearance, Feces and Serum.

**Specimen Required**

**Supplies:** Stool container, Small (Random), 4 oz (T288); Stool Collection Kit, Random (T635)  
**Container/Tube:** Stool container (T288)  
**Specimen Volume:** 5 g  
**Collection Instructions:** Collect a random fecal specimen.

**Specimen Minimum Volume**  
Homogenized Stool: 1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal</td>
<td>Frozen (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>
Reference Values
≤54 mg/dL

Day(s) and Time(s) Performed
Monday through Saturday; Continuously until 2 p.m.

Test Classification
This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82103

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>A1AF</td>
<td>Alpha-1-Antitrypsin, Random, F</td>
<td>9407-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAT_F</td>
<td>Alpha-1-Antitrypsin, Random, F</td>
<td>9407-8</td>
</tr>
</tbody>
</table>

Reject Due To
Feces collected in any preservative or fixative | Reject

Method Name
Nephelometry

Secondary ID
182

A2ANTP  Alpha-2-Antiplasmin

LabCorp

Additional Information
If the patient's hematocrit exceeds 55%, the volume of citrate in the collection tube must be adjusted.

Collection Container
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 1 ml aliquot, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 1 mL, Whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Thawed or clotted specimens, hemolysis

Methodology
Chromogenic

Days and Times Performed
Test sent to reference lab Monday - Saturday

Turnaround Time
2 - 5 days

Reference Ranges
Reported with result

Units of Measure
%

CPT Code
85410

LOINC Code
5966-7

EMR Interface Order Code
32050

MAFP1  Alpha-Fetoprotein (AFP), Single Marker Screen, Maternal, Serum

Mayo Clinic Laboratories in Rochester

Necessary Information
In order to provide the best results, either answer the order entry questions or provide the required information using the Second Trimester Maternal Screening Alpha-Fetoprotein (AFP)/QUAD Screen Patient Information (T595) (see Special Instructions).

Specimen Required

Container/Tube:
Preferred: Red top
Acceptable: Serum gel

Specimen Volume:
1 mL

Collection Instructions:
1. Do not draw specimen after amniocentesis as this could affect results.
2. Collection tubes should be centrifuged within 2 hours of collection.

Additional Information:
1. Draw blood between 15 weeks, 0 days and 22 weeks, 6 days.
2. Initial or repeat testing is determined in the laboratory at the time of report and will be reported accordingly. To be considered a repeat test for the patient, the testing must be within the same pregnancy and trimester, with interpretable results for the same test, and both tests are performed at Mayo Clinic.

Forms
Second Trimester Maternal Screening Alpha-Fetoprotein (AFP)/Quad Screen Patient Information (T595) is required; see Special Instructions.

Secondary ID
113382

Useful For
Prenatal screening for open neural tube defect

Special Instructions
• Second Trimester Maternal Screening Alpha-Fetoprotein (AFP)/Quad Screen Patient Information

Method Name
Two-Site Immunoenzymatic (Sandwich) Assay
Reporting Name
AFP Single Marker SCRN, Maternal, S

Specimen Type
Serum

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>90 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: OK

Reference Values
NEURAL TUBE DEFECTS
An AFP multiple of the median (MoM) <2.5 is reported as screen negative.
AFP MoMs ≥2.5 (singleton and twin pregnancies) are reported as screen positive.

An interpretive report will be provided.

Day(s) and Time(s) Performed
Monday through Friday; 8 a.m.-4:30 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82105

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>MAFP1</td>
<td>AFP Single Marker SCRN, Maternal, S</td>
<td>48802-3</td>
</tr>
</tbody>
</table>

---

**CFAFP**  Alpha-Fetoprotein (AFP), Spinal Fluid

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 03355

Reporting Name
Alpha-Fetoprotein, CSF

Useful For
- An adjunct in the diagnosis of central nervous system (CNS) germinomas and meningeval carcinomatosis
- Evaluating germ-cell tumors, including testicular cancer metastatic to the CNS in conjunction with beta-human chorionic gonadotropin measurement(1)
- An adjunct in distinguishing between suprasellar dysgerminomas and craniopharyngiomas
- A supplement to cerebrospinal fluid cytologic analysis

Specimen Type
CSF

Specimen Required
- Container/Tube: Sterile vial
- Specimen Volume: 1 mL
Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF</td>
<td>Frozen (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

<1.5 ng/mL

Values for alpha-fetoprotein in cerebrospinal fluid have not been formally established for newborns and infants. The available literature indicates that by 2 months of age, levels comparable to adults should be reached. (Ann Clin Biochem 2005;42:24-29)

Day(s) and Time(s) Performed

Monday through Friday; 5 a.m.-12 a.m., Saturday; 6 a.m.-6 p.m.

Test Classification

This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

86316

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFPSF</td>
<td>Alpha-Fetoprotein, CSF</td>
<td>1833-3</td>
</tr>
</tbody>
</table>

Result ID

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFSPF</td>
<td>Alpha-Fetoprotein, CSF</td>
<td>1833-3</td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis, Reject

Method Name

Immunoenzymatic Assay

Forms

If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

AFPA  Alpha-Fetoprotein, Amniotic Fluid

Mayo Clinic Laboratories in Rochester

Reporting Name

Alpha Fetoprotein, AF

Useful For

Screening for open neural tube defects or other fetal abnormalities

Follow-up testing for patients with elevated serum alpha-fetoprotein results or in conjunction with cytogenetic testing

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACHE</td>
<td>Acetylcholinesterase, AF</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm

If alpha-fetoprotein (AFP) is positive, then acetylcholinesterase (AChE) will be performed at an additional charge.
AFUCO  Alpha-Fucosidase, Leukocytes

Mayo Clinic Laboratories in Rochester

Reporting Name
Alpha-Fucosidase, Leukocytes

Useful For
Detection of fucosidosis

This test is not useful for establishing carrier status for fucosidosis.

Specimen Type
Whole Blood ACD

Advisory Information
If clinically suspicious of an oligosaccharidosis, a screening test is available. Order OLIGU / Oligosaccharide Screen, Random, Urine.

Shipping Instructions
For optimal isolation of leukocytes, it is recommended the specimen arrive refrigerate within 144 hours of collection to be stabilized. Collect specimen Monday through Thursday only and not the day before a holiday. Specimen should be Collected and packaged as close to shipping time as possible.

Specimen Required

Container/Tube:
Preferred: Yellow top (ACD solution B)  
Acceptable: Yellow top (ACD solution A)  
Specimen Volume: 6 mL

Collection Instructions: Send specimen in original tube. Do not transfer blood to other containers.

Specimen Minimum Volume
5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood ACD</td>
<td>Refrigerated (preferred)</td>
<td>6 days</td>
<td>YELLOW TOP/ACD</td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>4 days</td>
<td>YELLOW TOP/ACD</td>
</tr>
</tbody>
</table>

Special Instructions
- Informed Consent for Genetic Testing
- Biochemical Genetics Patient Information
- Informed Consent for Genetic Testing (Spanish)
- Lysosomal Storage Disorders Diagnostic Algorithm, Part 1

Reference Values
≥0.32 nmol/min/mg protein

Day(s) and Time(s) Performed
Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82657

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUCW</td>
<td>Alpha-Fucosidase, Leukocytes</td>
<td>24047-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8814</td>
<td>Alpha-Fucosidase, Leukocytes</td>
<td>24047-3</td>
</tr>
<tr>
<td>35635</td>
<td>Interpretation (FUCW)</td>
<td>59462-2</td>
</tr>
<tr>
<td>35634</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis  Reject

Method Name
Fluorometric

Forms
1. New York Clients- Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. Biochemical Genetics Patient Information (T602) in Special Instructions
3. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

Testing Algorithm
See Lysosomal Storage Disorders Diagnostic Algorithm, Part 1 in Special Instructions.
AGAS  Alpha-Galactosidase, Serum

LabCorp

Important Note
CAUTION: This is not IgE allergen testing. See FGA13.

Collection Container
ACD (yellow) top tube. NOT A GEL!
Whole blood

Special Handling Instructions
Collect Monday - Thursday only; must arrive in Referral Lab same day as draw

Specimen Volume
20 mL (Pediatric volume: 3 mL)

Transport Temperature
Refrigerated

Specimen Stability
Refrigerated: 96 hours

Reasons for Rejection
Arrival at the testing lab >4 days after collection

CPT Code
82657, 84155

EMR Interface Order Code
67070

ALACT  Alpha-Lactalbumin IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86008

EMR Interface Order Code
48435

AML  Alpha-Mannosidase, Leukocytes

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 05600

Reporting Name
Alpha-Mannosidase, Leukocytes

Useful For
Diagnosis of alpha-mannosidosis
This test is not useful for establishing carrier status for alpha-mannosidosis.

Specimen Type
Whole Blood ACD

Advisory Information
If clinically suspicious of an oligosaccharidosis, a screening test is available. Order OLIGU / Oligosaccharide Screen, Random, Urine.

Shipping Instructions
For optimal isolation of leukocytes, it is recommended the specimen arrive refrigerate within 144 hours of collection to be stabilized. Collect specimen Monday through Thursday only and not the day before a holiday. Specimen should be collected and packaged as close to shipping time as possible.

Specimen Required

Container/Tube:
Preferred: Yellow top (ACD solution B)
Acceptable: Yellow top (ACD solution A)

Specimen Volume: 6 mL

Collection Instructions: Send specimen in original tube. Do not transfer blood to other containers.

Specimen Minimum Volume
5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood</td>
<td>Refrigerated (preferred)</td>
<td>6 days</td>
<td>YELLOW TOP/ACD</td>
</tr>
<tr>
<td>ACD</td>
<td>Ambient</td>
<td>4 days</td>
<td>YELLOW TOP/ACD</td>
</tr>
</tbody>
</table>

Special Instructions
- Informed Consent for Genetic Testing
- Biochemical Genetics Patient Information
- Informed Consent for Genetic Testing (Spanish)

Reference Values
≥0.54 nmol/min/mg protein

Day(s) and Time(s) Performed
Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA
requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
82657

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANN</td>
<td>Alpha-Mannosidase, Leukocytes</td>
<td>24053-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>35639</td>
<td>Alpha-Mannosidase, Leukocytes</td>
<td>24053-1</td>
</tr>
<tr>
<td>35640</td>
<td>Interpretation (MANN)</td>
<td>59462-2</td>
</tr>
<tr>
<td>35641</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis | Reject

**Method Name**
Fluorometric

**Forms**
1. New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. Biochemical Genetics Patient Information (T602) in Special Instructions
3. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

**ALPRAZ  Alprazolam (Xanax)**

*Medtox Laboratories, Inc.*

**Additional Test Codes**
EMR Interface Order Code: 03375

**Specimen Required**
Submit only 1 of the following specimens:

- **Serum**
  Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

- **Plasma**
  Draw blood in a green-top sodium heparin tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL of plasma refrigerated in a plastic vial.

**Secondary ID**
75156

**Method Name**
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

**Reporting Name**
Alprazolam (Xanax)

**Specimen Type**
Varies

**Specimen Minimum Volume**
1.0 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis | NA
- Lipemia   | NA
- Icterus   | NA
- Other     | Serum gel, Plasma gel

**Reference Values**
5 ÅÇâ–¬â€œ 25 ng/mL

Reporting Limit: 2.0 ng/mL

**Day(s) and Time(s) Performed**
Monday through Sunday

**Test Classification**
In-house validated method

**CPT Code Information**
80346

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>FALPX</td>
<td>Alprazolam (Xanax)</td>
<td>59611-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FALPX</td>
<td>Alprazolam (Xanax)</td>
<td>59611-4</td>
</tr>
</tbody>
</table>

**ALT  ALT (SGPT)**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel, plasma (green)
Serum, or Heparinized plasma or (EDTA)

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room Temp: 3 days
Refrigerated: 6 days
Frozen: >7 days

**Methodology**
UV kinetic

**Days and Times Performed**
Test performed daily
**Turnaround Time**
24 hours for routine, 1 hour for stats

**Reference Ranges**

<table>
<thead>
<tr>
<th>ALT (SGPT)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
<td>0 - 41</td>
<td>0 - 33</td>
<td>U/L</td>
</tr>
</tbody>
</table>

**CPT Code**
82140

**LOINC Code**
1744-2

**EMR Interface Order Code**
06600

**ALTER Alternataria tenius IgE**

**Contracted Reference Lab**
Mayo Clinic Laboratories in Rochester

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48445

**UALQ Aluminum, 24 Hour, Urine**

**Mayo Clinic Laboratories in Rochester**

**Additional Test Codes**
EMR Interface Order Code: 03405

**Advisory Information**
The recommended test for routine aluminum screening is AL / Aluminum, Serum.

**Necessary Information**
24-Hour volume is required.

**Specimen Required**

**Patient Preparation:** High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Supplies:** Urine Tubes, 10 mL (T668)

**Collection Container/Tube:** Clean, plastic urine container with no metal cap or glued insert

**Submission Container/Tube:** Plastic urine tube or clean, plastic aliquot container with no metal cap or glued insert

**Specimen Volume:** 10 mL

**Collection Instructions:**
1. Collect urine for 24 hours.
2. Refrigerate specimen within 4 hours of completion of 24-hour collection.
3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Additional Information:** See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Useful For**
Monitoring aluminum exposure

Preferred matrix for assessment of exposure in patients with normal renal function since rapidly filtered by kidneys

Monitoring metallic prosthetic implant wear

This test is **not an acceptable substitute** for serum aluminum measurements and is **not recommended** for routine aluminum screening.

**Special Instructions**
- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens
- Trace Metals Analysis Specimen Collection and Transport

**Method Name**
Dynamic Reaction Cell-Inductively Coupled Plasma-Mass Spectrometry (DRC-ICP-MS)

**Reporting Name**
Aluminum, 24 Hr, U

**Specimen Type**
Urine

**Specimen Minimum Volume**
0.3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature (preferred)</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Reference Values**

0-17 years: not established
≥18 years: <10 mcg/24 hours
Day(s) and Time(s) Performed
Tuesday; 8 a.m.
Thursday; 12 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82108

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALU</td>
<td>Aluminum, 24 Hr, U</td>
<td>26707-0</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8828</td>
<td>Aluminum, 24 Hr, U</td>
<td>26707-0</td>
</tr>
<tr>
<td>TM15</td>
<td>Collection Duration</td>
<td>13362-9</td>
</tr>
<tr>
<td>VL13</td>
<td>Urine Volume</td>
<td>3167-4</td>
</tr>
</tbody>
</table>

Urine Preservative Collection Options
Note: The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.

<table>
<thead>
<tr>
<th>Preservative</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient</td>
<td>OK</td>
</tr>
<tr>
<td>Refrigerate</td>
<td>Preferred</td>
</tr>
<tr>
<td>Frozen</td>
<td>OK</td>
</tr>
<tr>
<td>50% Acetic Acid</td>
<td>OK</td>
</tr>
<tr>
<td>Boric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Diazolidinyl Urea</td>
<td>No</td>
</tr>
<tr>
<td>6M Hydrochloric Acid</td>
<td>OK</td>
</tr>
<tr>
<td>6M Nitric Acid</td>
<td>OK</td>
</tr>
<tr>
<td>Sodium Carbonate</td>
<td>No</td>
</tr>
<tr>
<td>Thymol</td>
<td>No</td>
</tr>
<tr>
<td>Toluene</td>
<td>No</td>
</tr>
</tbody>
</table>

ALU  Aluminum, Serum
Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 03400

Reporting Name
Aluminum, S

Useful For
Preferred monitoring for aluminum toxicity in patients undergoing dialysis
Preferred test for routine aluminum screening
Monitoring metallic prosthetic implant wear

Specimen Type
Serum

Specimen Required

<table>
<thead>
<tr>
<th>Patient Preparation:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.</td>
<td></td>
</tr>
</tbody>
</table>

Supplies:
- Greiner Z Trace Element no-additive (Aluminum Only), 6 mL (T713)
- Metal Free Specimen Vial (T173)

Container/Tube: Greiner Z Trace Element
Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial
Specimen Volume: 1.2 mL

Collection Instructions: See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td>METAL FREE</td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td>METAL FREE</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td>METAL FREE</td>
</tr>
</tbody>
</table>

Special Instructions
- Trace Metals Analysis Specimen Collection and Transport

Reference Values
0-6 ng/mL (all ages)
<60 ng/mL (dialysis patients-all ages)

For SI unit Reference Values, see https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html

Day(s) and Time(s) Performed
Tuesday; 8 a.m.
Thursday; 12 p.m.

Test Classification
This test uses a standard method. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82108

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL</td>
<td>Aluminum, S</td>
<td>5574-9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8373</td>
<td>Aluminum, S</td>
<td>5574-9</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Dynamic Reaction Cell-Inductively Coupled Plasma-Mass Spectrometry (DRC-ICP-MS)

Forms
If not ordering electronically, complete, print, and send a Renal Diagnostics Test Request (T830) with the specimen.
**FAMCE  American Cheese IgE**

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
70630

**Container**
Serum gel or red top tube

---

**AMIKPK  Amikacin, Peak, Serum**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 03425

**Useful For**
Monitoring adequacy of serum concentration during amikacin therapy

**Method Name**
Kinetic Interaction of Microparticles in Solution (KIMS)

**Reporting Name**
Amikacin, Peak, S

**Specimen Type**
Serum

**Specimen Required**

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL

Collection Instructions:
1. Serum gel tubes should be centrifuged within 2 hours of collection.
2. Red top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume**
0.25 mL

---

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature (preferred)</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
Gross hemolysis | Reject

**Reference Values**
Peak: 20.0-35.0 mcg/mL
Toxic peak: >40.0 mcg/mL

**Day(s) and Time(s) Performed**
Monday through Sunday; Continuously

**Test Classification**
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAMIK</td>
<td>Amikacin, Peak, S</td>
<td>3319-1</td>
</tr>
</tbody>
</table>

---

**CPT Code Information**

80150

**Forms**
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

---

**AMIKRA  Amikacin, Random**

*Contracted Reference Lab*

**Collection Container**
Red top tube or green (Na hep) top tube NO GEL

Serum or plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 14 days

**Reasons for Rejection**
Specimen collected in a gel barrier tube; Gross hemolysis, lipemia, icterus

**CPT Code**
80150

**EMR Interface Order Code**
3435
AMIKTR  Amikacin, Trough, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 03430

Useful For
Monitoring adequate clearance of amikacin near the end of a dosing cycle

Method Name
Kinetic Interaction of Microparticles in Solution (KIMS)

Reporting Name
Amikacin, Trough, S

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top

Specimen Volume: 0.5 mL

Collection Instructions:
1. Serum gel tubes should be centrifuged within 2 hours of collection.
2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume
0.25 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td>28 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis  | Reject

Reference Values
- Trough: <8.0 mcg/mL
- Toxic trough: >10.0 mcg/mL

Day(s) and Time(s) Performed
Monday through Sunday; Continuously

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAMIK</td>
<td>Amikacin, Trough, S</td>
<td>3321-7</td>
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</table>

CPT Code Information
80150

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

PAAP  Amino Acids, Quantitative, Plasma

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 03460

Reporting Name
Amino Acids, QN, P

Useful For
Evaluation of patients with possible inborn errors of metabolism using plasma specimens

Specimen Type
Plasma

Additional Testing Requirements
Not all patients with homocystinuria will be detected by this assay. If there is a concern for homocystinuria, please order HCYSP / Homocysteine, Total, Plasma in tandem with amino acids.

Shipping Instructions
Send plasma frozen.

Necessary Information
1. Patient's age is required.
2. Include family history, clinical condition (asymptomatic or acute episode), diet, and drug therapy information.

Specimen Required

Patient Preparation: Fasting (overnight preferred, 4 hours minimum). Infants should be drawn just before next feeding (2-3 hours without total parenteral nutrition, if possible).

Collection Container/Tube:
Preferred: Green top (sodium heparin)
Acceptable: Lavender top (EDTA), plasma gel tube, green top (lithium heparin)

Submission Container/Tube: Plastic vial

Specimen Volume: 0.5 mL

Collection Instructions:
1. Collect specimen and place on wet ice.
2. Centrifuge immediately or within 4 hours of collection if specimen is kept at refrigerated temperature.
3. Being careful to ensure that no buffy coat is transferred, aliquot plasma into a plastic vial and freeze.

Specimen Minimum Volume
0.3 mL
**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>Plasma</td>
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**Day(s) and Time(s) Performed**
Monday through Friday; 9 a.m. and 1 p.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
82139

**LOINC Code Information**

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<th>Order LOINC Value</th>
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<tbody>
<tr>
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<td>Amino Acids, QN, P</td>
<td>35083-5</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<td>34457</td>
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<td>3512</td>
<td>Taurine</td>
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<td>Asparagine</td>
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<td>3516</td>
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<td>Glycine</td>
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<td>3518</td>
<td>Glutamine</td>
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<td>3535</td>
<td>Histidine</td>
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<td>34461</td>
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<td>34454</td>
<td>3-Methylhistidine</td>
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<td>Argininosuccinic Acid</td>
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<td>34455</td>
<td>Carnosine</td>
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<td>34456</td>
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<td>Arginine</td>
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<td>34450</td>
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<td>34463</td>
<td>Gamma-aminon-butyric Acid</td>
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<td>34452</td>
<td>Beta-aminoisobutyric Acid</td>
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<td>3524</td>
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<td>3519</td>
<td>Proline</td>
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<td>Ornithine</td>
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<td>Cystathionine</td>
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<td>3526</td>
<td>Cystine</td>
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<td>3534</td>
<td>Lysine</td>
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<td>3527</td>
<td>Methionine</td>
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<td>3530</td>
<td>Tyrosine</td>
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<tr>
<td>3528</td>
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<td>3529</td>
<td>Leucine</td>
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<td>3531</td>
<td>Phenylalanine</td>
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<td>34465</td>
<td>Tryptophan</td>
<td>20659-9</td>
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<td>32347</td>
<td>Allo-isoleucine</td>
<td>22670-4</td>
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<tr>
<td>3570</td>
<td>Interpretation (AAQP)</td>
<td>49247-0</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

**Testing Algorithm**
Includes quantitation of the following amino acids: taurine, threonine, serine, asparagine, glutamic acid, glutamine, proline, alanine, citrulline, alpha-aminon-butyric acid, valine, cystine, methionine, isoleucine, leucine, tyrosine, phenylalanine, beta-alanine, ornithine, lysine, histidine, argininosuccinic acid, allo-isoleucine, arginine, phosphoserine, phosphoethanolamine, hydroxyproline, glycine, aspartic acid, ethanolamine, sarcosine, 1-methylhistidine, 3-methylhistidine, carnosine, anserine, homocitrulline, alpha-aminoadipic acid, gamma-aminon-butyric acid, beta-aminoisobutyric acid, hydroxlysine, cystathionine, and tryptophan.
See Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm in Special Instruction.

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
Portions of this test are covered by patents held by Quest Diagnostics

**Special Instructions**
- Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm

**Forms**
If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.
## Reference Values — Amino Acids, Quantitative, Plasma

<table>
<thead>
<tr>
<th>Plasma Amino Acid Reference Values (nmol/mL)</th>
<th>Age Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;24 Months (n=191)</td>
</tr>
<tr>
<td>Phosphoserine (PSer)</td>
<td>&lt;109</td>
</tr>
<tr>
<td>Phosphoethanolamine (PEtN)</td>
<td>&lt;6</td>
</tr>
<tr>
<td>Taurine (Tau)</td>
<td>37-177</td>
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<tr>
<td>Asparagine (Asn)</td>
<td>25-91</td>
</tr>
<tr>
<td>Serine (Ser)</td>
<td>69-271</td>
</tr>
<tr>
<td>Hydroxyproline (Hyp)</td>
<td>8-61</td>
</tr>
<tr>
<td>Glycine (Gly)</td>
<td>111-426</td>
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<tr>
<td>Glutamine (Gln)</td>
<td>316-1,020</td>
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<tr>
<td>Aspartic Acid (Asp)</td>
<td>2-20</td>
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<td>Ethanolamine (EtN)</td>
<td>&lt;70</td>
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<td>Histidine (His)</td>
<td>10-116</td>
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<tr>
<td>Threonine (Thr)</td>
<td>47-237</td>
</tr>
<tr>
<td>Citrulline (Cit)</td>
<td>9-38</td>
</tr>
<tr>
<td>Sarcosine (Sar)</td>
<td>&lt;5</td>
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<tr>
<td>b-Alanine (bAla)</td>
<td>&lt;28</td>
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<tr>
<td>Alanine (Ala)</td>
<td>139-474</td>
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<tr>
<td>Glutamic Acid (Glu)</td>
<td>31-202</td>
</tr>
<tr>
<td>1-Methylhistidine (1MHis)</td>
<td>&lt;11</td>
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<tr>
<td>3-Methylhistidine (3MHis)</td>
<td>&lt;1</td>
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<tr>
<td>Argininosuccinic Acid (Asa)</td>
<td>&lt;2</td>
</tr>
<tr>
<td>Carnosine (Car)</td>
<td>&lt;13</td>
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<tr>
<td>Anserine (Ans)</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Homocitruline (Hcit)</td>
<td>&lt;5</td>
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<tr>
<td>Arginine (Arg)</td>
<td>29-134</td>
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<tr>
<td>a-Aminoadipic Acid (Aad)</td>
<td>&lt;4</td>
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<tr>
<td>g-Amino-n-butryic Acid (GABA)</td>
<td>&lt;4</td>
</tr>
<tr>
<td>b-Aminoobutyric Acid (bAib)</td>
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<tr>
<td>a-Amino-n-butryic Acid (Abu)</td>
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<tr>
<td>Hydroxylysine (Hyl)</td>
<td>&lt;4</td>
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<tr>
<td>Proline (Pro)</td>
<td>85-303</td>
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<tr>
<td>Ornithine (Orn)</td>
<td>20-130</td>
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<tr>
<td>Cystathionine (Cth)</td>
<td>&lt;2</td>
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<tr>
<td>Cystine (Cys)</td>
<td>2-32</td>
</tr>
<tr>
<td>Lysine (Lys)</td>
<td>49-204</td>
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<tr>
<td>Methionine (Met)</td>
<td>11-35</td>
</tr>
<tr>
<td>Valine (Val)</td>
<td>83-300</td>
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<tr>
<td>Tyrosine (Tyr)</td>
<td>26-115</td>
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<tr>
<td>Isoleucine (Ile)</td>
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<tr>
<td>Leucine (Leu)</td>
<td>48-175</td>
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<td>Phenylalanine (Phe)</td>
<td>28-80</td>
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<tr>
<td>Tryptophan (Trp)</td>
<td>17-75</td>
</tr>
<tr>
<td>Alloisoleucine (Allol)</td>
<td>&lt;2</td>
</tr>
</tbody>
</table>
**CSAAP**  Amino Acids, Quantitative, Spinal Fluid

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
Amino Acids, QN, CSF

**Useful For**
Evaluating patients with possible inborn errors of amino acid metabolism, in particular nonketotic hyperglycinemia (glycine encephalopathy) and serine biosynthesis defects, especially when used in conjunction with concomitantly collected plasma specimens

**Specimen Type**
CSF

**Additional Testing Requirements**
This test should be ordered in conjunction with AAQP / Amino Acids, Quantitative, Plasma. The specimens for both tests (AAQP / Amino Acids, Quantitative, Plasma and AACSF / Amino Acids, Quantitative, Spinal Fluid) should be collected at the same time.

**Necessary Information**
1. Patient's age is required.
2. Include family history, clinical condition (asymptomatic or acute episode), diet, and drug therapy information

**Specimen Required**

<table>
<thead>
<tr>
<th>Container/Tube: Sterile vial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Volume: 0.2 mL</td>
</tr>
<tr>
<td><strong>Collection Instructions:</strong> Collect specimen from second collection vial.</td>
</tr>
</tbody>
</table>

**Specimen Minimum Volume**
0.1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>CSF</td>
<td>Frozen</td>
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</tbody>
</table>

**Day(s) and Time(s) Performed**
Monday through Friday; 9:00 a.m. and 1 p.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
82139

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>AACSF</td>
<td>Amino Acids, QN, CSF</td>
<td>35507-3</td>
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</table>

**Result ID**

<table>
<thead>
<tr>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tr>
<td>50435</td>
<td>Interpretation</td>
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**Reject Due To**
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Ordering Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AACSF</td>
<td>Amino Acids, QN, CSF</td>
<td>35507-3</td>
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</tbody>
</table>

**Testing Algorithm**
Includes quantitation of the following amino acids: phosphoserine, phosphoethanolamine, taurine, threonine, serine, hydroxyproline, asparagine, glutamic acid, 1-methylhistidine, 3-methylhistidine, argininosuccinic acid, carnosine, anserine, homocitrulline, alpha-aminoacidic acid, gamma-amino-n-butyrinic acid, beta-aminoisobutyrinic acid, alpha-amino-n-butyrinic acid, hydroxylysine, glutamine, aspartic acid, ethanolamine, proline, glycine, alanine, citrulline, sarcosine, beta-alanine, alpha-amino-n-butyrinic acid, valine, cystine, methionine, isoleucine, leucine, tyrosine, phenylalanine, ornithine, cystathionine, tryptophan, allo-isoleucine, lysine, histidine, and arginine.
See Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm in Special Instructions.

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
Portions of this test are covered by patents held by Quest Diagnostics

**Special Instructions**
- Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm

**Forms**
If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.
## Reference Values — Amino Acids, Quantitative, Spinal Fluid

<table>
<thead>
<tr>
<th>CSF Amino Acid Reference Values (nmol/mL)</th>
<th>≤31 days (n=73)</th>
<th>32 days-23 months (n=88)</th>
<th>2-18 years (n=189)</th>
<th>≥19 years (n=32)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoserine (PSer)</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Phosphoethanolamine (PEIN)</td>
<td>&lt;15</td>
<td>&lt;10</td>
<td>&lt;8</td>
<td>&lt;7</td>
</tr>
<tr>
<td>Taurine (Tau)</td>
<td>8-48</td>
<td>28</td>
<td>&lt;13</td>
<td>&lt;20</td>
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<tr>
<td>Asparagine (Asn)</td>
<td>8-34</td>
<td>5-16</td>
<td>&lt;10</td>
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</tr>
<tr>
<td>Serine (Ser)</td>
<td>44-136</td>
<td>26-71</td>
<td>21-51</td>
<td>19-40</td>
</tr>
<tr>
<td>Hydroxyproline (Hyp)</td>
<td>&lt;7</td>
<td>&lt;3</td>
<td>&lt;1</td>
<td>&lt;2</td>
</tr>
<tr>
<td>Glycine (Gly)</td>
<td>5-115</td>
<td>&lt;33</td>
<td>&lt;11</td>
<td>&lt;35</td>
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<tr>
<td>Glutamine (Gln)</td>
<td>467-1832</td>
<td>301-1128</td>
<td>326-1092</td>
<td>380-1348</td>
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<td>Aspartic Acid (Asp)</td>
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<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;2</td>
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<td>Ethanolamine (EtN)</td>
<td>11-193</td>
<td>7-155</td>
<td>7-153</td>
<td>7-153</td>
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<tr>
<td>Histidine (His)</td>
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<td>9-28</td>
<td>9-21</td>
<td>9-28</td>
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<tr>
<td>Threonine (Thr)</td>
<td>32-143</td>
<td>11-77</td>
<td>14-38</td>
<td>23-57</td>
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<td>Citrulline (Cit)</td>
<td>&lt;11</td>
<td>&lt;6</td>
<td>&lt;3</td>
<td>&lt;9</td>
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<tr>
<td>Sarcosine (Sar)</td>
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<td>&lt;1</td>
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<td>Beta-alanine (bAla)</td>
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<td>&lt;25</td>
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<tr>
<td>Alanine (Ala)</td>
<td>24-124</td>
<td>16-53</td>
<td>12-34</td>
<td>19-60</td>
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<tr>
<td>Glutamic Acid (Glu)</td>
<td>&lt;12</td>
<td>&lt;3</td>
<td>&lt;1</td>
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<tr>
<td>1-Methylhistidine (1MHis)</td>
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<td>&lt;2</td>
<td>&lt;3</td>
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<td>3-Methylhistidine (3MHis)</td>
<td>&lt;4</td>
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<tr>
<td>Argininosuccinic Acid (Asa)</td>
<td>&lt;1</td>
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<tr>
<td>Carnosine (Car)</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
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<tr>
<td>Anserine (Ans)</td>
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<td>&lt;9</td>
<td>&lt;7</td>
<td>&lt;3</td>
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<td>Homocitrulline (Hcit)</td>
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<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
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<tr>
<td>Arginine (Arg)</td>
<td>5-39</td>
<td>11-35</td>
<td>11-27</td>
<td>11-32</td>
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<tr>
<td>Alpha-amino adipic Acid (Aad)</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Gamma-aminobutyric Acid (GABA)</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
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<td>Beta-aminoisobutyric Acid (bAlb)</td>
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<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
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<tr>
<td>Alpha-amino-n-butyric Acid (Abu)</td>
<td>&lt;15</td>
<td>&lt;8</td>
<td>&lt;5</td>
<td>&lt;14</td>
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<tr>
<td>Hydroxylysine (HyL)</td>
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<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
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<tr>
<td>Proline (Pro)</td>
<td>&lt;17</td>
<td>&lt;6</td>
<td>&lt;2</td>
<td>&lt;6</td>
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<td>Ornithine (Orn)</td>
<td>&lt;24</td>
<td>&lt;12</td>
<td>&lt;6</td>
<td>&lt;11</td>
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<tr>
<td>Cystathionine (Cth)</td>
<td>&lt;1</td>
<td>&lt;2</td>
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<td>&lt;1</td>
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<td>Cystine (Cys)</td>
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<td>&lt;2</td>
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<td>&lt;1</td>
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<tr>
<td>Lysine (Lys)</td>
<td>11-63</td>
<td>9-33</td>
<td>10-25</td>
<td>13-42</td>
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<tr>
<td>Methionine (Met)</td>
<td>&lt;43</td>
<td>&lt;9</td>
<td>&lt;8</td>
<td>&lt;10</td>
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<td>Valine (Val)</td>
<td>14-51</td>
<td>9-28</td>
<td>8-20</td>
<td>11-40</td>
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<tr>
<td>Tyrosine (Tyr)</td>
<td>8-83</td>
<td>5-24</td>
<td>&lt;17</td>
<td>5-17</td>
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<td>Isoleucine (ile)</td>
<td>&lt;27</td>
<td>&lt;13</td>
<td>&lt;8</td>
<td>&lt;17</td>
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<tr>
<td>Leucine (Leu)</td>
<td>12-41</td>
<td>6-21</td>
<td>7-16</td>
<td>7-29</td>
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<tr>
<td>Phenylalanine (Phe)</td>
<td>7-40</td>
<td>5-18</td>
<td>&lt;12</td>
<td>7-21</td>
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<tr>
<td>Tryptophan (Trp)</td>
<td>&lt;12</td>
<td>&lt;6</td>
<td>&lt;4</td>
<td>&lt;4</td>
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<tr>
<td>Allo-isoleucine (Allolile)</td>
<td>&lt;3</td>
<td>&lt;2</td>
<td>&lt;2</td>
<td>&lt;2</td>
</tr>
</tbody>
</table>
**UAAP Amino Acids, Urine**

*LabCorp*

**Collection Container**
Urine container or tube  
Random urine - frozen immediately

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Frozen

**Turnaround Time**
4-8 days

**CPT Code**
82139

**EMR Interface Order Code**
67170

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**UALAQ Aminolevulinic Acid (ALA), Urine**

*ARUP Laboratories*

**Additional Test Codes**
EMR Interface Order Code: 03475

**Reporting Name**
Aminolevulinic Acid (ALA), Urine

**Specimen Type**
Urine

**Specimen Required**

**Specimen Type: Urine**
**Submission Container/Tube:** Plastic, 6-mL tube(s) (MCL T465)  
**Specimen Volume:** 4 mL

**Collection Instructions:**
1. Collect urine for 24 hours (NO preservative).
2. Refrigerate specimen during the 24-hour collection.
3. Send specimen frozen in the plastic, 6-mL urine tube (T465)
4. Collection volume and duration are required

**Specimen Minimum Volume**
1.2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen (preferred)</td>
<td>30 days</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>4 days</td>
<td>No</td>
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**Reference Values**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Units</th>
<th>Ref Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine, Urine-mg/dL</td>
<td>mg/dL</td>
<td>140-700 Male, 140-700 Female</td>
</tr>
<tr>
<td>Creatinine, Urine-mg/day</td>
<td>mg/d</td>
<td>500-2300 Male, 400-1600 Female</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8 years</td>
<td>140-700</td>
<td>140-700</td>
</tr>
<tr>
<td>9-12 years</td>
<td>300-1300</td>
<td>300-1300</td>
</tr>
<tr>
<td>13-17 years</td>
<td>500-2300</td>
<td>400-1600</td>
</tr>
<tr>
<td>18-50 years</td>
<td>1000-2500</td>
<td>700-1600</td>
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<tr>
<td>51-80 years</td>
<td>800-2100</td>
<td>500-1400</td>
</tr>
<tr>
<td>81 years and older</td>
<td>600-2000</td>
<td>400-1300</td>
</tr>
</tbody>
</table>

**Aminolevulinic Acid umol/L**

<table>
<thead>
<tr>
<th></th>
<th>umol/L</th>
<th>Ref Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-35</td>
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<td></td>
</tr>
</tbody>
</table>

**Aminolevulinic Acid umol/day**

<table>
<thead>
<tr>
<th></th>
<th>umol/d</th>
<th>Ref Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-60</td>
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</tbody>
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**Day(s) and Time(s) Performed**

Monday, Wednesday, Friday

**CPT Code Information**

82135

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FALAU</td>
<td>Aminolevulinic Acid (ALA), Urine</td>
<td>Not Provided</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>Z2709</td>
<td>Hours Collected</td>
<td>30211-7</td>
</tr>
<tr>
<td>Z2710</td>
<td>Total Volume</td>
<td>19153-6</td>
</tr>
<tr>
<td>Z2711</td>
<td>Creatinine, Urine mg/dL</td>
<td>2161-8</td>
</tr>
<tr>
<td>Z2712</td>
<td>Creatinine, Urine mg/day</td>
<td>2162-6</td>
</tr>
<tr>
<td>Z2713</td>
<td>Aminolevulinic Acid umol/L</td>
<td>34284-0</td>
</tr>
<tr>
<td>Z2714</td>
<td>Aminolevulinic Acid umol/day</td>
<td>14689-4</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

**Method Name**
Quantitative Ion Exchange Chromatography/Spectrophotometry

**Urine Preservative Collection Options**

- Ambient: Yes
- Refrigerated: Yes
- Frozen: NO
- 6N HCl: NO
- 50% Acetic Acid: NO
- Na2CO3: NO
- Toluene: NO
- 6N HNO3: NO
- Boric Acid: NO
- Thymol: NO
**ALADHY  Aminolevulinic Acid Dehydratase (ALAD), Whole Blood**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 10201

**Reporting Name**
ALA Dehydratase, WB

**Useful For**
This test is the preferred test for the confirmation of a diagnosis of aminolevulinic acid dehydratase deficiency porphyria

**Testing Algorithm**
The following algorithms are available in Special Instructions:
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

**Specimen Type**
Whole blood

**Specimen Required**
All porphyrin tests on whole blood can be performed on 1 draw tube.

**Container/Tube:**
Preferred: Green top (sodium heparin)
Acceptable: Lavender top (EDTA) or green top (lithium heparin)

**Specimen Volume:** Full tube

**Collection Instructions:**
1. Patient should abstain from alcohol for 24 hours.
2. Immediately place specimen on wet ice.

**Additional Information:** Include a list of medications the patient is currently taking.

**Specimen Minimum Volume**
3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated</td>
<td>4 days</td>
<td></td>
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</tbody>
</table>

**Special Instructions**
- The Heme Biosynthetic Pathway
- Informed Consent for Genetic Testing
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm
- Informed Consent for Genetic Testing (Spanish)

**Reference Values**
Reference ranges have not been established for patients who are <16 years of age.

- ≥4.0 nmol/L/sec
- 3.5-3.9 nmol/L/sec (indeterminate)
- <3.5 nmol/L/sec (diminished)

**Day(s) and Time(s) Performed**
Tuesday, Thursday; 1 p.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
82657

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>ALAD</td>
<td>ALA Dehydratase, WB</td>
<td>12916-3</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>4021</td>
<td>ALA Dehydratase</td>
<td>12916-3</td>
</tr>
<tr>
<td>28399</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
</tbody>
</table>

**Reject Due To**
Gross hemolysis  Reject

**Method Name**
Enzymatic End point/Spectrofluorometric

**Forms**
1. **New York Clients-Informed consent is required.** Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

**URALAR  Aminolevulinic Acid, Urine**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Aminolevulinic Acid, U

**Useful For**
Assistance in the differential diagnosis of the various acute hepatic porphyrinas

**Testing Algorithm**
The following algorithms are available in Special Instructions:
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

**Specimen Type**
Urine

**Advisory Information**
The preferred test for lead toxicity in children is blood lead (see PBDV / Lead, Venous, with Demographics, Blood or PBDC / Lead, Capillary, with Demographics, Blood).

**Necessary Information**
Patient's age is required.

**Specimen Required**

**Patient Preparation:** Patient should abstain from alcohol for 24 hours prior to and during testing.

**Supplies:** Urine Tubes, 10 mL (T068)

**Specimen Volume:** 2 mL
Collection Instructions: Collect a random urine specimen.

Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>45</td>
<td></td>
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Special Instructions
- The Heme Biosynthetic Pathway
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

Reference Values
<1 year: ≤10 nmol/mL
1-17 years: ≤20 nmol/mL
≥18 years: ≤15 nmol/mL

Day(s) and Time(s) Performed
Tuesday, Thursday; 3 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82135

LOINC Code Information

<table>
<thead>
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<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>ALAUR</td>
<td>Aminolevulinic Acid, U</td>
<td>34284-0</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
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<td>61547</td>
<td>Aminolevulinic Acid, U</td>
<td>34284-0</td>
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<td>34347</td>
<td>Interpretation (ALA), U</td>
<td>59462-2</td>
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<tr>
<td>34348</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Forms
If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

AMIODARONE Amiodarone, Serum
 Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 03500

Reporting Name
Amiodarone, S

Useful For
Monitoring amiodarone therapy, especially when amiodarone is coadministered with other drugs that may interact

Evaluation of possible amiodarone toxicity

Assessment of patient compliance

Specimen Type
Serum Red

Specimen Required
Collection Container/Tube: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1.5 mL
Collection Instructions:
1. Draw blood no sooner than 12 hours (trough value) after last dose or immediately before next scheduled dose.
2. Centrifuge within 2 hours of draw and aliquot to remove serum from spun RBCs.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
AMIODARONE
Trough Value
0.5-2.0 mcg/mL: Therapeutic concentration
>2.5 mcg/mL: Toxic concentration

DESETHYLAMIODARONE:
No therapeutic range established for desethylamiodarone; activity and serum concentration are similar to parent drug.

Day(s) and Time(s) Performed
Monday through Saturday

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80299

LOINC Code Information

<table>
<thead>
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<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>AMIO</td>
<td>Amiodarone, S</td>
<td>55152-3</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>9247</td>
<td>Amiodarone, S</td>
<td>3330-8</td>
</tr>
<tr>
<td>2485</td>
<td>Desethylamiodarone</td>
<td>6774-4</td>
</tr>
</tbody>
</table>

Reject Due To

| Gross hemolysis | OK |
| Gross lipemia   | OK |
| Gross icterus   | OK |

Method Name
Liquid Chromatography-Mass Spectrometry (LC-MS/MS)

Secondary ID
9247
Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

**AMITRP  Amitriptyline and Nortriptyline, Serum**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 03525

**Useful For**
Monitoring serum concentration during therapy

Evaluating potential toxicity

The test may also be useful to evaluate patient compliance

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Reporting Name**
Amitriptyline and Nortriptyline, S

**Specimen Type**
Serum Red

**Specimen Required**

**Container/Tube:** Red top  
**Specimen Volume:** 1 mL  
**Collection Instructions:**  
1. Draw specimen immediately before next scheduled dose (minimum 12 hours after last dose).  
2. Serum must be separated from cells within 2 hours of draw.

**Specimen Minimum Volume**
0.25 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

**Reference Values**

**AMITRIPTILINE AND NORTRIPTILINE**
Total therapeutic concentration: 80-200 ng/mL

**NORTRIPTILINE ONLY**
Therapeutic concentration: 70-170 ng/mL

**Note:** Therapeutic ranges are for specimens drawn at trough (ie, immediately before next scheduled dose). Levels may be elevated in non-trough specimens.

**Day(s) and Time(s) Performed**
Monday through Friday; Varies

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
80335  
G0480 (if appropriate)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMTRP</td>
<td>Amitriptyline and Nortriptyline, S</td>
<td>43106-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>63506</td>
<td>Amitriptyline</td>
<td>3333-2</td>
</tr>
<tr>
<td>36755</td>
<td>Nortriptyline</td>
<td>3872-9</td>
</tr>
<tr>
<td>36756</td>
<td>Amitriptyline and Nortriptyline</td>
<td>3335-7</td>
</tr>
</tbody>
</table>

**NH3  Ammonia**

*Baystate Reference Laboratories*

**Important Note**
Capillary blood not acceptable. Blood taken from a Central line and put into a microtainer is acceptable.

**Collection Container**
Lavender (EDTA)

**Special Handling Instructions**
Sample must be kept ON ICE (2-6° C) after specimen collection prior to centrifugation. Specimen must be centrifuged and plasma separated within 90 minutes of collection.

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.15 mL

**Transport Temperature**
Transport specimen on ice. Freeze specimen if delay is more than 3 hours.

**Specimen Stability**
Refrigerated: 3 hours (after separation), Frozen: beyond 3 hours

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours for routine, 1 hour for stats

**Reference Ranges**
Males: 16 - 60 umol/L, Females: 11 - 51 umol/L

**Units of Measure**
umol/L

**CPT Code**
82140

**LOINC Code**
22763-7

**EMR Interface Order Code**
03560
**VNH3  Ammonia, Venous**

*Baystate Reference Laboratories*

**Collection Container**
Lavender (EDTA)

**Plasma**

**Special Handling Instructions**
Sample must be kept cold (2-6°C) prior to centrifugation. Specimen must be centrifuged and plasma separated within 90 minutes of collection.

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 3 hours, Freeze: beyond 3 hours

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours for routine, 1 hour for stats

**Reference Ranges**
Males: 16 - 60 umol/L, Females: 11 - 51 umol/L

**Units of Measure**
umol/L

**CPT Code**
80335/G0480

**LOINC Code**
3341-5

**EMR Interface Order Code**
03610

---

**AMXCLN  Amoxicillin IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
00505

---

**UAMPHE  Amphetamine, Urine, Screen**

*Baystate Reference Laboratories*

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

**Collection Container**
Yellow BD tube

**Random Urine**

**Specimen Volume**
10 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 5 days
### Methodology
Kinetic interaction of microparticles in a solution (KIMS)

<table>
<thead>
<tr>
<th><strong>Days and Times Performed</strong></th>
<th>Test performed daily</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Turnaround Time</strong></td>
<td>24 hours</td>
</tr>
<tr>
<td><strong>Reference Ranges</strong></td>
<td>None detected</td>
</tr>
<tr>
<td><strong>CPT Code</strong></td>
<td>80307</td>
</tr>
<tr>
<td><strong>LOINC Code</strong></td>
<td>3349-8</td>
</tr>
<tr>
<td><strong>EMR Interface Order Code</strong></td>
<td>11515</td>
</tr>
</tbody>
</table>

### UAMPZ  Amphetamine, Urine, Screen with Confirmation

*Baystate Reference Laboratories*

<table>
<thead>
<tr>
<th><strong>Important Note</strong></th>
<th>This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reflex Tests</strong></td>
<td>QAMP (Amphetamines Confirmation, Urine) if positive, will reflex to confirmations at an additional charge</td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Urine</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>20 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td>10 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerated</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>Refrigerated: 5 days</td>
</tr>
</tbody>
</table>

### QSAMP  Amphetamines with Conf, Oral Fluid

*Contracted Reference Lab*

<table>
<thead>
<tr>
<th><strong>Reflex Tests</strong></th>
<th>If positive, will reflex to confirmations at an additional charge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Collection Container</strong></td>
<td>Oral-Eze container</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>3 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td>2 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerated</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>Room temp: 72 hr Refrigerated: 7 days Frozen: 30 days with swab removed</td>
</tr>
</tbody>
</table>

### Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

### QAMPI  Amphetamines with reflex to Isomer, Qnt, Urine

*Contracted Reference Lab*

| **Collection Container** | Urine cup or tube                                               |
| **Specimen Volume**      | 20 mL                                                           |
| **Minimum Specimen Volume** | 5 mL                                                            |
| **Transport Temperature** | Refrigerated                                                   |

### Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.
Specimen Stability
14 days

Reasons for Rejection
Preserved samples

Days and Times Performed
Daily

Turnaround Time
1 – 3 days

CPT Code
80324/G0480

EMR Interface Order Code
70829

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

QAMP  Amphetamines, Qnt, Urine

Contracted Reference Lab

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

Collection Container
Urine cup or tube

Urine

Specimen Volume
20 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Preserved samples

Days and Times Performed
Daily

Turnaround Time
1 – 3 days

CPT Code
80324/G0480

EMR Interface Order Code
70829

AMCR  Amylase Creatinine Ratio

Baystate Reference Laboratories

Collection Container
Serum gel and random urine

Serum and random Urine

Specimen Volume
1 mL of both serum and urine

Minimum Specimen Volume
0.5 mL of both serum and urine

Transport Temperature
Refrigerate

Methodology
Enzymatic colorimetric

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
Female and Male: 0 - 5%

Units of Measure
%

CPT Code
82150 X2, 82570, 82565,
**FAMY  Amylase Fluid**

*Baystate Reference Laboratories*

**Collection Container**
Fluid
Identify source of body fluid

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Methodology**
Enzymatic colorimetric

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Units of Measure**
U/L

**CPT Code**
82150

**EMR Interface Order Code**
05175

**Reference Values**

Pancreatic amylase
- 6-35 months: 2-28 U/L
- 3-6 years: 8-34 U/L
- 7-17 years: 9-39 U/L
- 18 years and older: 12-52 U/L

Salivary amylase
- 18 months and older: 9-86 U/L

**Total amylase**
- 3-90 days: 0-30 U/L
- 3-6 months: 7-40 U/L
- 7-8 months: 7-57 U/L
- 9-11 months: 11-70 U/L
- 12-17 months: 11-79 U/L
- 18-35 months: 19-92 U/L
- 3-4 years: 26-106 U/L
- 5-12 years: 30-119 U/L
- 13 years and older: 30-110 U/L

**CPT Code Information**
82150/x2

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAMYS</td>
<td>Amylase Isoenzymes</td>
<td>24333-7</td>
</tr>
</tbody>
</table>

**Reject Due To**

| Hemolysis       | Mild reject; Gross reject |
| Thawing         | Warm reject; Cold OK      |
| Lipemia         | NA                       |
| Icterus         | NA                       |
| Other           | Body fluids              |

**Method Name**
Quantitative Enzymatic

**Secondary ID**
57288

**AMYISO  Amylase, Isoenzymes**

*ARUP Laboratories*

**Additional Test Codes**
EMR Interface Order Code: 03655

**Reporting Name**
Amylase Isoenzymes

**Specimen Type**
Varies

**Specimen Required**
Submit only 1 of the following specimens:

**Serum**
Draw blood in a plain, red-top tube(s). Serum gel tube is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Plasma**
Draw blood in a green-top (sodium or lithium heparin) tube(s). Spin down and send 1 mL plasma refrigerated in a plastic vial.

**Specimen Minimum Volume**
0.5 mL

**Baystate Reference Laboratories**

**Collection Container**
Yellow BD tube
Timed urine

**Specimen Volume**
1 mL

**Result ID | Test Result Name                  | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Z2611</td>
<td>Pancreatic Amylase Isoenzyme</td>
<td>1805-1</td>
</tr>
<tr>
<td>Z2612</td>
<td>Salivary Amylase Isoenzyme</td>
<td>1809-3</td>
</tr>
<tr>
<td>Z2613</td>
<td>Total Amylase For Isoenzymes</td>
<td>1798-8</td>
</tr>
</tbody>
</table>

**Method Name**
Quantitative Enzymatic

**Secondary ID**
57288

**UAMYQ  Amylase, Urine, Quantitative**

*Baystate Reference Laboratories*

**Collection Container**
Yellow BD tube

**Specimen Volume**
1 mL
Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Methodology
Enzymatic colorimetric

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
U/Hr

CPT Code
82150

LOINC Code
1799-6

EMR Interface Order Code
03660

**UAMYR Amylase, Urine, Random**

*Baystate Reference Laboratories*

**Collection Container**
Yellow BD tube

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room Temp. 2 days
Refrigerated 10 days

**Methodology**
Enzymatic colorimetric

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Units of Measure**
U/L

**CPT Code**
82150

**LOINC Code**
1799-6

**EMR Interface Order Code**
03660

**UANSTE Anabolic Steroids, Urine**

*LabCorp*

**Collection Container**
Urine

**Specimen Volume**
30 mL

**Minimum Specimen Volume**
10 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 2 weeks, Frozen: 2 months

**Methodology**
Initial presumptive testing by gas chromatography/mass spectrometry (GC/MS)
Presumptive positives confirmed by definitive chromatography with mass spectrometry (GC/MS, LC/MS-MS)

**CPT Code**
80307

**EMR Interface Order Code**
13635

**AEPCR Anaplasma and Ehrlicia PCR**

*Baystate Reference Laboratories*

**Additional Information**
This test includes the detection of Ehrlichia and Anaplasma, previously known as Human Granulocytic Ehrlichiosis (HGE)

**Collection Container**
Lavender (EDTA)

**Specimen Volume**
4 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Room Temperature, refrigerated or frozen

**Specimen Stability**
4°C up to 5 days, -20°C: 6 weeks

**Reasons for Rejection**
Excessive delay in transport; shared specimen; wrong tube, mislabeled specimens, insufficient quantity

**Methodology**
Real-time PCR with Thermal Melt analysis

**Reference Ranges**
Not detected

**CPT Code**
87798

**EMR Interface Order Code**
69582
ANCH Anchovy IgE

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
68576

**Container**
Serum gel or red top tube

---

**AND3GL Androstanediol Glucuronide**

**Esoterix Endocrinology**

**Method Name**
High Pressure Liquid Chromatography and Tandem Mass Spectrometry (HPLC/MS-MS)

**Reporting Name**
Androstanediol Glucuronide

**Specimen Type**
Varies

**Specimen Required**
Submit only one of the following:

- **Serum**
  - Draw blood in a plain red-top tube(s). (Serum gel tube is acceptable.)
  - Spin down and send 1 mL serum refrigerate in plastic vial.

- **Plasma**
  - Draw blood in a (lavender-top) EDTA tube(s). Spin down and send 1 mL plasma refrigerate in a plastic vial.

**Specimen Minimum Volume**
0.5 mL Note: Minimum volume does not allow for repeat analysis

---

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>6 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>6 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis  NA
- Lipemia   NA
- Icterus NA
- Other    NA

**Reference Values**

<table>
<thead>
<tr>
<th>Age</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepubertal Children</td>
<td>Not Established</td>
</tr>
<tr>
<td>Adult Males</td>
<td>112 Â– 1046 ng/dL</td>
</tr>
<tr>
<td>Adult Females</td>
<td>11  Â€– 249 ng/dL</td>
</tr>
</tbody>
</table>

Occasionally, normal females with no evidence of hirsutism may have levels well beyond the normal range.

**Day(s) and Time(s) Performed**
Alternate Mondays

**CPT Code Information**
82154

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FANGL</td>
<td>Androstanediol Glucuronide</td>
<td>1680-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z4378</td>
<td>Androstanediol Glucuronide</td>
<td>1680-8</td>
</tr>
</tbody>
</table>

---

**ANDRO Androstenedione, Serum**

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
Androstenedione, S

**Useful For**
Diagnosis and differential diagnosis of hyperandrogenism (in conjunction with measurements of other sex-steroids). An initial workup in adults might also include total and bioavailable testosterone (TTBS / Testosterone, Total and Bioavailable, Serum) measurements. Depending on results, this may be supplemented with measurements of sex hormone-binding globulin (SHBG / Sex Hormone Binding Globulin [SHBG], Serum) and other androgenic steroids (eg, dehydroepiandrosterone sulfate [DHEA-S]).

Diagnosis of congenital adrenal hyperplasia (CAH), in conjunction with measurement of other androgenic precursors, particularly, 17-alpha-hydroxyprogesterone (OHPG) (OHPG / 17-Hydroxyprogesterone, Serum), 17 alpha-hydroxyprogrenolonone, DHEA-S (DHEA-S / Dehydroepiandrosterone Sulfate [DHEA-S], Serum), and cortisol (CORT / Cortisol, Serum).

Monitoring CAH treatment, in conjunction with testosterone (TTST / Testosterone, Total, Serum), OHPG (OHPG / 17-Hydroxyprogesterone, Serum), DHEA-S (DHEAS /
Dehydroepiandrosterone Sulfate [DHEA-S], Serum), and DHEA (DHEA / Dehydroepiandrosterone [DHEA], Serum).

Diagnosis of premature adrenarche, in conjunction with gonadotropins (FSH / Follicle-Stimulating Hormone [FSH], Serum; LH / Luteinizing Hormone [LH], Serum) and other adrenal and gonadal sex-steroids and their precursors (TTBS / Testosterone, Total and Bioavailable, Serum or TGRP / Testosterone, Total and Free, Serum; EEST / Estradiol, Serum; DHES / Dehydroepiandrosterone Sulfate [DHEA-S], Serum; DHEA / Dehydroepiandrosterone [DHEA], Serum; SHBG / Sex Hormone Binding Globulin [SHBG], Serum; OHPG / 17-Hydroxyprogesterone, Serum).

Testing Algorithm
See Steroid Pathways in Special Instructions.

Specimen Type
Serum Red

Specimen Required

Container/Tube: Red top
Specimen Volume: 0.6 mL

Specimen Minimum Volume
0.25 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
• Steroid Pathways

Reference Values

PEDIATRICS
Premature infants
26-28 weeks, day 4: 92-282 ng/dL
31-35 weeks, day 4: 80-446 ng/dL

Full-term infants
1-7 days: 20-290 ng/dL
1 month-1 year: <69 ng/dL

Males*

<table>
<thead>
<tr>
<th>Tanner Stages</th>
<th>Age (Years)</th>
<th>Reference Range (ng/dL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I (prepubertal)</td>
<td>&lt;9.8</td>
<td>&lt;51</td>
</tr>
<tr>
<td>Stage II</td>
<td>9.8-14.5</td>
<td>31-65</td>
</tr>
<tr>
<td>Stage III</td>
<td>10.7-15.4</td>
<td>50-100</td>
</tr>
<tr>
<td>Stage IV</td>
<td>11.8-16.2</td>
<td>48-140</td>
</tr>
<tr>
<td>Stage V</td>
<td>12.8-17.3</td>
<td>65-210</td>
</tr>
</tbody>
</table>

Females*

<table>
<thead>
<tr>
<th>Tanner Stages</th>
<th>Age (Years)</th>
<th>Reference Range (ng/dL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I (prepubertal)</td>
<td>&lt;9.2</td>
<td>&lt;51</td>
</tr>
<tr>
<td>Stage II</td>
<td>9.2-13.7</td>
<td>42-100</td>
</tr>
<tr>
<td>Stage III</td>
<td>10.0-14.4</td>
<td>80-190</td>
</tr>
<tr>
<td>Stage IV</td>
<td>10.7-15.6</td>
<td>77-225</td>
</tr>
<tr>
<td>Stage V</td>
<td>11.8-18.6</td>
<td>80-240</td>
</tr>
</tbody>
</table>


ADULTS
Males: 40-150 ng/dL
Females: 30-200 ng/dL

For SI unit Reference Values, see https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html

Day(s) and Time(s) Performed
Monday through Friday; 4 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82157

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANST</td>
<td>Androstenedione, S</td>
<td>1854-9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7730</td>
<td>Androstenedione, S</td>
<td>1854-9</td>
</tr>
</tbody>
</table>

Reject Due To

| Gross hemolysis | Reject |
| Gross lipemia  | Reject |
| Gross icterus  | OK     |
| Other          | Serum gel tube |

Method Name

Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

CFACE  Angiotensin Converting Enzyme, CSF

ARUP Laboratories

Additional Test Codes

EMR Interface Order Code: 03695

Reporting Name

Angiotensin Convert Enzyme CSF

Specimen Type
CSF

Specimen Required

Specimen Type: Spinal Fluid
Sources: CSF
Container/Tube: Sterile container
Specimen Volume: 1 mL
Collection Instructions: Collect 1 mL of spinal fluid (CSF). Ship frozen.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF</td>
<td>Frozen (preferred)</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>
Reject Due To

<table>
<thead>
<tr>
<th>Reason</th>
<th>Acceptance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis:</td>
<td>Mild Reject; Gross Reject</td>
</tr>
<tr>
<td>Thawing:</td>
<td>Cold OK; Warm reject</td>
</tr>
<tr>
<td>Lipemia:</td>
<td>NA</td>
</tr>
<tr>
<td>Icterus:</td>
<td>NA</td>
</tr>
<tr>
<td>Other:</td>
<td>Xanthochromic samples (yellow colour)</td>
</tr>
</tbody>
</table>

Reference Values
0.0-2.5 U/L

Day(s) and Time(s) Performed
Monday, Wednesday, Friday

Test Classification
This test was developed and its performance characteristics determined by ARUP Laboratories. The U.S. Food and Drug Administration has not approved or cleared this test; however, FDA clearance or approval is not currently required for clinical use. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions.

CPT Code Information
82164

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACEC</td>
<td>Angiotensin Convert Enzyme CSF</td>
<td>12480-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACEC</td>
<td>Angiotensin Convert Enzyme CSF</td>
<td>12480-0</td>
</tr>
</tbody>
</table>

Method Name
Quantitative Spectrophotometry

Useful For
Support diagnosis of neurosarcoidosis. May be used to evaluate treatment response.

Secondary ID
57824

ANCENZ  Angiotension Converting Enzyme (ACE)

<table>
<thead>
<tr>
<th>Collection Container</th>
<th>Serum gel or red top tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Volume</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>Minimum Specimen Volume</td>
<td>0.2 mL</td>
</tr>
<tr>
<td>Transport Temperature</td>
<td>Refrigerate</td>
</tr>
<tr>
<td>Specimen Stability</td>
<td>Room temp: 7 days</td>
</tr>
<tr>
<td></td>
<td>Refrigerated: 7 days</td>
</tr>
<tr>
<td></td>
<td>Frozen: 3 days</td>
</tr>
</tbody>
</table>

CPT Code
82164

EMR Interface Order Code
03675

PENA  Anti Smith/Anti RNP Panel

Baystate Reference Laboratories

<table>
<thead>
<tr>
<th>Collection Container</th>
<th>Serum gel or red top tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Volume</td>
<td>1.0 mL</td>
</tr>
<tr>
<td>Minimum Specimen Volume</td>
<td>0.7 mL</td>
</tr>
<tr>
<td>Transport Temperature</td>
<td>Refrigerated</td>
</tr>
<tr>
<td>Specimen Stability</td>
<td>14 days</td>
</tr>
<tr>
<td>Reasons for Rejection</td>
<td>Gross hemolysis, gross lipemia</td>
</tr>
<tr>
<td>EMR Interface Order Code</td>
<td>67786</td>
</tr>
</tbody>
</table>

ADAL  Anti-Adalimumab Antibody

LabCorp

<table>
<thead>
<tr>
<th>Collection Container</th>
<th>Serum gel or red top tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Volume</td>
<td>2 mL</td>
</tr>
<tr>
<td>Minimum Specimen Volume</td>
<td>1 mL</td>
</tr>
<tr>
<td>Transport Temperature</td>
<td>Refrigerate</td>
</tr>
<tr>
<td>Specimen Stability</td>
<td>7 days</td>
</tr>
<tr>
<td>Reasons for Rejection</td>
<td>Plasma</td>
</tr>
<tr>
<td>CPT Code</td>
<td>80299, 82397</td>
</tr>
<tr>
<td>EMR Interface Order Code</td>
<td>69274</td>
</tr>
</tbody>
</table>

ANTDB  Anti-DNase B Titer, Serum

Mayo Clinic Laboratories in Rochester

| Useable For | Demonstration of acute or recent streptococcal infection using anti-DNase B titer |
Reporting Name
Anti-DNase B Titer, S

Specimen Type
Serum

Specimen Required
Patient Preparation: Fasting preferred but not required
Container/Tube:
Preferred: Red top
Acceptable: Serum gel
Specimen Volume: 1 mL

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: Reject
- Gross icterus: OK

Reference Values
<5 years: ≤250 U/mL
5-17 years: ≤375 U/mL
≥18 years: ≤300 U/mL

Day(s) and Time(s) Performed
Monday through Saturday; Continuously until 3 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86215

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADNAS</td>
<td>Anti-DNase B Titer, S</td>
<td>5133-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADNAS</td>
<td>Anti-DNase B Titer, S</td>
<td>5133-4</td>
</tr>
</tbody>
</table>

Method Name
Nephelometry

Secondary ID
80204

ABIGA  Anti-IgA
Viracor Eurofins

Method Name
Enzyme-Linked Immunosorbent Assay (ELISA)

Reporting Name
Anti-IgA

Specimen Type
Serum

Specimen Required
Specimen Type: Serum
Container/Tube: Red or SST
Specimen Volume: 1 mL

Collection Instructions: Draw blood in a plain, red-top tube(s) or serum gel tube(s). Spin down and send 1 mL of serum refrigerate in a plastic vial.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
- Hemolysis: NA
- Thawing: Warm OK; Cold OK
- Lipemia: NA
- Icterus: NA
- Other: NA

Reference Values
<99 U/mL

Patients with IgG antibodies against IgA may suffer from anaphylactoid reactions when given IVIG that contains small quantities of IgA. In one study (Clinical Immunology 2007; 122:156) five out of eight patients with IgG anti-IgA antibodies developed anaphylactoid reactions when IVIG was administered.

Day(s) and Time(s) Performed
Thursday

Test Classification
This test was developed and its performance characteristics determined by Viracor Eurofins. It has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83520

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIGA</td>
<td>Anti-IgA</td>
<td>13312-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIGA</td>
<td>Anti-IgA</td>
<td>13312-4</td>
</tr>
</tbody>
</table>

Secondary ID
57552
**ABIGE  Anti-IgE**

**Viracor Eurofins**

**Method Name**
ELISA

**Reporting Name**
Anti-IgE

**Specimen Type**
Serum

**Specimen Required**

Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum ambient in a plastic vial.

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Ambient</td>
<td>14 days</td>
<td>(preferred)</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: Mild OK; Gross Reject
- Lipemia: Mild OK; Gross reject
- Icterus: Mild OK; Gross Reject
- Other: NA

**Reference Values**
Normal

This ELISA measures IgG antibodies specific for IgE. A result of normal indicates that the level of IgG anti-IgE antibodies is similar to that seen in a population of healthy individuals. A result of elevated indicates an increased level of IgG anti-IgE antibodies compared to healthy individuals. These autoantibodies have been implicated as a causative agent in autoimmune chronic urticaria and atopic dermatitis.

**Day(s) and Time(s) Performed**

Set up Wednesday, Report Thursday

**CPT Code Information**
83516

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FANTI</td>
<td>Anti-IgE</td>
<td>Not Provided</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FANTI</td>
<td>Anti-IgE</td>
<td>Not Provided</td>
</tr>
</tbody>
</table>

**ANTIHU  Anti-Neuronal Nuclear (Hu) Antibody**

**Quest Diagnostics**

**Reflex Tests**
Western Blot if positive

**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
Red top

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**Methodology**
Immunofluorescence Assay (IFA)

**Reference Ranges**
Negative; Titer: <1:40

**CPT Code**
86255

**LOINC Code**
49738-8

**EMR Interface Order Code**
48375

**FANBF  Anti-Nuclear Ab (FANA), Body Fluid**

**RDL Reference Laboratory, Inc.**

**Reporting Name**
ANA, BF

**Specimen Type**
Varies

**Specimen Required**

1 mL body fluid. Shipped refrigerate.

**Required:**
1. Specimen source
2. CSF - Reference value is different, order ZW164 referral lab code 287.

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated</td>
<td>7 days</td>
<td>(preferred)</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>48 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
ANA Titer: <1:10
ANA Pattern: No Pattern

**Day(s) and Time(s) Performed**

Daily
**ANA**  Anti-Nuclear Antibody Screen, Reflex To Titer

*LabCorp*

**Reflex Tests**
Titer and Pattern if positive or borderline

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Red top

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Hemolysis, Lipemia, Gross bacterial contamination

**Methodology**
Immunofluorescence Assay (IFA)

**Reference Ranges**
Positive: >1:80

**CPT Code Information**
86038 (Reflex CPT: 86039)

**LOINC Code Information**
59069-5

**EMR Interface Order Code**
45500

---

**PHET  Anti-Phosphatidylethanolamine Panel**

*Cambridge Biomedical Inc.*

**Reporting Name**
Anti-Phosphatidylethanolamine Panel

**Specimen Type**
Serum

**Specimen Required**
Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down and send 3 mL of serum frozen in a plastic vial.

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>IgA</td>
<td>&lt;12.0 U/mL</td>
<td></td>
</tr>
<tr>
<td>IgG</td>
<td>&lt;12.0 U/mL</td>
<td></td>
</tr>
<tr>
<td>IgM</td>
<td>&lt;12.0 U/mL</td>
<td></td>
</tr>
</tbody>
</table>

Reference Range applies to Antiphosphatidylethanolamine IgA, IgG, & IgM

Normal: <12.0
Equivocal: 12.0 Åcâ„¢¬$€œ 18.0
Elevated: >18.0

**Day(s) and Time(s) Performed**
Wednesday

**Test Classification**
The performance characteristics of the listed assays were validated by Cambridge Biomedical Inc. The US FDA has not approved or cleared these tests. The results of these assays can be used for clinical diagnosis without FDA approval. Cambridge Biomedical Inc. is a CLIA certified, CAP accredited laboratory for performing high complexity assays.

**CPT Code Information**
83520 x 3

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPHET</td>
<td>Anti-Phosphatidylethanolamine Panel</td>
<td>Not Provided</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z0143</td>
<td>Anti-Phosphatidylethanolamine IgA</td>
<td>13078-1</td>
</tr>
<tr>
<td>Z0150</td>
<td>Anti-Phosphatidylethanolamine IgG</td>
<td>13076-5</td>
</tr>
<tr>
<td>Z0142</td>
<td>Anti-Phosphatidylethanolamine IgM</td>
<td>13077-3</td>
</tr>
</tbody>
</table>
Abdominal Pain

Method Name
Enzyme-Linked Immunosorbent Assay (ELISA)

ABID  Antibody Identification (Blood Bank)

Baystate Reference Laboratories

Additional Information
Antibody Identification includes the performance of an antibody screen followed by identification of allo- or autoantibody(ies) through the use of panel(s). Includes direct antiglobulin test, red cell autoabsorption, red cell elution, antigen phenotyping of the patients, antigen screening of the donor unit(s). Titers of antibody(ies) are done when indicated and in addition are performed on clinically-significant antibody(ies) detected in prenatal patients. Antibody identification is necessary prior to transfusion in order to find compatible blood. On obstetrics patients, antibody identification is necessary antenatal diagnosis of possible hemolytic disease of the newborn. It is also used in investigation of a positive direct antiglobulin test and on eluates prepared from the red cells for investigation of immune hemolytic anemia and of transfusion reactions for possible red cell incompatibility.

Limitations include: abnormal proteins, cold and warm autoantibodies may delay interpretations, will not detect all antibodies (eg: low-incidence antigens, antibodies in low titer). Additionally, when a panel supports identification of an antibody in a patients plasma, it is necessary to ascertain that the patients' red cells lack the corresponding antigen. When red cell transfusions are ordered, antigen screening of donor units is required to find compatible blood.

Special Handling Instructions
Positive identification of the patient. When applicable, compare the hospital wristband with the patient information on the request form. Label the tubes with the patients' full name, unique identification number (eg: medical record number, typenex number), date, time, and initials of collector (two sets of initials for patients to be transfused)

Specimen Volume
4 mL

Minimum Specimen Volume
4 mL

Reasons for Rejection
Specimen improperly labeled; specimen grossly hemolyzed

Days and Times Performed
Daily, 24 hours

Reference Ranges
Report includes interpretation as appropriate

CPT Code
86850

EMR Interface Order Code
60055

TITER  Antibody Titer (Blood Bank)

Baystate Reference Laboratories

Additional Information
Titration values can provide information about the relative amount of antibody present in the plasma, or relative amount of antigen expression on red cells. In prenatal studies when the antibody(ies) is/are of specifically known to cause hemolytic disease of the fetus newborn (HDFN) or its clinical significance is unknown, the result of the titration studies may contribute to the decision about performing an invasive procedure (eg: amniocentesis). Titration studies are also of use in determination of thermal amplitude or titer of cold autoagglutinins, the titer of warm autoantibodies, and determination of the titer of ABO antibodies in patients with immune deficiencies.

Special Handling Instructions
Positive identification of the patient. When applicable, compare the hospital wristband with the patient information on the request form. Label the tubes with the patients' full name, unique identification number (eg: medical record number, typenex number), date, time, and initials of collector (two sets of initials for patients to be transfused)

Specimen Volume
4 mL
**ENAE  Antibody to Extractable Nuclear Antigen Evaluation, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Ab to Extractable Nuclear Ag Eval, S

**Useful For**
Evaluating patients with signs and symptoms of a connective tissue disease in whom the test for antinuclear antibodies is positive

Testing is not useful in patients without demonstrable antinuclear antibodies.

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSA</td>
<td>SS-A/Ro Ab, IgG, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>SSB</td>
<td>SS-B/La Ab, IgG, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>SM</td>
<td>Sm Ab, IgG, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>RNP</td>
<td>RNP Ab, IgG, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>SCL70</td>
<td>Scl 70 Ab, IgG, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>JO1</td>
<td>Jo 1 Ab, IgG, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Testing Algorithm**
See Connective Tissue Disease Cascade (CTDC) in Special Instructions.

**Specimen Type**
Serum

**Specimen Required**

- **Container/Tube:**
  - Preferred: Red top
  - Acceptable: Serum gel

- **Specimen Volume:** 0.5 mL

**Specimen Minimum Volume**
0.35 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**
- Connective Tissue Disease Cascade (CTDC)

**Reference Values**

- **SS-A/Ro ANTIBODIES, IgG**
  - <1.0 U (negative)
  - ≥1.0 U (positive)
  - Reference values apply to all ages.

- **SS-B/La ANTIBODIES, IgG**
  - <1.0 U (negative)
  - ≥1.0 U (positive)
  - Reference values apply to all ages.

- **Sm ANTIBODIES, IgG**
  - <1.0 U (negative)
  - ≥1.0 U (positive)
  - Reference values apply to all ages.

- **RNP ANTIBODIES, IgG**
  - <1.0 U (negative)
  - ≥1.0 U (positive)
  - Reference values apply to all ages.

- **Scl 70 ANTIBODIES, IgG**
  - <1.0 U (negative)
  - ≥1.0 U (positive)
  - Reference values apply to all ages.

- **Jo 1 ANTIBODIES, IgG**
  - <1.0 U (negative)
  - ≥1.0 U (positive)
  - Reference values apply to all ages.

**Day(s) and Time(s) Performed**
Monday through Saturday; 4 p.m.

**Test Classification**
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**
86235 x 6

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENAE</td>
<td>Ab to Extractable Nuclear Ag Eval, S</td>
<td>90228-8</td>
</tr>
</tbody>
</table>

**Result ID | Test Result Name | Result LOINC Value**

- **JO1**
  - Jo 1 Ab, IgG, S
  - 33571-1

- **RNP**
  - RNP Ab, IgG, S
  - 29958-6

- **SCL70**
  - Scl 70 Ab, IgG, S
  - 47322-3

- **SM**
  - Sm Ab, IgG, S
  - 18323-6

- **SSA**
  - SS-A/Ro Ab, IgG, S
  - 33610-7

- **SSB**
  - SS-B/La Ab, IgG, S
  - 33613-1

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: OK

**Method Name**
Multiplex Flow Immunoassay

**Forms**
If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.
ANTP  Antifungal Level, Peak

Baystate Reference Laboratories

Additional Information
Levels which may be performed include Amphotericin B, Posaconazole, Voriconazole, Itraconazole, Micafungin. If a 5 FLUOROCYTOSINE LEVEL is requested then serum is the specimen of choice. Include the name of the antifungal agent to be tested, the date and time of the last dose and the dosage given. List all antifungal drugs the patient is receiving at the time of collection.

Collection Container
Lavender (EDTA)
Plasma

Other Acceptable Specimen Types
Serum

Specimen Volume
3 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
24 hours

Reasons for Rejection
Excessive delays in transport.

Days and TimesPerformed
Monday - Friday; Specimen is sent to a reference laboratory.

Turnaround Time
3 - 5 days

LOINC Code
23816-2

EMR Interface Order Code
55360

ANTT  Antifungal Level, Trough

Baystate Reference Laboratories

Additional Information
Levels which may be performed include Amphotericin B, Posaconazole, Voriconazole, Itraconazole, Micafungin. If a 5 FLUOROCYTOSINE LEVEL is requested then serum is the specimen of choice. Include the name of the antifungal agent to be tested, the date and time of the last dose and the dosage given. List all antifungal drugs the patient is receiving at the time of collection.

Collection Container
Lavender (EDTA)
Plasma

Other Acceptable Specimen Types
Serum

Specimen Volume
3 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
24 hours

Reasons for Rejection
Excessive delays in transport.

Days and TimesPerformed
Monday - Friday; Specimen is sent to a reference laboratory.

Turnaround Time
3 - 5 days

LOINC Code
44433-9

EMR Interface Order Code
55355

ANTR  Antifungal Level, Random

Baystate Reference Laboratories

Additional Information
Levels which may be performed include Amphotericin B, Posaconazole, Voriconazole, Itraconazole, Micafungin. If a 5 FLUOROCYTOSINE LEVEL is requested then serum is the specimen of choice. Include the name of the antifungal agent to be tested, the date and time of the last dose and the dosage given. List all antifungal drugs the patient is receiving at the time of collection.

Collection Container
Lavender (EDTA)
Plasma

Other Acceptable Specimen Types
Serum

Specimen Volume
3 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
24 hours

Reasons for Rejection
Excessive delays in transport.

Days and TimesPerformed
Monday - Friday; Specimen is sent to a reference laboratory.

Turnaround Time
3 - 5 days

LOINC Code
44434-9

EMR Interface Order Code
55355
**PHENOTYPE  Antigen Typing (Blood Bank)**

**Baystate Reference Laboratories**

**Additional Information**

When a panel supports identification of an antibody in a patient's plasma, it is necessary to ascertain that the patient's red cells lack the corresponding antigen. When red cell transfusions are ordered, antigen screening of donor units is required to find compatible blood. Antigen typing is also of use in testing a partner of a pregnant patient in whom a clinically significant antibody has been identified for the presence/absence of the corresponding antigen.

**Special Handling Instructions**

Positive identification of the patient. When applicable, compare the hospital wristband with the patient information on the request form. Label the tubes with the patient's full name, unique identification number (eg: medical record number, typenex number), date, time, and initials of collector (two sets of initials for patients to be transfused).

**Specimen Volume**

4 mL

**Minimum Specimen Volume**

4 mL

**Reasons for Rejection**

Specimen improperly labeled; specimen grossly hemolyzed

**Methodology**

Hemagglutination (HA)

**Days and Times Performed**

Daily, 24 hours

**Reference Ranges**

Report includes interpretation as appropriate

**CPT Code**

86902 (antigen screening blood unit); 86905 (each antigen); 86906 (Rh phenotyping complete)

**Specimen Required**

**Collection Container/Tube:**
Preferred: Red top
Acceptable: Serum gel

**Submission Container/Tube:** Plastic screw-top aliquot tube

**Specimen Volume:** 0.5 mL

**Specimen Minimum Volume**

0.1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>90 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

**Males**

<24 months: 14-466 ng/mL
24 months-12 years: 7.4-243 ng/mL
>12 years: 0.7-19 ng/mL

**Females**

<24 months: <4.7 ng/mL
24 months-12 years: <8.8 ng/mL
13-45 years: 0.9-9.5 ng/mL
>45 years: <1.0 ng/mL

**Day(s) and Time(s) Performed**

Monday through Friday; 6 a.m.-5 p.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

83520

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>AMH</td>
<td>Antimullerian Hormone, S</td>
<td>83104-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>89711</td>
<td>Antimullerian Hormone, S</td>
<td>83104-0</td>
</tr>
</tbody>
</table>

**Reject Due To**

Gross hemolysis | Reject-acceptable to 2,000 mg/dL
Gross lipemia   | OK

**Method Name**

Enzyme-Linked Immunosorbent Assay (ELISA)

**Forms**

If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

**VASC  Antineutrophil Cytoplasmic Antibodies Vasculitis Panel, Serum**

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**

ANCA Panel for Vasculitis, S
Useful For
Evaluating patients suspected of having autoimmune vasculitis, both Wegener granulomatosis and microscopic polyangiitis

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPO</td>
<td>Myeloperoxidase Ab, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>PR3</td>
<td>Proteinase 3 Ab (PR3), S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANCA</td>
<td>Cytoplasmic Neutrophilic Ab, S</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm
If myeloperoxidase antibody or proteinase 3 antibody is ≥0.4 U, then cytoplasmic neutrophilic antibodies will be performed at an additional charge.

Specimen Type
Serum

Advisory Information
For monitoring disease activity, we advise physicians to order ANCA / Cytoplasmic Neutrophil Antibodies, Serum or MPO / Myeloperoxidase Antibodies, IgG, Serum.

Specimen Required

<table>
<thead>
<tr>
<th>Container/Tube:</th>
<th>Preferred: Serum gel</th>
<th>Acceptable: Red top</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Volume</td>
<td>1 mL</td>
<td></td>
</tr>
</tbody>
</table>

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
MYELOPEROXIDASE ANTIBODIES, IgG
<0.4 U (negative)
0.4-0.9 U (equivocal)
≥1.0 U (positive)
Reference values apply to all ages.

PROTEINASE 3 ANTIBODIES, IgG
<0.4 U (negative)
0.4-0.9 U (equivocal)
≥1.0 U (positive)
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday; 4 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
83516 x 2
86255-Cytoplasmic neutrophil antibodies screen (if appropriate)
86256-Cytoplasmic neutrophil antibodies titer (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VASC</td>
<td>ANCA Panel for Vasculitis, S</td>
<td>90230-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPO</td>
<td>Myeloperoxidase Ab, S</td>
<td>48404-8</td>
</tr>
<tr>
<td>PR3</td>
<td>Proteinase 3 Ab (PR3), S</td>
<td>74106-6</td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

Method Name
Multiplex Flow Immunoassay

Secondary ID
83012

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Renal Diagnostics Test Request (T830)

AT3 Antithrombin III

Baystate Reference Laboratories

Additional Information
If the patient's hematocrit exceeds 55%, the volume of citrate in the collection tube must be adjusted.

Collection Container
Light Blue
Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 1 ml aliquot, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma-0.5 mL, Whole blood-2.7 mL

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Methodology
Chromogenic

Days and Times Performed
Test performed once per week.
### AT3AGN  Antithrombin III Antigen

**LabCorp**

**Additional Information**
If the patients' hematocrit exceeds 55%, the volume of citrate in the collection tube must be adjusted.

**Collection Container**
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Special Handling Instructions**
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**
Platelet poor plasma: 1 mL aliquot, Whole blood: 2.7 mL

**Minimum Specimen Volume**
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

**Transport Temperature**
Platelet poor plasma: frozen, Whole blood: ambient temperature

**Specimen Stability**
Whole blood: 4 hours

**Reasons for Rejection**
Hemolyzed, clotted, Whole blood >4 hours old

**Methodology**
Chromogenic, LIA

**Days and Times Performed**
Test sent to reference lab Monday - Saturday

**Turnaround Time**
2 - 10 days

**Reference Ranges**
Reported with result

**Units of Measure**
%

**CPT Code**
85300

**LOINC Code**
27811-9

**EMR Interface Order Code**
32075

---

### AT3PRF  Antithrombin III Panel

**LabCorp**

**Additional Information**
If the patients' hematocrit exceeds 55%, the volume of citrate in the collection tube must be adjusted.

**Collection Container**
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Special Handling Instructions**
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**
Platelet poor plasma: 3 mL, Whole blood: 2.7 mL

**Minimum Specimen Volume**
Platelet poor plasma: 2 mL, Whole blood: 2.7 mL

**Transport Temperature**
Platelet poor plasma: frozen, Whole blood: ambient temperature

**Specimen Stability**
Whole blood: 4 hours

**Reasons for Rejection**
Hemolyzed, clotted, Whole blood >4 hours old

**Methodology**
Chromogenic, LIA

**Days and Times Performed**
Test sent to reference lab Monday - Saturday

**Turnaround Time**
2 - 10 days

**Reference Ranges**
Reported with result

**CPT Code**
85300, 85301

**EMR Interface Order Code**
65155

---

### ANTIGA  Antithyroglobulin Ab

**Baystate Reference Laboratories**

**Collection Container**
Serum gel

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerate
**Specimen Stability**
Refrigerated: 7 days, Frozen: 6 months

**Methodology**
Chemiluminescence assay

**Days and Times Performed**
Monday and Wednesday

**Turnaround Time**
1 - 6 days

**Reference Ranges**
Female and Male: 0 - 40 IU/mL

**Units of Measure**
IU/mL

**CPT Code**
86800

**LOINC Code**
56536-6

**EMR Interface Order Code**
26150

---

**APOA** Apolipoprotein A1

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube; Plasma from a lavender (EDTA) top or green (Na hep) top tube also acceptable

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 14 days

**Reasons for Rejection**
Patient hasn't fasted 12-14 hours

**CPT Code**
82172

**EMR Interface Order Code**
47300

---

**APPLE** Apple IgE

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48450

---

**APR** Apricot IgE

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP
Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
68542

Container
Serum gel or red top tube

PTT  APTT
Baystate Reference Laboratories

Additional Information
If the patients' hematocrit exceeds 55%, the volume of citrate in the collection tube must be adjusted.

Collection Container
Light Blue
Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 1 ml aliquot, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed,clotted, Whole blood >4 hours old

Methodology
Clot based assay

Days and Times Performed
24 hours a day, 7 days a week

Turnaround Time
STAT: 1 hour, Routine: 4 hours

Reference Ranges
24.3 - 33.1 Seconds

CPT Code
85730

LOINC Code
14979-9

EMR Interface Order Code
32025

Critical Values
0-2 Months: >60.0 seconds
>2 Months: >90.0 seconds

ADH  Arginine Vasopressin
LabCorp

Collection Container
Lavender top (EDTA) tube
Plasma

Specimen Volume
2 mL

Minimum Specimen Volume
1.2 mL

Transport Temperature
Frozen

Specimen Stability
Frozen: 14 days

CPT Code
84588

ARPZOL  Aripiprazole (Abilify)
Medtox Laboratories, Inc.

Reporting Name
Aripiprazole

Specimen Type
Varies

Specimen Required
Submit only 1 of the following specimens:

Plasma
Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial.

Serum
Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume
0.25 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
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</table>

Reject Due To

<table>
<thead>
<tr>
<th>Reason</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>NA</td>
</tr>
<tr>
<td>Lipemia</td>
<td>NA</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
</tr>
</tbody>
</table>
Reference Values
Units: ng/mL
Expected steady state plasma levels in patients receiving recommended daily dosages: 109.0 - 585.0 ng/mL

Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information
80342

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FARI</td>
<td>Aripiprazole</td>
<td>38893-4</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value  | | 
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Z2233</td>
<td>Aripiprazole</td>
<td>38893-4</td>
</tr>
</tbody>
</table>

Method Name
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

UASQ  Arsenic Fractionation, 24 Hour, Urine

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 03705

Reporting Name
Arsenic Fractionation, 24 Hr, U

Useful For
Diagnosis of arsenic intoxication in 24-hour urine specimens

Specimen Type
Urine

Necessary Information
24 Hour volume is required.

Specimen Required
Patient Preparation:
1. Patient should not eat seafood for a 48-hour period prior to start of collection.
2. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Supplies: Urine Tubes, 10 mL (T068)

Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert
Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert

Specimen Volume: 10 mL

Collection Instructions:
1. Collect urine for 24 hours.
2. Refrigerate specimen within 4 hours of completion of 24-hour collection.
3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume
3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens
- Trace Metals Analysis Specimen Collection and Transport

Reference Values
TOTAL ARSENIC
<18 mcg/24 hour

INORGANIC ARSENIC
<20 mcg/24 hour

Reference values apply to all ages.

*Biological exposure indices (BEI) for arsenic is 35 mcg/L based on the concentration of inorganic arsenic plus methylated metabolites.

Day(s) and Time(s) Performed
Monday through Friday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82175

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>ASFR</td>
<td>Arsenic Fractionation, 24 Hr, U</td>
<td>In Process</td>
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Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>3628</td>
<td>Inorganic Arsenic (Toxic)</td>
<td>53838-9</td>
</tr>
<tr>
<td>3629</td>
<td>Organic Arsenic (Non-Toxic)</td>
<td>53839-7</td>
</tr>
<tr>
<td>113133</td>
<td>Total Arsenic</td>
<td>5587-1</td>
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<tr>
<td>TM4</td>
<td>Collection Duration</td>
<td>13362-9</td>
</tr>
<tr>
<td>VL2</td>
<td>Urine Volume</td>
<td>3167-4</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Ion Chromatography Extraction/Inductively Coupled Plasma-Mass Spectrometry (IC-ICP-MS)

Urine Preservative Collection Options
Note: The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.
Secondary ID
80375

Testing Algorithm
Total arsenic will be performed first. If the total arsenic concentration is 15 mcg/L or greater, then fractionation will be performed and reported. If total arsenic is below 15 mcg/L, total arsenic will be reported as less than 15 mcg/L and fractionation will not be performed.

UARSR  Arsenic Fractionation, Random, Urine
Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 03785

Reporting Name
Arsenic Fractionation, Random, U

Useful For
Diagnosis of arsenic intoxication in random urine specimens

Specimen Type
Urine

Specimen Required

Patient Preparation:
1. Patient should not eat seafood for a 48-hour period prior to start of collection.
2. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Supplies:
Urine Tubes, 10 mL (T068)
Aliquot Tube, 5 mL (T465)
Collection Container/Tube: Clean, plastic urine collection container
Submission Container/Tube: Plastic, 5-mL tube (T465) or a clean, plastic aliquot container with no metal cap or glued insert

Specimen Volume: 5 mL

Collection Instructions:
1. Collect a random urine specimen.
2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Specimen Minimum Volume
3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Trace Metals Analysis Specimen Collection and Transport

Reference Values

**TOTAL ARSENIC**
<20 mcg/L

**INORGANIC ARSENIC**
<20 mcg/L

Reference values apply to all ages.

*Biological exposure indices (BEI) for arsenic is 35 mcg/L based on the concentration of inorganic arsenic plus methylated metabolites.

Day(s) and Time(s) Performed
Monday through Friday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82175

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>32311</td>
<td>Inorganic Arsenic (Toxic)</td>
<td>12481-8</td>
</tr>
<tr>
<td>32312</td>
<td>Organic Arsenic (Non-Toxic)</td>
<td>53778-7</td>
</tr>
<tr>
<td>113134</td>
<td>Total Arsenic</td>
<td>5586-3</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Ion Chromatography Extraction/Inductively Coupled Plasma-Mass Spectrometry (IC-ICP-MS)

Secondary ID
84679

Testing Algorithm
Total arsenic will be performed first. If the total arsenic concentration is 15 mcg/L or greater, then fractionation will be performed and reported. If total arsenic is below 15 mcg/L, total arsenic will be reported as less than 15 mcg/L and fractionation will not be performed.

AS  Arsenic, Blood
Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 03700

Reporting Name
Arsenic, B
Useful For
Detection of acute or very recent arsenic exposure
Monitoring the effectiveness of therapy

Specimen Type
Whole blood

Specimen Required

Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183)
Specimen Volume: Full tube

Collection Instructions:
1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.
2. Send specimen in original collection tube.

Additional Information:
1. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.
2. If ordering the trace element blood collection tube from BD, order catalog #368381.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information
<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
• Trace Metals Analysis Specimen Collection and Transport

Reference Values
0-12 ng/mL
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday; 2 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82175

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASB</td>
<td>Arsenic, B</td>
<td>5583-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>32190</td>
<td>Arsenic, B</td>
<td>5583-0</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

ASOT  Arsenic, Other (Hair or Nails)

LabCorp

Collection Container
Call Lab for specific details

HAIR: 500 mg (0.5 gm) hair (the length of an index finger and width of a pencil) bundle, cut at roots, wrap with twist tie at root end. Place in a sterile urine cup.

NAILS: 500 mg (0.5 gm) nail clippings from 10 fingers and 10 toes. Place in a sterile urine cup.

Specimen Volume
7 mL

CPT Code
82175

LOINC Code
9366-6

EMR Interface Order Code
03715

ARTHID  Arthropod Identification

Baystate Reference Laboratories

Additional Information
Macroscopic exam for Arthropods (fleas, lice, maggots, ticks, mites) and identification of common species.

Collection Container
Sealed Container

Skin scrapings, intact larvae, intact flea, tick or mite.

Transport Temperature
Room Temperature

Reasons for Rejection
Specimen folded in tape, specimen not intact (no identification possible).

Methodology
Direct Macroscopic Exam

Days and Times Performed
Monday - Friday, Day shift only

Turnaround Time
1 - 3 days

LOINC Code
10644-3

EMR Interface Order Code
52415

ABSAL  Arylsulfatase A and B, WBC

Jefferson Medical College Lysosomal Diseases Testing Laboratory

Additional Information
A clinical and/or family history of the patient MUST accompany the sample.
**Collection Container**
Green

**Whole blood**

**Special Handling Instructions**
Collect blood Monday - Thursday, excluding holidays. Specimen must arrive in the Chemistry laboratory before 2:00 PM.

**Specimen Volume**
6 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Room temperature

**Specimen Stability**
Room temperature

**Reasons for Rejection**
Specimen frozen or centrifuged. Specimen not received within 24 hours.

**CPT Code**
82657

**EMR Interface Order Code**
14600

---

**ARYLA**  
Arylsulfatase A, Leukocytes

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 05620

**Reporting Name**
Arylsulfatase A, Leukocytes

**Useful For**
Preferred enzymatic test for detection of arylsulfatase A deficiency

This test is **not suitable** for carrier detection.

**Specimen Type**
Whole Blood ACD

**Shipping Instructions**

For optimal isolation of leukocytes, it is recommended the specimen arrive refrigerated within 96 hours of collection to be stabilized. Collect specimen Monday through Thursday only and not the day before a holiday. Specimen should be collected and packaged as close to shipping time as possible.

**Specimen Required**

**Container/Tube:**
- Preferred: Yellow top (ACD solution B)
- Acceptable: Yellow top (ACD solution A)

**Specimen Volume:** 6 mL

**Collection Instructions:** Send specimen in original tube. Do not transfer blood to other containers.

**Specimen Minimum Volume**
5 mL

---

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood ACD</td>
<td>Refrigerated (preferred)</td>
<td>4 days</td>
<td>YELLOW TOP/ACD</td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>4 days</td>
<td>YELLOW TOP/ACD</td>
</tr>
</tbody>
</table>

**Special Instructions**
- Informed Consent for Genetic Testing
- Biochemical Genetics Patient Information
- Informed Consent for Genetic Testing (Spanish)
- Lysosomal Storage Disorders Diagnostic Algorithm, Part 2

**Reference Values**
≥62 nmol/h/mg

**Note:** Results from this assay may not reflect carrier status because of individual variation of arylsulfatase A enzyme levels. Low normal values may be due to the presence of pseudodeficiency gene variant or carrier gene variant. Patients with these depressed levels may be phenotypically normal.

**Day(s) and Time(s) Performed**
Specimens are processed Monday through Sunday. Assay is performed: Friday

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
82657

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>ARSAW</td>
<td>Arylsulfatase A, Leukocytes</td>
<td>24078-8</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8779</td>
<td>Arylsulfatase A, Leukocytes</td>
<td>24078-8</td>
</tr>
<tr>
<td>32437</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
<tr>
<td>32438</td>
<td>Reason for referral</td>
<td>42349-1</td>
</tr>
<tr>
<td>32439</td>
<td>Reviewed by</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis  | Reject

**Method Name**
Colorimetric Enzyme Assay

**Forms**
1. New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. Biochemical Genetics Patient Information (T602) in Special Instructions.
3. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

**Secondary ID**
8779

**Testing Algorithm**
See Lysosomal Storage Disorders Diagnostic Algorithm, Part 2 in Special Instructions.
**BSALK  Arylsulfatase B, WBC**

*Jefferson Medical College Lysosomal Diseases Testing Laboratory*

**Additional Information**
A clinical and/or family history of the patient MUST accompany the sample.

**Collection Container**
Green
Whole blood

**Special Handling Instructions**
Collect blood Monday - Thursday, excluding holidays. Specimen must arrive in the Chemistry laboratory before 2:00 PM.

**Specimen Volume**
6 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Room temperature

**Specimen Stability**
Room temperature

**Reasons for Rejection**
Specimen frozen or centrifuged. Specimen not received in the lab within 24 hours.

**CPT Code**
82657

**EMR Interface Order Code**
14615

**ASHSCR  Ashkenazi Screen**

*Baystate Reference Laboratories*

**Additional Information**
TEST INCLUDES: Bloom syndrome, Canavan disease, Cystic Fibrosis, Dihydrolipoamide dehydrogenase deficiency, Familial dysautonomia, Familial hyperinsulinemia, Fanconi anemia C, Gaucher disease, Glycogen storage disease type 1a, Joubert syndrome 2, Maple syrup urine disease, Mucolipidosis type IV, Nemaline myopathy, Niemann-Pick type A, Tay Sachs enzymes and DNA, Usher syndromes type IF and III, Walker-Warburg syndrome

**Collection Container**
Yellow top (ACD-A)
Whole blood

**Other Acceptable Specimen Types**
Lavender (EDTA) whole blood

**Special Handling Instructions**
Must be received in Referral Lab, Whitney Ave, before 3 pm. Informed Consent Form must be completed and on file with ordering clinician. Requisition with physicians' signature, indicating consent was obtained, must accompany sample.

**Specimen Volume**
30 mL

**Minimum Specimen Volume**
30 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Must ship same day as draw

**Reasons for Rejection**
No proof of informed consent

**CPT Code**
83080, 81255, 81220, 81251, 81330, 81200, 81290, 81260, 81205, 81250, 81242, 81401, 81400x4, 81479x2

**EMR Interface Order Code**
67000

**ASOST  ASO Screen and Titer**

*Baystate Reference Laboratories*

**Additional Information**
Positive results are quantitated and reported in International Units (IU/mL)

**Collection Container**
Gel
Gel serum

**Other Acceptable Specimen Types**
Red top serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5

**Transport Temperature**
Refrigerate

**Specimen Stability**
7 days

**Reasons for Rejection**
Specimens not centrifuged within 24 hours, specimens older than 7 days.

**Methodology**
Latex agglutination

**Reference Ranges**
Negative

**LOINC Code**
9788-1

**EMR Interface Order Code**
67112

**ASPAR  Asparagus IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48460

Container
Serum gel or red top tube

ASPAG  Aspergillus (Galactomannan) Antigen, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Aspergillus Ag, S

Useful For
Aiding in the diagnosis of invasive aspergillosis
Assessing response to therapy

Specimen Type
Serum SST

Specimen Required

Container/Tube: Serum gel
Specimen Volume: 1.5 mL

Collection Instructions:
1. Avoid exposure of specimen to atmosphere to prevent sample contamination from environment.
2. Centrifuge and send specimen in collection SST tube. Do not aliquot or open tube.

Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum SST</td>
<td>Refrigerated</td>
<td>14 days</td>
<td>SERUM GEL TUBE</td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td>14 days</td>
<td></td>
<td>SERUM GEL TUBE</td>
</tr>
</tbody>
</table>

Reference Values
<0.5 index
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday: 4 p.m.
Tuesday through Friday: 9 a.m. and 4 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
87305

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPAG</td>
<td>Aspergillus Ag, S</td>
<td>44357-2</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
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<tbody>
<tr>
<td>84356</td>
<td>Aspergillus Ag, S</td>
<td>44357-2</td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Other</td>
<td>Red top, Serum aliquots</td>
</tr>
</tbody>
</table>

Method Name
Enzyme Immunoassay (EIA)

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Microbiology Test Request (T244)

ASPBA  Aspergillus Antigen, Bronchoalveolar Lavage

Mayo Clinic Laboratories in Rochester

Reporting Name
Aspergillus Ag, BAL

Useful For
Aids in the diagnosis of invasive aspergillosis and assessing response to therapy

Specimen Type
Lavage

Specimen Required

Container/Tube: Sterile, leak-proof container
Specimen Volume: 2 mL

Additional Information: To prevent specimen contamination, avoid opening/transfering specimen.

Specimen Minimum Volume
1.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavage</td>
<td>Frozen (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>5 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
<0.5 Index
**Day(s) and Time(s) Performed**
Monday; 4 p.m., Tuesday through Friday; 9 a.m. and 4 p.m., Sunday; 8 a.m.

**Test Classification**
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**
87305

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPBA</td>
<td>Aspergillus Ag, BAL</td>
<td>62467-6</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>61009</td>
<td>Aspergillus Ag, BAL</td>
<td>62467-6</td>
</tr>
</tbody>
</table>

**Reject Due To**
Bronchial washing Specimen in a nonleak proof container Thick/viscous/mucoid specimens

**Method Name**
Enzyme Immunoassay (EIA)

**Forms**
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

### ASPRIL Aspergillus Serology

**Contracted Reference Lab**
LabCorp

**Additional Information**
TEST INCLUDES: Aspergillus species antigens associated with hypersensitivity pneumonitis.
Aspergillus flavus
Aspergillus fumigatus 1 (strain 507)
Aspergillus fumigatus 2 (strain 515)
Aspergillus fumigatus 3 (strain 534)
Aspergillus fumigatus 6
Aspergillus niger
Aspergillus glaucus
Aspergillus nidulans
Aspergillus pullulans

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerated

**Methodology**
Radial Immunodiffusion

**Turnaround Time**
7 - 14 days

**Reference Ranges**
Negative

**LOINC Code**
5052-6

**EMR Interface Order Code**
51160

### AST AST(SGOT)

**Contracted Reference Lab**
Baystate Reference Laboratories

**Collection Container**
Serum gel, green or lav
Serum, or edta or heparinized plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL serum, or 200 ul for whole blood

**Transport Temperature**
Refrigerate

**Methodology**
UV kinetic
Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges

<table>
<thead>
<tr>
<th>AST (SGOT)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
</table>
| All        | 0 - 38 | 0 - 32 | U/L

Units of Measure
U/L

CPT Code
84450

LOINC Code
1920-8

EMR Interface Order Code
06575

AHUSD Atypical Hemolytic Uremic Syndrome (aHUS) Complement Panel, Serum and Plasma

Mayo Clinic Laboratories in Rochester

Secondary ID
64881

Useful For
Detecting deficiencies in the alternative pathway that can cause atypical-hemolytic uremic syndrome, dense deposit disease, and C3 glomerulonephritis

A second-order test that aids in the differential diagnosis of thrombotic microangiopathies

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTGA</td>
<td>AHUS Interpretation</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>COM3</td>
<td>Complement, Total, S</td>
<td>Yes, (order COM)</td>
<td>Yes</td>
</tr>
<tr>
<td>AH503</td>
<td>Complement, Alternate Path, Func, S</td>
<td>Yes, (order AH50)</td>
<td>Yes</td>
</tr>
<tr>
<td>C3HUS</td>
<td>Complement C3, S</td>
<td>Yes, (order C3)</td>
<td>Yes</td>
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<tr>
<td>C4HUS</td>
<td>Complement C4, S</td>
<td>Yes, (order C4)</td>
<td>Yes</td>
</tr>
<tr>
<td>FBCA</td>
<td>Factor B Complement Antigen, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>FHCA</td>
<td>Factor H Complement Antigen, S</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>C4D</td>
<td>C4d Complement, P</td>
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<td>Yes</td>
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<tr>
<td>CBB</td>
<td>CBB Complement, P</td>
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<td>Yes</td>
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<td>SC5B9</td>
<td>SC5b-9 Complement, P</td>
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Reflex Tests

<table>
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<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
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<tbody>
<tr>
<td>C1QFX</td>
<td>C1Q Complement, Functional, S</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>C2FXN</td>
<td>C2 Complement, Functional, S, NR</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>C3FX</td>
<td>C3 Complement, Functional, S</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>C4FX</td>
<td>C4 Complement, Functional, S</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>C5FX</td>
<td>C5 Complement, Functional, S</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>C6FX</td>
<td>C6 Complement, Functional, S</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>C7FX</td>
<td>C7 Complement, Functional, S</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>C8FX</td>
<td>C8 Complement, Functional, S</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>C9FX</td>
<td>C9 Complement, Functional, S</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>CSAG2</td>
<td>C5 Complement, Antigen, S</td>
<td>Yes, (order CSAG)</td>
<td>No</td>
</tr>
</tbody>
</table>

Method Name
C3HUS, C4HUS, FBCA, FHCA, CSAG2: Nephelometry
COM3: Automated Liposome Lysis Assay
AH503, C4D, CBB, SC5B9: Enzyme-Linked Immunosorbent Assay (ELISA)

Reporting Name
aHUS Complement Panel, S and P

Specimen Type
Plasma Na Cit
Serum Red

Advisory Information
For evaluating patients with possible thrombotic microangiopathies (TMA), the recommended first-order test is ADM13 / ADAMTS13 Activity and Inhibitor Profile. This test, AHUSD, should be a second-order test for TMA.

For patients who have received eculizumab or need to monitor response to eculizumab therapy, the recommended test is ECUMP / Eculizumab Monitoring Panel, Serum. Soluble membrane attack complex (sMAC) should not be used as a standalone assay to monitor eculizumab efficiency.

Specimen Required
Both plasma and serum are required for this test.

Patient Preparation:
1. Fasting preferred.
2. Samples should not be drawn earlier than 48 hours following plasma exchange.

Specimen Type: Plasma

Collection Container/Tube: Light-blue top (3.2% sodium citrate)
Submission Container/Tube: Plastic vial
Specimen Volume: 1.5 mL
Collection Instructions:
1. Immediately after specimen collection, place the tube on wet ice.
2. Centrifuge; 1,500 x g for 10 minutes at 4°C, and separate plasma from cells.
3. Freeze specimen within 30 minutes.

**Specimen Type:** Serum  
**Collection Container/Tube:** Red top  
**Submission Container/Tube:** Plastic vial  
**Specimen Volume:** 1.5 mL  
**Collection Instructions:**  
1. Immediately after specimen collection, place the tube on wet ice.  
2. Centrifuge at 4°C and separate serum from clot.  
3. Freeze specimen within 30 minutes.

**Specimen Minimum Volume**  
Serum, Plasma: 1 mL each

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma Na Cit</td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Serum Red</td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis | OK  
- Gross lipemia | Reject  
- Gross icterus | OK

**Reference Values**

- FACTOR B COMPLEMENT ANTIGEN: 15.2-42.3 mg/dL  
- SC5b-9 COMPLEMENT: ≤250 ng/mL  
- FACTOR H COMPLEMENT ANTIGEN: 23.6-43.1 mg/dL  
- C4d COMPLEMENT ACTIVATION FRAGMENT: ≤9.8 mcg/mL  
- CBB COMPLEMENT ACTIVATION FRAGMENT: ≤1.6 mcg/mL  
- COMPLEMENT C4: 14-40 mg/dL  
- COMPLEMENT C3: 75-175 mg/dL  
- COMPLEMENT, ALTERNATE PATHWAY (AH50), FUNCTIONAL: ≥46% normal  
- COMPLEMENT, TOTAL: ≥16 years: 30-75 U/mL  
Reference values have not been established for patients who are <16 years of age.

**Day(s) and Time(s) Performed**  
Varies

**CPT Code Information**

- 86160 x 7  
- 86161  
- 86162

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHUSD</td>
<td>aHUS Complement Panel, S and P</td>
<td>In Process</td>
</tr>
</tbody>
</table>

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**Forms**

If not ordering electronically, complete, print, and send a Renal Diagnostics Test Request (T830) with the specimen.

**AURPUL  Aureobasidium pullulans IgE**

**Collection Container**

Serum gel or red top tube  
Serum

**Specimen Volume**

For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**  
0.1 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**

ImmunoCAP

**Turnaround Time**

3-5 days

**CPT Code**

- 86003

**EMR Interface Order Code**

- 00605

**AASR  Autoantibody Screen with Reflex**

**LabCorp**

**Additional Information**

Positive ANA screen will reflex to Centromere B, Chromatin, dsDNA, Jo-1, RNP, scl-70, Sjögren's A, Sjögren's B, and Smith (Sm) (additional CPT codes will be applied)

**Reflex Tests**

Multiple confirmatory tests
**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
Red top

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**Reasons for Rejection**
Gross hemolysis; Gross lipemia

**Methodology**
Multiplex flow immunoassay

**CPT Code**
86038

**LOINC Code**
8061-4

**EMR Interface Order Code**
67856

---

**AVOCAD  Avocado IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
Multiplex flow immunoassay

**CPT Code**
86038

**LOINC Code**
8061-4

**EMR Interface Order Code**
67856

---

**BCD20  B Cell CD20 Quantification**

*Baystate Reference Laboratories*

**Collection Container**
Lavender EDTA

Place specimens in a bag near the flow cytometry rack at LCRI. The tubes should remain lying down. Do not place upright in the rack.

**Special Handling Instructions**
An additional lavender top (EDTA) tube must be collected at the same time (within 6 hours maximum) as the BCD20 so that a Complete Blood Count with Differential (CBCD) may be ordered. If a CBC is ordered on the requisition please order CBDF.

**Specimen Volume**
3 mL Lavender top

**Transport Temperature**
Room Temperature

**Specimen Stability**
Transport specimen to the Flow Cytometry at BMC Laboratory as soon as possible.

**Methodology**
Numeration of specific subpopulations with monoclonal antibodies to lymphocyte antigens by flow cytometry.

**Days and Times Performed**
Draw anytime. Test performed day shift Monday - Saturday; not on Sunday or holidays (Holidays include the weekdays celebrated by Baystate Medical Center when an actual holiday falls on a weekend). The specimen is acceptable as long as it is received by the flow cytometry laboratory within 72 hours of collection.

**Turnaround Time**
1 - 2 Days

**Reference Ranges**
Reference Range for adults:
CD20+ (B-cell) cells: 4-24%; 27-423k/mm$^3$
CD19+ (B-cell) cells: 5-25%; 26-429k/mm$^3$

**CPT Code**
88184, 88185 × 2

**EMR Interface Order Code**
68170

---

**IMISC  B-Cell Phenotyping Profile for Immunodeficiency and Immune Competence Assessment, Blood**

*Mayo Clinic Laboratories in Rochester*

**Important Note**
Sample must arrive in the Referral Lab at 361 Whitney Ave by 4:30 pm, same day as draw, Monday thru Thurs only.

Please call 413-322-4667 to alert the Referral Lab staff that these specimens are being collected.

Transport one EDTA (lav) at room temp and a second EDTA refrigerated.

**Reporting Name**
Immune Assessment B Cell Subsets, B
Useful For
Screening for common variable immunodeficiency (CVID) and hyper-IgM syndromes
Assessing B-cell subset reconstitution after stem cell or bone marrow transplant
Assessing response to B-cell-depleting immunotherapy
Identifying defects in transmembrane activator and calcium modulator and cyclophilin ligand (CAML) interactor (TACI) and B-cell-activating factor receptor (BAFF-R) in patients presenting with clinical symptoms and other laboratory features consistent with CVID

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBBS</td>
<td>QN Lymphocyte Subsets: T, B, and NK</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>IABC</td>
<td>Immune Assessment B Cell Subsets, B</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVID</td>
<td>CVID Confirmation Flow Panel</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm

If immune assessment B-cell subsets test is abnormal, then confirmation will be performed at an additional charge.

When multiple specimen types are required to perform a panel of tests, the laboratory will perform the tests for which the appropriate specimen type was received and the laboratory will cancel those for which the appropriate specimen was not received. Please be advised that this may change the degree of interpretation received with the report. If only the refrigerate EDTA sample is received, this test will be canceled and converted to RBCS / Relative B-Cell Subset Analysis Percentage which provides the relative B-cell subset values without quantitation.

Specimen Required

Two separate EDTA specimens are required: 1 refrigerated and 1 at ambient transport temperature.

For serial monitoring, we recommend that specimen draws be performed at the same time of day.

Specimen Type: Whole blood for TBBS / Quantitative Lymphocyte Subsets: T, B, and NK
Container/Tube: 4 mL Lavender top (EDTA)
Specimen Volume: 3 mL
Collection Instructions:
1. Send specimen in original tube. Do not aliquot.
2. Label specimen as blood for TBBS / Quantitative Lymphocyte Subsets: T, B, and NK.

Specimen Stability Information: Ambient <52 hours

Specimen Type: Whole blood for IABC / B-Cell Phenotyping Screen for Immunodeficiency and Immune Competence Assessment, Blood
Container/Tube: Lavender top (EDTA)
Specimen Volume:
≤14 years: 4 mL
>14 years: 10 mL
Collection Instructions:
1. Send specimen in original tube. Do not aliquot.
2. Label specimen as blood for IABC / B-Cell Phenotyping Screen for Immunodeficiency and Immune Competence Assessment, Blood.

Specimen Stability Information: Refrigerated <48 hours

Specimen Minimum Volume

TBBS: 1 mL
IABC
≤14 years: 3 mL
>14 years: 5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood EDTA</td>
<td>Varies</td>
<td>48 hours</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
</tbody>
</table>

Reference Values

The appropriate age-related reference values will be provided on the report.

Day(s) and Time(s) Performed

Monday through Friday
Specimens are required to be received in the laboratory on weekdays and by 4 p.m. on Friday. No weekend processing.

CPT Code Information

T- and B-Cell Quantitation by Flow Cytometry
86355-B cells, total count
86357-Natural killer (NK) cells, total count
86359-T cells, total count
86360-Absolute CD4/CD8 count with ratio

B-Cell Phenotyping Screen for Immunodeficiency and Immune Competence Assessment, Blood
86356 x7 - Mononuclear cell antigen, quantitative

Common Variable Immunodeficiency Confirmation Flow Panel
88184-Flow cytometry, first marker (if appropriate)
88185 x 2-Flow cytometry, each additional marker (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>IABCs</td>
<td>Immune Assessment B Cell Subsets, B</td>
<td>90416-9</td>
</tr>
</tbody>
</table>

Specimen Type

Whole Blood EDTA

Advisory Information

Shipping Instructions

Specimens are required to be received in the laboratory weekdays and by 4 p.m. on Friday. Draw and package specimen as close to shipping time as possible.

It is recommended that specimens arrive within 24 hours of draw.

Samples arriving on the weekend and observed holidays may be canceled.

Necessary Information

1. Date of draw is required.
2. Ordering physician’s name and phone number are required.
<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>30296</td>
<td>CD19+ % of total Lymphocytes</td>
<td>8117-4</td>
</tr>
<tr>
<td>3321</td>
<td>CD45 Total Lymph Count</td>
<td>27071-0</td>
</tr>
<tr>
<td>3316</td>
<td>% CD3 (T Cells)</td>
<td>8124-0</td>
</tr>
<tr>
<td>29094</td>
<td>CD20+ % of total Lymphocytes</td>
<td>8119-0</td>
</tr>
<tr>
<td>3322</td>
<td>CD3 (T Cells)</td>
<td>8122-4</td>
</tr>
<tr>
<td>30298</td>
<td>CD27+ % of CD19+ B cells</td>
<td>89358-6</td>
</tr>
<tr>
<td>3319</td>
<td>% CD4 (T Cells)</td>
<td>8123-2</td>
</tr>
<tr>
<td>30300</td>
<td>CD27+ IgM+ IgD+ % of CD19+ B cells</td>
<td>89352-9</td>
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<tr>
<td>3325</td>
<td>CD4 (T Cells)</td>
<td>24467-3</td>
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<td>30302</td>
<td>CD27+ IgM- IgD- % of CD19+ B cells</td>
<td>89350-3</td>
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<tr>
<td>3320</td>
<td>% CD8 (T Cells)</td>
<td>8101-8</td>
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<td>30304</td>
<td>CD27+ IgM+ IgD- % of CD19+ B cells</td>
<td>89348-7</td>
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<td>3326</td>
<td>CD8 (T Cells)</td>
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<td>30306</td>
<td>IgM+ % of CD19+ B cells</td>
<td>89346-1</td>
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<td>3318</td>
<td>% CD19 (B Cells)</td>
<td>8117-4</td>
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<tr>
<td>30308</td>
<td>CD38+ IgM- % of CD19+ B cells</td>
<td>89344-6</td>
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<tr>
<td>30310</td>
<td>CD38+ IgM+ % of CD19+ B cells</td>
<td>89341-2</td>
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<tr>
<td>3324</td>
<td>CD19 (B Cells)</td>
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<tr>
<td>4054</td>
<td>% CD16+CD56 (NK cells)</td>
<td>8112-5</td>
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<tr>
<td>30312</td>
<td>CD21+ % of CD19+ B cells</td>
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<td>30314</td>
<td>CD21- % of CD19+ B cells</td>
<td>89355-2</td>
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<td>4055</td>
<td>CD16+CD56 (NK cells)</td>
<td>20402-4</td>
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<td>3327</td>
<td>4/8 Ratio</td>
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<td>29095</td>
<td>CD20+</td>
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<td>30299</td>
<td>CD27+</td>
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<td>30301</td>
<td>CD27+ IgM+ IgD+</td>
<td>89351-1</td>
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<tr>
<td>30303</td>
<td>CD27+ IgM- IgD-</td>
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<td>CD27+ IgM+ IgD-</td>
<td>89347-9</td>
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<tr>
<td>30307</td>
<td>IgM+</td>
<td>89345-3</td>
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<tr>
<td>30309</td>
<td>CD38+ IgM-</td>
<td>89343-8</td>
</tr>
<tr>
<td>30311</td>
<td>CD38+ IgM+</td>
<td>89357-8</td>
</tr>
<tr>
<td>30313</td>
<td>CD21+</td>
<td>25164-5</td>
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<td>30315</td>
<td>CD21-</td>
<td>89354-5</td>
</tr>
<tr>
<td>30316</td>
<td>Interpretation</td>
<td>80722-2</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: Reject

**Method Name**

- TBBS: Flow Cytometry
- IABC: Fluorescent Flow Cytometry

**Test Classification**

See Individual Test IDs

**Secondary ID**

88800

**PROBNP  B-Type Natriuretic Peptide (BNP)**

*Baystate Reference Laboratories*

**Additional Information**

EDTA is also acceptable but EDTA recovers approximately 10% lower

**Collection Container**

- Serum gel
  - Serum, Li Heparin is also acceptable.

**Special Handling Instructions**

In patients receiving therapy with high biotin doses (>5 mg/day), no sample should be taken until at least 8 hours after the last biotin administration.

**Specimen Volume**

- 1.0 mL

**Minimum Specimen Volume**

- 0.3 mL

**Transport Temperature**

- Refrigerate

**Specimen Stability**

- Room Temperature: 3 days, Refrigerated: 6 days, Frozen: 24 months
- freeze/thaw cycle 1

**Methodology**

- Electrochemiluminescence immunoassay (ECLIA)

**Days and Times Performed**

- Test performed daily

**Turnaround Time**

- 24 hours

**Reference Ranges**

- Female and Male:
  - 0-74 years: 0-125 pg/mL
  - 75 years +: 0-450 pg/mL

**Units of Measure**

- pg/mL

**CPT Code**

- 83880

**LOINC Code**

- 33762-6

**EMR Interface Order Code**

- 07860

**BABAB  Babesia Antibody**

*LabCorp*

**Collection Container**

- Serum gel
  - Serum

**Other Acceptable Specimen Types**

- Red top

**Specimen Volume**

- 1 mL

**Minimum Specimen Volume**

- 0.2 mL

**Transport Temperature**

- Refrigerate

**Reasons for Rejection**

- Extensive hemolysis; lipemia; clotted specimen; quantity not sufficient for analysis; leaking or broken tube

**Methodology**

- Immunofluorescence assay (IFA)
Reference Ranges
Negative <1:10

Units of Measure
Titer

CPT Code
86753 x 2

LOINC Code
60521-2

EMR Interface Order Code
58875

WA1AB Babesia duncani IgG Antibody
Quest Diagnostics Nichols Institute

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Refrigerated

Specimen Stability
7 days

CPT Code
86753

LOINC Code
41415-1

EMR Interface Order Code
71115

IDMISC Babesia duncani IgG, WA1 IgG IFA

Referral test

Important Note
Order as IDMISC and forward to Referral Lab
Red top tube is the only acceptable specimen type
DO NOT DRAW A GEL
Send sample refrigerated to the Referral Lab
Any questions, call 2-4667.

Collection Container
Red top tube
1 mL serum from a red top

Special Handling Instructions
Draw red top tube only

CPT Code
Variable

EMR Interface Order Code
69316

BABPCR Babesia PCR
Baystate Reference Laboratories

Additional Information
This test includes the detection of Babesia in blood. If a positive result is obtained, the test should not be reordered for at least 90 days to prevent false positive results.

Collection Container
Lavender (EDTA)
Whole blood

Specimen Volume
4 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Room Temperature, refrigerated or frozen

Specimen Stability
4°C up to 5 days, -20°C: 6 weeks

Reasons for Rejection
Excessive delay in transport; shared specimen; wrong tube, mislabeled specimens, insufficient quantity

Methodology
Real-time PCR with Thermal Melt analysis

Turnaround Time
5 days

Reference Ranges
Not detected

CPT Code
87798

EMR Interface Order Code
69580

BAHIA Bahia Grass IgE
Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days
**BYEAST  Bakers Yeast IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48470

---

**QSBARB  Barbituates with Conf, Oral Fluid**

*Contracted Reference Lab*

**Reflex Tests**
If positive, will reflex to confirmations at an additional charge

**Collection Container**
Oral-Eze container

**Oral fluid**

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp:72 hr Refrigerated: 7 days Frozen: 30 days with swab removed

**Reasons for Rejection**
Not submitted in Oral-Eze device, no swab (unless frozen)

**Days and Times Performed**
Daily

**Turnaround Time**
4 days

**CPT Code**
80307

**EMR Interface Order Code**
71042

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.
Methodology
Kinetic interaction of microparticles in a solution (KIMS)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
None detected

CPT Code
80307

LOINC Code
3377-9

EMR Interface Order Code
11250

UBARZ  Barbiturates, Urine, Screen with Confirmation

Baystate Reference Laboratories

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

Reflex Tests
QBARB

Collection Container
Yellow BD tube

Specimen Volume
20 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Screen: Kinetic interaction of microparticles in a solution (KIMS)

BARLEY  Barley IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

CPT Code
86003

EMR Interface Order Code
48485

BARTAB  Bartonella Antibody Panel, IgG and IgM, Serum

Mayo Clinic Laboratories in Rochester

Useful For
Diagnosis of Bartonella infection, especially in the context of a cat scratch

Specimen Type
Serum

Specimen Required
Container/Tube:
Preferred: Serum gel
Acceptable: Red top

Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.15 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Bartonella henselae
IgG: <1:128
IgM: <1:20
Bartonella quintana
IgG: <1:128
IgM: <1:20

Day(s) and Time(s) Performed
Monday through Saturday; 9 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
86611 x 4

LOINC Code Information
<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BART</td>
<td>Bartonella Ab Panel, IgG and IgM</td>
<td>90251-0</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name       | Result LOINC Value |
----------|------------------------|--------------------|
15659     | Bart Henselae IgG      | 6954-2             |
15660     | Bart Henselae IgM      | 6955-9             |
15661     | Bart Quintana IgG      | 44827-4            |
15662     | Bart Quintana IgM      | 44825-8            |

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: Reject

Testing Algorithm
Includes *Bartonella henselae* and *Bartonella quintana*.


Method Name
Immunofluorescence Assay (IFA)

Special Instructions
- Infective Endocarditis: Diagnostic Testing for Identification of Microbiological Etiology

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

**BARTB** Bartonella PCR, Blood

Contracted Reference Lab

Collection Container
Lavender (EDTA) top tube

Whole Blood

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: NA

Reasons for Rejection
Tubecannot be shared with other tests

CPT Code
87471

EMR Interface Order Code
70788

**BARRP** Bartonella, Molecular Detection, PCR, Varies

Mayo Clinic Laboratories in Rochester

Reporting Name
Bartonella PCR

Useful For
Aiding in the diagnosis of *Bartonella* infection

Specimen Type
Varies

Advisory Information
BART / Bartonella Antibody Panel, IgG and IgM, Serum and Warthin-Starry tissue stain (PATHC / Pathology Consultation) should be considered if PCR is negative and there is a strong suspicion of disease caused by these organisms.

Necessary Information
Specimen source is required.

Specimen Required
The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by *Bartonella* species DNA is unlikely.

Submit only 1 of the following specimens:

**Specimen Type:** Fresh tissue or biopsy
**Sources:** Heart valve, liver, lymph node, spleen, or skin tissue papule/lesion/nodule

**Container/Tube:** Sterile container

**Specimen Volume:** Entire collection or 5 mm(3) - approximately the size of a pencil eraser

**Collection Instructions:**
1. Collect fresh tissue specimen.
2. Submit tissue only, do not add fluid to tissue.
3. Refrigerate or freeze specimen.

**Specimen Stability Information:** Refrigerated (preferred) <7 days/Frozen <7 days

Preferred Paraffin-embedded tissue block:
**Supplies:** Tissue Block Container (T553)

**Specimen Type:** Formalin-fixed, paraffin-embedded tissue block (FFPE)
**Sources:** Heart valve, liver, lymph node, spleen, or skin tissue papule/lesion/nodule

**Container/Tube:** Tissue block

**Collection Instructions:** Submit a formalin-fixed, paraffin-embedded tissue block to be cut and returned.

**Specimen Stability Information:** Ambient (preferred)/Refrigerated
Acceptable: Paraffin-embedded tissue block:
**Specimen Type:** Formalin-fixed, paraffin-embedded tissue block (FFPE)
**Sources:** Heart valve, liver, lymph node, spleen, or skin tissue papule/lesion/nodule
**Container/Tube:** Sterile container for each individual cut section (scroll).
**Collection Instructions:** Perform microtomy and prepare five separate 10-micron sections. Each section (scroll) must be placed in a separate sterile container for submission.
**Specimen Stability Information:** Ambient (preferred)/Refrigerated

**Specimen Type:** Fluid
**Sources:** Cerebrospinal or ocular (eg, vitreous humor fluid)
**Container/Tube:** Sterile vial
**Specimen Volume:** 0.5 mL
**Specimen Stability Information:** Refrigerated (preferred) <7 days/Frozen <7 days

**Specimen Type:** Synovial fluid
**Container/Tube:** Preferred: Lavender top (EDTA)
Acceptable: Pink top (EDTA), royal blue top (EDTA), sterile vial containing EDTA-derived aliquot, red clot tube (no anticoagulant), or sterile container
**Specimen Volume:** 0.5 mL
**Collection Instructions:** Send specimen in original tube (preferred).
**Specimen Stability Information:** Refrigerated (preferred) <7 days/Frozen <7 days

**Specimen Minimum Volume**
Fresh tissue or biopsy: 5 mm(3)
Paraffin-embedded tissue block: two 10-micron sections
Fluid: 0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variens</td>
<td>Varies</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
Not applicable

**Day(s) and Time(s) Performed**
Monday, Wednesday, Friday

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
87801

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>BARRP</td>
<td>Bartonella PCR</td>
<td>48864-3</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>SRC51</td>
<td>Specimen source</td>
<td>31208-2</td>
</tr>
<tr>
<td>84440</td>
<td>Bartonella PCR</td>
<td>48864-3</td>
</tr>
</tbody>
</table>

**Reject Due To**

| Tissue | Tissue in formalin, formaldehyde, or acetone; bone marrow; slides |

**Method Name**
Real-Time Polymerase Chain Reaction (PCR)

**Forms**
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

**Testing Algorithm**

**Special Instructions**
- Infective Endocarditis: Diagnostic Testing for Identification of Microbiological Etiology

**BASICP Basic Metabolic Panel**

*Baystate Reference Laboratories*

**Important Note**
This Panel includes: Glucose, BUN, Creatinine, Sodium, Potassium, Chloride, Bicarbonate, Calcium, and Estimated Glomerular Filtration Rate (GFR) (calc)

**Collection Container**
Serum gel (preferred) or green heparin
Serum (preferred) heparinized plasma also acceptable.

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
See individual test listings

**Reasons for Rejection**
Serum/plasma not separated from cells within 3 hours of collection

**Methodology**
See individual test listings

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**CPT Code**
80048

**LOINC Code**
24321-2

**EMR Interface Order Code**
14076
## Reference Ranges — Basic Metabolic Panel

### GLUCOSE - FASTING (FBS)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1 month</td>
<td>40 - 80</td>
<td>40 - 80</td>
<td>mg/dL</td>
</tr>
<tr>
<td>2 months to 1 year</td>
<td>50 - 100</td>
<td>50 - 100</td>
<td>mg/dL</td>
</tr>
<tr>
<td>2 - 15 years</td>
<td>60 - 99</td>
<td>60 - 99</td>
<td>mg/dL</td>
</tr>
<tr>
<td>16 years +</td>
<td>70 - 99</td>
<td>70 - 99</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

### BLOOD UREA NITROGEN (BUN)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1 year</td>
<td>4 - 19</td>
<td>4 - 19</td>
<td>mg/dL</td>
</tr>
<tr>
<td>2 - 18 years</td>
<td>5 - 18</td>
<td>5 - 18</td>
<td>mg/dL</td>
</tr>
<tr>
<td>19 - 60 years</td>
<td>6 - 20</td>
<td>6 - 20</td>
<td>mg/dL</td>
</tr>
<tr>
<td>61 years +</td>
<td>8 - 23</td>
<td>8 - 23</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

### CREATININE (CR)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 30 days</td>
<td>0.3 - 0.9</td>
<td>0.3 - 0.9</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 month - 2 years</td>
<td>0.2 - 0.4</td>
<td>0.2 - 0.4</td>
<td>mg/dL</td>
</tr>
<tr>
<td>3 - 4 years</td>
<td>0.3 - 0.4</td>
<td>0.3 - 0.4</td>
<td>mg/dL</td>
</tr>
<tr>
<td>5 - 8 years</td>
<td>0.3 - 0.5</td>
<td>0.3 - 0.5</td>
<td>mg/dL</td>
</tr>
<tr>
<td>9 - 10 years</td>
<td>0.3 - 0.6</td>
<td>0.3 - 0.6</td>
<td>mg/dL</td>
</tr>
<tr>
<td>11 - 12 years</td>
<td>0.4 - 0.7</td>
<td>0.4 - 0.7</td>
<td>mg/dL</td>
</tr>
<tr>
<td>13 - 14 years</td>
<td>0.5 - 0.8</td>
<td>0.5 - 0.8</td>
<td>mg/dL</td>
</tr>
<tr>
<td>15 years +</td>
<td>0.7 - 1.2</td>
<td>0.7 - 1.2</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

### SODIUM (NA)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>All</td>
<td>133 - 145</td>
<td>133 - 145</td>
<td>mmol/L</td>
</tr>
</tbody>
</table>

### POTASSIUM (K)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>3.6 - 5.2</td>
<td>3.6 - 5.2</td>
<td>mmol/L</td>
</tr>
</tbody>
</table>

### CHLORIDE (CL)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 30 days</td>
<td>110-116</td>
<td>110-116</td>
<td>mmol/L</td>
</tr>
<tr>
<td>1 month - Adult</td>
<td>98-107</td>
<td>98-107</td>
<td>mmol/L</td>
</tr>
</tbody>
</table>

### BICARBONATE (CO2)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>22 - 29</td>
<td>22 - 29</td>
<td>mmol/L</td>
</tr>
</tbody>
</table>

### CALCIUM (CA)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>8.6 - 10.5</td>
<td>8.6 - 10.5</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
BASIL  Basil IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
67782

BCL2BCL6  BCL2 BCL6 B Cell Lymphoma Break Apart FISH Tissue

Baystate Reference Laboratories (Cytology)

Collection Container
Paraffin Embedded Tissue
Sufficient Tumor

Transport Temperature
Stable at room temperature

Reasons for Rejection
Insufficient Tumor

CPT Code
88271x2, 88274

BCRFSH  BCR ABL FISH

Mayo Medical Laboratories

Reflex Tests
Chromosome analysis, additional FISH probes

Collection Container
Blood: Green (Sodium Heparin)
Bone Marrow: Syringe with heparin
Peripheral Blood

Special Handling Instructions
Send to Referral Laboratory with copy of ordering requisition and copy of surgical pathology (if available).

Specimen Volume
5 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Ambient

Specimen Stability
Stable at ambient temperature

Reasons for Rejection
Incorrect tube, insufficient quantity

Methodology
Fluorescent in-situ hybridization

Turnaround Time
Final report within 10 - 14 days.

Reference Ranges
Laboratory to provide interpretive report

CPT Code
88237, 88271, 88275

EMR Interface Order Code
69204

BCRFx  BCR/ABL1 Qualitative Diagnostic Assay with Reflex to BCR/ABL1 p190 Quantitative Assay or BCR/ABL1 p210 Quantitative Assay, Varies

Mayo Clinic Laboratories in Rochester

Advisory Information

For information on which test to order for various scenarios, see BCR/ABL1 Ordering Guide for Blood and Bone Marrow in Special Instructions.

Shipping Instructions

Specimen must arrive within 72 hours of collection. Collect and package specimen as close to shipping time as possible.

Necessary Information

The following information is required:
1. Pertinent clinical history including if the patient has a diagnosis of chronic myeloid/myelogenous leukemia or other BCR/ABL1 positive neoplasm
2. Date of collection
3. Specimen source (blood or bone marrow)

Specimen Required

Submit only 1 of the following specimens:

Specimen Type: Whole blood
Container/Tube:
Preferred: Lavender top (EDTA)
Acceptable: Yellow top (ACD)
Specimen Volume: 10 mL
Collection Instructions:
1. Invert several times to mix blood.
2. Send specimen in original tube.
3. Label specimen as blood.

**Specimen Type:** Bone marrow

**Container/Tube:**
- **Preferred:** Lavender top (EDTA)
- **Acceptable:** Yellow top (ACD)

**Specimen Volume:** 3 mL

**Collection Instructions:**
1. Invert several times to mix bone marrow.
2. Send specimen in original tube.
3. Label specimen as bone marrow.

**Forms**
1. Hematopathology Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

**Secondary ID**
65248

**Useful For**
Diagnostic workup of patients with high probability of BCR-ABL1-positive hematopoietic neoplasms, predominantly chronic myeloid/myelogenous leukemia and acute lymphoblastic leukemia

**Testing Algorithm**
When a positive common p210 or p190 BCR/ABL1 result is identified by the qualitative assay, a reflex test will then be performed at an additional charge to determine the quantitative transcript level of BCR/ABL1 mRNA. A positive common p210 or p190 result will specifically trigger either quantitative p210 (B210R) or p190 (B190R) testing to provide a normalized percentage of transcript level. For the p210 target, the value is additionally defined using the International Scale (IS) convention. The results are released in an integrated report and provide a baseline quantitative transcript to monitor treatment response. If the initial qualitative testing is negative, or an alternate rare form of BCR/ABL1 is detected, then no reflex testing will be pursued and the initial results will be reported.

The following documents are available in Special Instructions:
- Myeloproliferative Neoplasm: A Diagnostic Approach to Bone Marrow Evaluation
- Myeloproliferative Neoplasm: A Diagnostic Approach to Peripheral Blood Evaluation

**Special Instructions**
- Myeloproliferative Neoplasm: A Diagnostic Approach to Peripheral Blood Evaluation
- Myeloproliferative Neoplasm: A Diagnostic Approach to Bone Marrow Evaluation
- Hematopathology Patient Information
- BCR/ABL1 Ordering Guide for Blood and Bone Marrow

**Method Name**
Reverse Transcription-Polymerase Chain Reaction (RT-PCR) Multiplex PCR

**Reporting Name**
BCR/ABL1 Reflex, Qual/Quant

**Specimen Type**
Varies

**Specimen Minimum Volume**
- Blood: 4 mL
- Bone marrow: 1 mL

---

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>72 hours</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reject</td>
<td>Moderately to severely clotted</td>
</tr>
</tbody>
</table>

**Reference Values**
An interpretive report will be provided.

**Day(s) and Time(s) Performed**
Monday through Friday

**Test Classification**
This test uses a standard method. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
81208
81206
81207

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCRFX</td>
<td>BCR/ABL1 Reflex, Qual/Quant</td>
<td>In Process</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>MP039</td>
<td>Specimen Type</td>
<td>31208-2</td>
</tr>
<tr>
<td>48389</td>
<td>BCR/ABL1 Reflex Result</td>
<td>No LOINC Needed</td>
</tr>
<tr>
<td>48388</td>
<td>Interpretation</td>
<td>69047-9</td>
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</table>

**Reflex Tests**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>B190R</td>
<td>BCR/ABL1, p190, Quant, Reflex</td>
<td>No, (Bill Only); For Separate Testing: (Order BA190)</td>
<td>No</td>
</tr>
<tr>
<td>B210R</td>
<td>BCR/ABL1, p210, Quant, Reflex</td>
<td>No, (Bill Only); For Separate Testing: (Order BCRAB)</td>
<td>No</td>
</tr>
</tbody>
</table>

**BA190** BCR/ABL1, p190, mRNA Detection, Reverse Transcription-PCR (RT-PCR), Quantitative, Monitoring Assay, Varies

Mayo Clinic Laboratories in Rochester

**Reporting Name**
BCR/ABL1, p190, Quant, Monitor

**Useful For**
Monitoring response to therapy in patients with known e1/a2 BCR/ABL1 (p190) fusion forms

**Specimen Type**
Varies
Advisory Information

This test should not be used to screen for BCR/ABL1 fusions at the time of diagnosis; order either BADX / BCR/ABL1, Qualitative, Diagnostic Assay, Varies; or BCRFX / BCR/ABL1 Qualitative Diagnostic Assay with Reflex to BCR/ABL1 p190 Quantitative Assay or BCR/ABL1 p210 Quantitative Assay, Varies should be ordered for that purpose.

To monitor patients carrying BCR/ABL1 fusion forms coding for the p210 protein, which includes most patients with chronic myeloid leukemia (CML); order BCRAB / BCR/ABL, p210, mRNA Detection, Reverse Transcription-PCR (RT-PCR), Quantitative, Monitoring Chronic Myelogenous Leukemia (CML), Varies.

Shipping Instructions

Refrigerate specimens must arrive within 5 days (120 hours) of collection, and ambient specimens must arrive within 3 days (72 hours) of collection. Collect and package specimen as close to shipping time as possible.

Necessary Information

The following information is required:
1. Pertinent clinical history including if the patient has a diagnosis of chronic myelogenous leukemia or other BCR/ABL1-positive neoplasm
2. Date of collection
3. Specimen source (blood or bone marrow)

Specimen Required

Submit only 1 of the following specimens:

Preferred:
Specimen Type: Whole blood
Container/Tube: Preferred: Lavender top (EDTA)
Acceptable: Yellow top (ACD)
Specimen Volume: 10 mL
Collection Instructions:
1. Invert several times to mix blood.
2. Send specimen in original tube.
3. Label specimen as blood.

Specimen Type: Bone marrow
Container/Tube: Preferred: Lavender top (EDTA)
Acceptable: Yellow top (ACD)
Specimen Volume: 4 mL
Collection Instructions:
1. Invert several times to mix bone marrow.
2. Send specimen in original tube.
3. Label specimen as bone marrow.

Specimen Minimum Volume
Blood: 4 mL
Bone marrow: 2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated</td>
<td>5 days</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>72</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
</tbody>
</table>

Special Instructions

• Hematopathology Patient Information
• BCR/ABL1 Ordering Guide for Blood and Bone Marrow

Reference Values

The presence or absence of the BCR/ABL1 mRNA fusion form producing the p190 fusion protein is reported. If positive, the level is reported as the ratio of BCR/ABL1 (p190) transcript to ABL1 transcript in the form of a percentage.

Day(s) and Time(s) Performed

Monday through Saturday; a.m.

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

81207

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>BA190</td>
<td>BCR/ABL1, p190, Quant, Monitor</td>
<td>In Process</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>39470</td>
<td>BCR/ABL1 p190 Result</td>
<td>No LOINC Needed</td>
</tr>
<tr>
<td>MP002</td>
<td>Specimen Type</td>
<td>31208-2</td>
</tr>
<tr>
<td>19765</td>
<td>Interpretation</td>
<td>69047-9</td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis | Reject
Moderately to severely clotted | Reject

Method Name

Quantitative Reverse Transcription-Polymerase Chain Reaction (RT-PCR)

Secondary ID

83336

Forms

1. Hematopathology Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

Testing Algorithm

See BCR/ABL1 Ordering Guide for Blood and Bone Marrow in Special Instructions.
BCR/ABL1, p210, mRNA Detection, Reverse Transcription-PCR (RT-PCR), Quantitative, Monitoring Chronic Myeloid Leukemia (CML), Varies

Mayo Clinic Laboratories in Rochester

**Reporting Name**
BCR/ABL1, p210, Quant, Monitor

**Useful For**
Monitoring response to therapy in patients with chronic myeloid leukemia who are known to have the e13/a2 or e14/a2 BCR/ABL1 fusion transcript forms

**Specimen Type**
Varies

**Shipping Instructions**
Specimen must arrive within 72 hours of draw. Draw and package specimen as close to shipping time as possible. Specimens greater than 3 days old at the time of receipt will be considered unacceptable.

**Necessary Information**
The following information is required:
1. Pertinent clinical history including if the patient has a diagnosis of chronic myeloid leukemia or other BCR/ABL1-positive neoplasm
2. Date of collection
3. Specimen source (blood or bone marrow)

**Specimen Required**
Submit only 1 of the following specimens:

**Specimen Type**: Whole blood

- **Container/Tube**: Preferred: EDTA (lavender top)
  - Acceptable: ACD (yellow top)

- **Specimen Volume**: 10 mL

- **Collection Instructions**:
  1. Invert several times to mix blood.
  2. Send specimen in original tube.
  3. Label specimen as blood.

**Specimen Type**: Bone marrow

- **Container/Tube**: Preferred: EDTA (lavender top)
  - Acceptable: ACD (yellow top)

- **Specimen Volume**: 3 mL

- **Collection Instructions**:
  1. Invert several times to mix bone marrow.
  2. Send specimen in original tube.
  3. Label specimen as bone marrow.

**Specimen Minimum Volume**
- Blood: 4 mL
- Bone Marrow: 1 mL

### Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>72 hours</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
</tbody>
</table>

**Special Instructions**
- Hematopathology Patient Information
- BCR/ABL1 Ordering Guide for Blood and Bone Marrow

**Reference Values**
The presence or absence of BCR/ABL1 mRNA fusion form e13/e14-a2 producing the p210 fusion protein is identified. If positive, the quantitative level is reported as the normalized ratio of BCR/ABL1 (p210) to endogenous ABL1 mRNA with conversion to a percentage referenced to the international scale (IS), on which 0.1% BCR/ABL1:ABL1 (also represented on a log scale as Molecular Response 3, or MR3) is designated as a major molecular response (MMR) threshold.

**Day(s) and Time(s) Performed**
Monday through Friday

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
81206

**LOINC Code Information**

<table>
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<tr>
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<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>BCRAB</td>
<td>BCR/ABL1, p210, Quant, Monitor</td>
<td>55135-8</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>48411</td>
<td>BCR/ABL1, p210 Result</td>
<td>55135-8</td>
</tr>
<tr>
<td>MP003</td>
<td>Specimen Type</td>
<td>31208-2</td>
</tr>
<tr>
<td>19598</td>
<td>Final Diagnosis</td>
<td>34574-4</td>
</tr>
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</table>

**Reject Due To**
Gross hemolysis | Reject

**Method Name**
Quantitative Reverse Transcription-Polymerase Chain Reaction (RT-PCR) using GeneXpert (Cepheid)

**Secondary ID**
89007

**Forms**
1. Hematopathology Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

**Testing Algorithm**
See BCR/ABL1 Ordering Guide for Blood and Bone Marrow in Special Instructions.
BADX  BCR/ABL1, Qualitative, Diagnostic Assay, Varies

Mayo Clinic Laboratories in Rochester

Reporting Name
BCR/ABL1, RNA-Qual, Diagnostic

Useful For
Diagnostic workup of patients with a high probability of BCR-ABL1-positive hematopoietic neoplasms, predominantly chronic myelogenous leukemia and acute lymphoblastic leukemia

Testing Algorithm
The following algorithms are available in Special Instructions:
- Myeloproliferative Neoplasm: A Diagnostic Approach to Bone Marrow Evaluation
- Myeloproliferative Neoplasm: A Diagnostic Approach to Peripheral Blood Evaluation

Specimen Type
Varies

Advisory Information
This test is only qualitative and should not be used for routine monitoring (ie, quantitative mRNA level).

Monitoring of most patients with chronic myeloid leukemia (CML) should be performed using BCRAB / BCR/ABL, p210, mRNA Detection, Reverse Transcription-PCR (RT-PCR), Quantitative, Monitoring Chronic Myelogenous Leukemia (CML), Varies.

Monitoring of patients known to carry a p190 fusion should be performed using BA190 / BCR/ABL, p190, mRNA Detection, Reverse Transcription-PCR (RT-PCR), Quantitative, Monitoring Assay, Varies.

For information on which test to order for various scenarios, see BCR/ABL1 Ordering Guide for Blood and Bone Marrow in Special Instructions.

Shipping Instructions
Refrigerate specimens must arrive within 5 days of collection, and ambient specimens must arrive within 3 days (72 hours) of collection. Collect and package specimens as close to shipping time as possible.

Necessary Information
The following information is required:
1. Pertinent clinical history including if the patient has a diagnosis of chronic myelogenous leukemia or other BCR/ABL1-positive neoplasm
2. Date of collection
3. Specimen source (blood or bone marrow)

Specimen Required
Submit only 1 of the following specimens:

Specimen Type: Whole blood
Container/Tube:
Preferred: Lavender top (EDTA)
Acceptable: Yellow top (ACD)

Specimen Volume: 10 mL
Collection Instructions:
1. Invert several times to mix blood.
2. Send specimen in original tube.
3. Label specimen as blood.

Specimen Type: Bone marrow
Container/Tube:
Preferred: Lavender top (EDTA)
Acceptable: Yellow top (ACD)
Specimen Volume: 4 mL
Collection Instructions:
1. Invert several times to mix bone marrow.
2. Send specimen in original tube.
3. Label specimen as bone marrow.

Specimen Minimum Volume
Peripheral blood: 4 mL
Bone marrow: 2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>5 days</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
<tr>
<td>Varies</td>
<td>Ambient</td>
<td>72 hours</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
</tbody>
</table>

Special Instructions
- Myeloproliferative Neoplasm: A Diagnostic Approach to Peripheral Blood Evaluation
- Myeloproliferative Neoplasm: A Diagnostic Approach to Bone Marrow Evaluation
- Hematopathology Patient Information
- BCR/ABL1 Ordering Guide for Blood and Bone Marrow

Reference Values
A qualitative result is provided that indicates the presence or absence of BCR/ABL1 mRNA. When positive, the fusion variant is also reported.

Day(s) and Time(s) Performed
Monday through Saturday; A.M.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
81206
81207
81208

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
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<tbody>
<tr>
<td>BADX</td>
<td>BCR/ABL1, RNA-Qual, Diagnostic</td>
<td>In Process</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>39466</td>
<td>Diagnostic BCR/ABL1 Result</td>
<td>No LOINC Needed</td>
</tr>
<tr>
<td>MP001</td>
<td>Specimen Type</td>
<td>31208-2</td>
</tr>
<tr>
<td>19783</td>
<td>Interpretation</td>
<td>69047-9</td>
</tr>
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</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>Moderately to severely clotted</td>
</tr>
</tbody>
</table>

Page 97
Method Name
Reverse Transcription-Polymerase Chain Reaction (RT-PCR) Multiplex PCR

Secondary ID
89006

Forms
1. Hematopathology Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

BAKDM  BCR/ABL1, Tyrosine Kinase Inhibitor Resistance, Kinase Domain Mutation Screen, Sanger Sequencing, Varies

Mayo Clinic Laboratories in Rochester

Reporting Name
BCR/ABL1 Mutation, Sequencing

Useful For
Evaluating patients with chronic myelogenous leukemia and Philadelphia chromosome positive B-cell acute lymphoblastic leukemia receiving tyrosine kinase inhibitor (TKI) therapy, who are apparently failing treatment

Preferred initial test to identify the presence of acquired BCR-ABL1 mutations associated with TKI-resistance

Testing Algorithm
If BCR/ABL1 fusion type (p210, p190, p205 or p230) is not provided, BADX / BCR/ABL1, Qualitative, Diagnostic Assay will be performed at an additional charge.

In the event that no fusion form (p190, p205, p210, p230) is identified by BADX testing, BAKDM testing will be cancelled.

This is the preferred initial test to identify the presence of acquired BCR/ABL1 mutations associated with TKI-resistance.

See BCR/ABL1 Ordering Guide for Blood and Bone Marrow in Special Instructions.

Specimen Type
Varies

Advisory Information
This is the preferred initial test to identify the presence of acquired BCR/ABL1 mutations associated with tyrosine kinase inhibitor (TKI)-resistance.

Shipping Instructions
1. Refrigerated specimens must arrive within 5 days (120 hours) of collection, and ambient specimens must arrive within 3 days (72 hours) of collection.
2. Draw and package specimen as close to shipping time as possible.

Necessary Information
The following information is required:
1. Patient’s fusion type (p210, p190, p205 or p230)
2. Pertinent clinical history

Specimen Required
Submit only 1 of the following specimens:

Preferred:
Specimen Type: Whole blood
Container/Tube: EDTA (lavender top)
Specimen Volume: 10 mL
Collection Instructions:
1. Invert several times to mix blood.
2. Send specimen in original tube.
3. Label specimen as blood.

Acceptable:
Specimen Type: Bone marrow
Container/Tube: EDTA (lavender top)
Specimen Volume: 4 mL
Collection Instructions:
1. Invert several times to mix bone marrow.
2. Send specimen in original tube.
3. Label specimen as bone marrow.

Specimen Minimum Volume
Blood: 4 mL
Bone Marrow: 2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated</td>
<td>5 days</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
</tbody>
</table>

Special Instructions
• Hematopathology Patient Information
• BCR/ABL1 Ordering Guide for Blood and Bone Marrow

Reference Values
An interpretive report will be provided.

Day(s) and Time(s) Performed
Monday through Friday

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
81170-ABL1 (ABL proto-oncogene 1, non-receptor tyrosine kinase)(eg, acquired imatinib tyrosine kinase inhibitor resistance), gene analysis, variants in the kinase domain

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>BAKDM</td>
<td>BCR/ABL1 Mutation, Sequencing</td>
<td>55135-8</td>
</tr>
</tbody>
</table>
Result ID | Test Result Name | Result LOINC Value
---|---|---
MP004 | Specimen Type | 31208-2
MOFF | BCRABL Fusion (210, 190, 205, 230) | 55135-8
19824 | Final Diagnosis: | 34574-4

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>Moderately to severely clotted</td>
</tr>
</tbody>
</table>

Method Name
Reverse Transcription-Polymerase Chain Reaction (RT-PCR) with Analysis of PCR Products by Sanger Sequencing

Secondary ID
89609

Forms
1. Hematopathology Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BADX</td>
<td>BCR/ABL1, RNA-Qual, Diagnostic</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

BWRS  Beckwith-Wiedemann Syndrome/Russell-Silver Syndrome, Molecular Analysis, Varies

Mayo Clinic Laboratories in Rochester

Useful For
Confirming a clinical diagnosis of Beckwith-Wiedemann syndrome (BWS) or Russell-Silver syndrome (RSS)

Prenatal diagnosis if there is a high suspicion of BWS/RSS based on ultrasound findings or in families at risk for BWS/RSS

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULFB</td>
<td>Fibroblast Culture for Genetic Test</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>CULAF</td>
<td>Amniotic Fluid Culture/ Genetic Test</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>MATCC</td>
<td>Maternal Cell Contamination, B</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm
If skin biopsy is received, fibroblast culture for genetic test will be added and charged separately.

For prenatal specimens only: If amniotic fluid (nonconfluent cultured cells) is received, amniotic fluid culture/genetic test will be added and charged separately. For any prenatal specimen that is received, maternal cell contamination studies will be added.

Special Instructions
- Molecular Genetics: Congenital Inherited Diseases Patient Information
- Informed Consent for Genetic Testing
- Informed Consent for Genetic Testing (Spanish)

Method Name
Methylation-Sensitive Multiplex Ligation-Dependent Probe Amplification (MLPA)

Reporting Name
BWS/RSS Molecular Analysis

Specimen Type
Varies

Shipping Instructions
Specimen preferred to arrive within 96 hours of draw.

Specimen Required

Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant.

Submit only 1 of the following specimens:

- Preferred:
  - Specimen Type: Blood
  - Container/Tube: Lavender top (EDTA) or yellow top (ACD)
  - Acceptable: Any anticoagulant
  - Specimen Volume: 3 mL
  - Collection Instructions:
    1. Invert several times to mix blood.
    2. Send specimen in original tube.
  - Specimen Stability Information: Ambient (preferred)/Refrigerated/Frozen

- Specimen Type: Cultured fibroblasts
  - Container/Tube: T-75 or T-25 flask
  - Specimen Volume: 1 Full T-75 or 2 full T-25 flasks
  - Specimen Stability Information: Ambient (preferred)/Refrigerated <24 hours

Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. All prenatal specimens must be accompanied by a maternal blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on the maternal specimen.

- Specimen Type: Amniotic fluid
  - Container/Tube: Amniotic fluid container
  - Specimen Volume: 20 mL
  - Specimen Stability Information: Refrigerated (preferred)/Ambient

Acceptable:
- Specimen Type: Confluent cultured cells
  - Container/Tube: T-25 flask
  - Specimen Volume: 2 flasks
  - Collection Instructions: Submit confluent cultured cells from another laboratory.
  - Specimen Stability Information: Ambient (preferred)/Refrigerated

- Specimen Type: Skin biopsy
  - Container/Tube: Sterile container with any standard cell culture media (eg, minimal essential media, RPMI 1640). The solution should be supplemented with 1% penicillin and streptomycin. Tubes can be supplied upon request (Eagle’s minimum essential medium with 1% penicillin and streptomycin [T115]).
  - Specimen Volume: 4-mm punch
  - Specimen Stability Information: Refrigerated (preferred)/Ambient
Specimen Minimum Volume
Blood: 1 mL/Amniotic Fluid: 10 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Varies</td>
<td>Varies</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Reference Values
An interpretive report will be provided.

Day(s) and Time(s) Performed
Monday; 10 a.m.

Specimens received Monday through Thursday will be run on the following Monday. Specimens received Friday through Sunday will be set up a week from the following Monday.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
81401 H19 (imprinted maternally expressed transcript [non-protein coding]) (eg, Beckwith-Wiedemann syndrome), methylation analysis
81401 KCNQ1OT1 (KCNQ1 overlapping transcript 1 [non-protein coding]) (eg, Beckwith-Wiedemann syndrome) methylation analysis

Fibroblast Culture for Genetic Test
88233-Tissue culture, skin or solid tissue biopsy (if appropriate)
88240-Cryopreservation (if appropriate)

Amniotic Fluid Culture/Genetic Test
88235-Tissue culture for amniotic fluid (if appropriate)
88240-Cryopreservation (if appropriate)

Maternal Cell Contamination, B
81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>LOINC Value</th>
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<tbody>
<tr>
<td>BWRS</td>
<td>BWS/RSS Molecular Analysis</td>
<td>In Process</td>
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<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
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<td>52845</td>
<td>Result Summary</td>
<td>50397-9</td>
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<td>52846</td>
<td>Result</td>
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<td>52847</td>
<td>Interpretation</td>
<td>69047-9</td>
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<td>52848</td>
<td>Reason for Referral</td>
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<td>52849</td>
<td>Specimen</td>
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<td>52850</td>
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<tr>
<td>52851</td>
<td>Released By</td>
<td>18771-6</td>
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Forms
1. New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   -Informed Consent for Genetic Testing (T576)
   -2. Molecular Genetics: Congenital Inherited Diseases Patient Information (T521) in Special Instructions

BEECH  Beech Tree IgE
Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48520

BEEF  Beef IgE
Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48525
**BEETS  Beets IgE**

Contracted Reference Lab

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
68422

**Container**
Serum gel or red top tube

---

**QBEN  Benadryl (Diphenhydramine), Quantitative**

LabCorp

**Collection Container**
Red

**Other Acceptable Specimen Types**
Heparinized plasma

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
0.6 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 3 days, Refrigerated: 2 weeks

**Methodology**
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

**CPT Code**
80375

---

**EMR Interface Order Code**
13075

**BBENZ  Benzene, Occupational Exposure, Blood**

Medtox Laboratories, Inc.

**Reporting Name**
Benzene, Blood

**Specimen Type**
WB Sodium Heparin

**Specimen Required**
Draw blood in a green-top (sodium heparin) tube(s) and send 20 mL in two tubes of sodium heparin whole blood refrigerated. Blood should be drawn at end of shift. Tubes should be filled to prevent loss of volatile compound into headspace.

**Specimen Minimum Volume**
2.5 mL (in two tubes)

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>WB Sodium Heparin</td>
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<td>14 days</td>
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<tr>
<td></td>
<td>(preferred)</td>
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<tr>
<td></td>
<td>Frozen</td>
<td>365</td>
<td>days</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis  NA
- Lipemia    NA
- Icterus    NA
- Other      NA

**Reference Values**

Units:  mg/L

Normal (unexposed population):
None detected

Exposed (end-of-shift):
Blood benzene concentrations of greater than 0.1 mg/L correlate with exposure to greater than 10 ppm benzene in air.

Toxic:
Blood benzene concentrations greater than 0.90 mg/L have been observed in fatal cases of benzene exposure.

**Day(s) and Time(s) Performed**
Monday through Sunday

**CPT Code Information**
84600

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tr>
<td>FBEN</td>
<td>Benzene, Blood</td>
<td>9330-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1153</td>
<td>Benzene</td>
<td>9330-2</td>
</tr>
</tbody>
</table>

**Method Name**
Headspace Gas Chromatography/Flame Ionization Detection (GC-FID)
BENZO  Benzodiazepines, Blood, Screen

Collection Container
Red
Serum EDTA plasma also acceptable

Special Handling Instructions
Serum/EDTA plasma should be separated from the cells within 2 hours of collection.

Specimen Volume
3 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Methodology
Liquid chromatography/tandem mass spectrometry (LC/MS-MS)

CPT Code
80347/G0480

LOINC Code
46976-7

EMR Interface Order Code
03825

UBENZO  Benzodiazepines, Urine Screen with Confirmation

Baystate Reference Laboratories

Additional Information
Confirmatory testing performed at an additional charge

Reflex Tests
QBENZ (Benzodiazepines Confirmation, Urine)

Collection Container
Urine
Random Urine

Specimen Volume
20 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Screen: Kinetic interaction of microparticles in a solution (KIMS)

Days and Times Performed
Screening test performed daily

Turnaround Time
24 hours

Reference Ranges
None detected

CPT Code
80307

LOINC Code
3390-2

EMR Interface Order Code
11511

QSBENZ  Benzodiazepines with Conf, Oral Fluid

Contracted Reference Lab

Reflex Tests
If positive, will reflex to confirmations at an additional charge

Collection Container
Oral-Eze container
Oral fluid
**Specimen Volume**
3 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 72 hr Refrigerated: 7 days Frozen: 30 days with swab removed

**Reasons for Rejection**
Not submitted in Oral-Eze device, no swab (unless frozen)

**Days and Times Performed**
Daily

**Turnaround Time**
4 days

**CPT Code**
80307

**EMR Interface Order Code**
71049

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

**BMC  Benztropine (Cogentin), Serum**

*Medtox Laboratories, Inc.*

**Additional Test Codes**
EMR Interface Order Code: 03850

**Reporting Name**
Benztropine (Cogentin)

**Specimen Type**
Varies

**Specimen Required**
Submit only 1 of the following specimens:

**Plasma**
Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial.

**Serum**
Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**
0.3 mL

---

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen (preferred)</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th></th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td></td>
</tr>
<tr>
<td>Lipemia</td>
<td></td>
</tr>
<tr>
<td>Icterus</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
Reference Range: 5.0 - 25.0 ng/mL

**Day(s) and Time(s) Performed**
Monday through Sunday

**CPT Code Information**
80375

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBENZ</td>
<td>Benztropine (Cogentin)</td>
<td>9384-9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1134</td>
<td>Benztropine (Cogentin)</td>
<td>9384-9</td>
</tr>
</tbody>
</table>

**Method Name**
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

**BERM  Bermuda Grass IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48530
BGLUCR  Beta Glucuronidase, WBC

Jefferson Medical College Lysosomal Diseases Testing Laboratory

Additional Information
A clinical and/or family history of the patient MUST accompany the sample

Collection Container
Green

Whole blood

Special Handling Instructions
Collect blood Monday - Thursday, excluding holidays. Specimen must arrive in the Chemistry laboratory before 2:00 PM

Specimen Volume
6 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Room temperature

Specimen Stability
Room temperature

Reasons for Rejection
Specimen frozen or centrifuged. Specimen not received within 24 hours of collection.

CPT Code
83080

EMR Interface Order Code
14835

BOH  Beta Hydroxybutyrate

Baystate Reference Laboratories

Collection Container
Serum gel, green hep,
Serum, or heperinized serum, edta plasma acceptable

Specimen Volume
1.0 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Spectrophotometric

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges
Female and Male: 0.0 - 0.27

Units of Measure
mmol/L

CPT Code
82010

EMR Interface Order Code
03020

BHEXA  Beta Hexosaminidase A, WBC

Jefferson Medical College Lysosomal Diseases Testing Laboratory

Additional Information
A clinical and/or family history of the patient MUST accompany the sample

Collection Container
Green

Whole blood

Special Handling Instructions
Collect blood Monday - Thursday, excluding holidays. Specimen must arrive in the Chemistry laboratory before 2:00 PM

Specimen Volume
6 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Room temperature

Specimen Stability
Room temperature

Reasons for Rejection
Specimen frozen or centrifuged. Specimen not received in lab within 24 hours of collection.

CPT Code
82657

EMR Interface Order Code
14810

BMANO  Beta Mannosidase, WBC

Jefferson Medical College Lysosomal Diseases Testing Laboratory

Additional Information
A clinical and/or family history of the patient MUST accompany the sample

Collection Container
Green

Whole blood

Special Handling Instructions
Collect blood Monday - Thursday, excluding holidays. Specimen must arrive in the Chemistry laboratory before 2:00 PM

Specimen Volume
6 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Room temperature

Specimen Stability
Room temperature

Reasons for Rejection
Specimen frozen or centrifuged. Specimen not received in lab within 24 hours of collection.
Specimen Stability
Room temperature

Reasons for Rejection
Specimen frozen or centrifuged. Specimen not received in the lab within 24 hours of collection.

CPT Code
82657

EMR Interface Order Code
14885

**B2GP1 Beta-2 Glycoprotein 1 Antibodies, IgG and IgM, Serum**

*Mayo Clinic Laboratories in Rochester*

**Useful For**
Evaluation of patients with suspected antiphospholipid syndrome by identification of beta-2 glycoprotein 1 (beta-2 GP1) IgG and IgM antibodies

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>GB2GP</td>
<td>Beta 2 GP1 Ab IgG, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>MB2GP</td>
<td>Beta 2 GP1 Ab IgM, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Reporting Name**
Beta 2 GP1 Ab, IgM/IgG, S

**Specimen Type**
Serum

**Specimen Required**

**Container/Tube:**
- **Preferred:** Serum gel
- **Acceptable:** Red top

**Specimen Volume:**
0.5 mL

**Specimen Minimum Volume**
0.4 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis | Reject
- Gross lipemia  | Reject
- Gross icterus  | OK

**Reference Values**
- <15.0 U/mL (negative)
- 15.0-39.9 U/mL (weakly positive)
- 40.0-79.9 U/mL (positive)
- ≥80.0 U/mL (strongly positive)
Results are expressed in arbitrary units and apply to IgG and IgM values.
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday; 8 a.m.

**CPT Code Information**
86146 x 2

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2GMG</td>
<td>Beta 2 GP1 Ab, IgG/IgM, S</td>
<td>In Process</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GB2GP</td>
<td>Beta 2 GP1 Ab IgG, S</td>
<td>44448-9</td>
</tr>
<tr>
<td>MB2GP</td>
<td>Beta 2 GP1 Ab IgM, S</td>
<td>44449-7</td>
</tr>
</tbody>
</table>

**Method Name**
Enzyme-Linked Immunosorbent Assay (ELISA)

**Forms**
If not ordering electronically, complete, print, and send a Coagulation Test Request (T753) with the specimen.

**Secondary ID**
62926

**Test Classification**
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

---

**B2MU Beta-2 Microglobulin (B2M), Random, Urine**

*Mayo Clinic Laboratories in Rochester*

**Specimen Required**

**Supplies:** Urine Tubes, 5 mL

**Container/Tube:** Plastic, urine tube

**Specimen Volume:** 3 mL

**Collection Instructions:**
1. Patient should empty bladder.
2. Have patient drink at least 0.5 liters of water.
3. Within 1 hour, collect a random urine specimen.
4. Add 1 M NaOH as preservative to the collection. This preservative is intended to achieve a pH of between approximately 6 and 8.

**Secondary ID**
602026

**Useful For**
Evaluation of renal tubular damage

**Method Name**
Automated Chemiluminescent Immunometric Assay

**Reporting Name**
Beta-2 Microglobulin, U

**Specimen Type**
Urine

**Specimen Minimum Volume**
1 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>48 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

Specimen with pH <6 | Reject

Reference Values

≤300 mcg/L

Day(s) and Time(s) Performed

Monday through Friday; 5 a.m.-3pm., Saturday; 6 a.m.-3pm

Test Classification

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

82232

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>B2MU</td>
<td>Beta-2 Microglobulin, U</td>
<td>1953-9</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2MU</td>
<td>Beta-2 Microglobulin, U</td>
<td>1953-9</td>
</tr>
</tbody>
</table>

Forms

If not ordering electronically, complete, print, and send a Renal Diagnostics Test Request (T830) with the specimen.

**BTRANS  Beta-2 Transferrin: Detection of Spinal Fluid in Other Body Fluid**

_Mayo Clinic Laboratories in Rochester_

Additional Test Codes

EMR Interface Order Code: 09485

Reporting Name

Beta-2 Transferrin, BF

Useful For

Detection of spinal fluid in body fluids, such as ear or nasal fluid

Specimen Type

Body Fluid

Additional Testing Requirements

If specimens are collected from multiple sites on the body (ie, left and right), each specimen must be sent under a separate order.

Necessary Information

Indicate specimen source. Include whether the source is from the right or left side of the body, if applicable.

Specimen Required

Specimen Type: Body fluid

Sources: Nasal, otic, wound, etc

Container/Tube:

Preferred: Sterile container, syringe, test tube, or microtube

Acceptable: Plain cotton swab or gauze

Specimen Volume: 0.5 mL

Collection Instructions:

1. If submitting a syringe, remove needle. Add cap to end of syringe.
2. If direct collection is not feasible, specimen may be collected using a plain cotton swab or gauze.
3. If gauze is used to collect specimen, circle area on the gauze where specimen was collected.
4. Place cotton swab or gauze in as small a container as possible (eg, plain test tube or collection container).
5. Do not collect specimen with a culture swab.
6. Do not add any liquid to the swab or gauze.

Additional Information:

1. Samples collected from above the shoulders risk salivary contamination, which can degrade the beta-2 transferrin protein. These samples should be frozen immediately following collection and kept frozen until testing is performed.
2. Although results may be obtainable on smaller specimens (perhaps as little as 0.05 mL, depending on the protein concentrations and percentage of spinal fluid in the specimen), reliable results are best obtained with an adequate specimen volume.
3. Samples collected with additives such as microbiology media (eg, Stuart or Amies liquid medium) or TransFix/EDTA (used for analyses in flow cytometry) yield uninterpretable results and will be rejected.

Specimen Minimum Volume

0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Fluid</td>
<td>Frozen (preferred)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

Negative, no beta-2 transferrin (spinal fluid) detected

Day(s) and Time(s) Performed

Monday through Saturday; 1 p.m.

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

86335

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BETA2</td>
<td>Beta-2 Transferrin, BF</td>
<td>13876-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>80351</td>
<td>Beta-2 Transferrin, BF</td>
<td>13876-8</td>
</tr>
</tbody>
</table>

Method Name

Electrophoresis/Immuno fixation

Secondary ID

80351
B2M  Beta-2-Microglobulin, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Beta-2-Microglobulin, S

Useful For
Prognosis assessment of multiple myeloma
Evaluation of renal tubular disorders

Testing Algorithm
See Laboratory Screening Tests for Suspected Multiple Myeloma in Special Instructions.

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top

Specimen Volume: 1 mL

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions

- Laboratory Screening Tests for Suspected Multiple Myeloma

Reference Values
1.21-2.70 mcg/mL

Day(s) and Time(s) Performed
Monday through Saturday; 3 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
82232

LOINC Code Information
1952-1

Method Name
Nephelometry

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Renal Diagnostics Test Request (T830)

Secondary ID
9234

UB2M  Beta-2-Microglobulin, Urine

Quest Diagnostics

Additional Information
Patient should void bladder, then drink at least 500 mL water. Collect urine within 1 hour. pH should be adjusted to 6-8 with NaOH.

Collection Container
Urine container (sterile)
Random urine

Specimen Volume
2 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
7 days

Reasons for Rejection
Received at room temperature

Methodology
Nephelometry

Reference Ranges
Adults: ≤ 0.23 mg/L

CPT Code
82232

LOINC Code
1953-9

EMR Interface Order Code
45860

CTELO  Beta-CrossLaps, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 05775

Reporting Name
Beta-CrossLaps (B-CTx), S

Useful For
Monitoring antiresorptive therapies (eg, bisphosphonates and hormone replacement therapy) in postmenopausal women treated for osteoporosis and individuals diagnosed with osteopenia
An adjunct in the diagnosis of medical conditions associated with increased bone turnover
Specimen Type
Serum

Specimen Required

Patient Preparation:
1. For 12 hours before specimen collection do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.
2. Patient should be fasting.

Supplies: Aliquot Tube, 5 mL (T465)
Collection Container/Tube:
Preferred: Red top
Acceptable: Serum gel
Submission Container/Tube: Plastic vial, 5 mL
Specimen Volume: 1 mL
Collection Instructions:
1. Collect specimen prior to 10 a.m.
2. Centrifuge and aliquot serum into plastic vial.

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>90 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Males
<18 years: not established
18-30 years: 120-946 pg/mL
31-50 years: 93-630 pg/mL
51-70 years: 35-836 pg/mL
>70 years: not established

Females
<18 years: not established
Premenopausal: 25-573 pg/mL
Postmenopausal: 104-1,008 pg/mL

Day(s) and Time(s) Performed
Monday through Friday; 5 a.m.-12 a.m., Saturday; 6 a.m.-6 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
82523

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>CTX</td>
<td>Beta-CrossLaps (B-CTx), S</td>
<td>41171-0</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTX</td>
<td>Beta-CrossLaps (B-CTx), S</td>
<td>41171-0</td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
</tbody>
</table>

Method Name
Electrochemiluminescence Immunoassay (ECLIA)
Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82657

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>BGA</td>
<td>Beta-Galactosidase, Leukocytes</td>
<td>24061-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8486</td>
<td>Beta-Galactosidase, Leukocytes</td>
<td>24061-4</td>
</tr>
<tr>
<td>34979</td>
<td>Interpretation (BGA)</td>
<td>59462-2</td>
</tr>
<tr>
<td>34907</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis | Reject

Method Name
Fluorometric

Forms
1. New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. Biochemical Genetics Patient Information (T602) in Special Instructions.
3. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

Secondary ID
8486

Testing Algorithm
See Lysosomal Storage Disorders Diagnostic Algorithm, Part 1 in Special Instructions.

BLACTO Beta-Lactoglobulin IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86008

EMR Interface Order Code
48535

CO2 Bicarbonate

Baystate Reference Laboratories

Collection Container
Serum gel
Serum, Sodium and Heparinized plasma also acceptable.

Specimen Volume
1.0 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Reasons for Rejection
Serum/plasma not separated from cells within 6 hours of collection

Methodology
Spectrophotometric

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges

<table>
<thead>
<tr>
<th>BICARBONATE (CO2)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
<td>22 - 29</td>
<td>22 - 29</td>
<td>mmol/L</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>22 - 29</td>
<td>22 - 29</td>
<td>mmol/L</td>
</tr>
</tbody>
</table>

Critical Results
<10 mmol/L or >40 mmol/L

CPT Code
82374

LOINC Code
1963-8

EMR Interface Order Code
04525

FCO2 Bicarbonate, Fluid

Baystate Reference Laboratories

Collection Container
Fluid
Identify source of body fluid

Specimen Volume
1 mL
Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Spectrophotometric

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mmol/L

CPT Code
82374

EMR Interface Order Code
12725

FRBILA  Bile Acids, Fractionated and Total, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 03905

Advisory Information

This bile acid test is useful in diagnosing intrahepatic cholestasis of pregnancy.

Do not use this assay for the diagnosis of peroxisomal biogenesis disorders (see BAIPD / Bile Acids for Peroxisomal Disorders, Serum) or inborn errors of bile acid metabolism.

Specimen Required

Patient Preparation: Patient must be fasting for 12-14 hours.

Collection Container/Tube:
Preferred: Red top
Acceptable: Serum gel
Submission Container/Tube: Plastic vial
Specimen Volume: 0.5 mL

Forms
If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Client Test Request (T728) with the specimen.

Useful For
Measuring tauro- and glycol-conjugated and unconjugated bile acid constituents in serum

Monitoring patients receiving bile acid therapy, such as cholic acid, deoxycholic acid, or ursodeoxycholic acid

Aiding in the evaluation of liver function; evaluation of liver function changes before the formation of more advanced clinical signs of illness such as icterus

Determining hepatic dysfunction as a result of chemical and environmental injury

Indicating hepatic histological improvement in chronic hepatitis C patients responding to interferon treatment

Indicating intrahepatic cholestasis of pregnancy

Testing Algorithm
See Ordering Guide: Bile Acid-Associated Tests in Special Instructions.

Special Instructions
- Ordering Guide: Bile Acid-Associated Tests

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Reporting Name
Bile Acids, Fractionated and Total, Serum

Specimen Type
Serum

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature (preferred)</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>90 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>90 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>90 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: OK
- Gross lipemia: OK

Reference Values

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Normal (nmol/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cholic Acid</td>
<td>≤5.00</td>
</tr>
<tr>
<td>Total Chenodeoxycholic Acid</td>
<td>≤6.00</td>
</tr>
<tr>
<td>Total Deoxycholic Acid</td>
<td>≤6.00</td>
</tr>
<tr>
<td>Total Ursodeoxycholic Acid</td>
<td>≤2.00</td>
</tr>
<tr>
<td>Total Bile Acids</td>
<td>≤19.00</td>
</tr>
</tbody>
</table>

Day(s) and Time(s) Performed
Monday through Friday; 8 a.m.

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82542
**BILACD  Bile Acids, Total, Serum**

*Mayo Clinic Laboratories in Rochester*

### Additional Test Codes
EmR Interface Order Code: 03940

### Secondary ID
84689

### Useful For
- An aid in the evaluation of liver function
- Evaluation of liver function changes before the formation of more advanced clinical signs of illness such as icterus
- An aid in the determination of hepatic dysfunction as a result of chemical and environmental injury
- An indicator of hepatic histological improvement in chronic hepatitis C patients responding to interferon treatment
- An indicator for intrahepatic cholestasis of pregnancy

### Method Name
Enzymatic

### Reporting Name
Bile Acids, Total, S

### Specimen Type
Serum

### Advisory Information
This test is for evaluation of hepatobiliary dysfunction.

- For evaluation of bowel dysfunction, order BA48F / Bile Acids, Bowel Dysfunction, 48 Hour, Feces.
- For evaluation of patients treated with urso or cholate, order BAIFS / Bile Acids, Fractionated and Total, Serum.
- For evaluation of inborn errors of metabolism, order BAFIAPD / Bile Acids for Peroxisomal Disorders, Serum.

### Specimen Required

**Patient Preparation:** 12-hour minimum fasting is required.

**Container/Tube:**
- Preferred: Serum gel
- Acceptable: Red top

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 0.5 mL

**Collection Instructions:**
1. Serum gel tubes should be centrifuged within 2 hours of collection.

### Specimen Minimum Volume
0.25 mL

### Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

### Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: OK
- Gross icterus: Reject

### Reference Values
≤10 mcmol/L

Reference interval applies to fasting total bile acid concentrations.

### Day(s) and Time(s) Performed
Monday through Sunday; Continuously

### Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

### CPT Code Information
82239

### LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAFS</td>
<td>Bile Acids, Fractionated and Tot, S</td>
<td>43130-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>35796</td>
<td>Total Cholic acid</td>
<td>30518-5</td>
</tr>
<tr>
<td>35797</td>
<td>Total Chenodeoxycholic acid</td>
<td>30519-3</td>
</tr>
<tr>
<td>35798</td>
<td>Total Deoxycholic acid</td>
<td>30520-1</td>
</tr>
<tr>
<td>35799</td>
<td>Total Ursodeoxycholic acid</td>
<td>55159-8</td>
</tr>
<tr>
<td>35801</td>
<td>Total bile acids</td>
<td>14628-2</td>
</tr>
</tbody>
</table>

### Special Instructions
• Ordering Guide: Bile Acid-Associated Tests

### Testing Algorithm
See Ordering Guide: Bile Acid-Associated Tests in Special Instructions.

### Forms
If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Client Test Request (T728) with the specimen.

---

**AMNIO  Bilirubin, Amniotic Fluid**

*Mayo Clinic Laboratories in Rochester*

### Additional Test Codes
EmR Interface Order Code: 03575

### Reporting Name
Bilirubin, AF

### Useful For
Evaluation of Rh disease, ie, hemolytic disease of the fetus

Monitoring disease progression to assess need for fetal transfusion.
**Specimen Type**
Amniotic Fld

**Shipping Instructions**
Ship specimen in amber vial to protect from light.

**Necessary Information**
Gestational age at time of amniocentesis is required.

**Specimen Required**

**Supplies:** Amber Frosted Tube, 5 mL (T192)

**Collection Container/Tube:** Amniotic fluid container

**Submission Container/Tube:** Opaque, amber vial (T192)

**Specimen Volume:** 3.5 mL

**Collection Instructions:**
1. Centrifuge, separate supernatant, and send both supernatant and sediment.
2. Label specimens as sediment and supernatant.

**Specimen Minimum Volume**
1.7 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amniotic Fld</td>
<td>Frozen</td>
<td>70 days</td>
<td>LIGHT PROTECTED</td>
</tr>
</tbody>
</table>

**Special Instructions**
- Interpretation of Amniotic Fluid Bilirubin Results (Delta OD 450)

**Reference Values**
Interpretation of fetal risk is dependent upon gestational age. Refer to either the Queenan Curve (gestational age <27 weeks) or the Liley Chart (gestational age >27 weeks) listed under Interpretation of Amniotic Fluid Bilirubin Results (Delta OD 450) in Special Instructions.

**Day(s) and Time(s) Performed**
Monday through Saturday; Continuously

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
82247

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFBIL</td>
<td>Bilirubin, AF</td>
<td>12476-8</td>
</tr>
</tbody>
</table>

**Result ID**

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMBL</td>
<td>Amniotic Fluid</td>
<td>12476-8</td>
</tr>
<tr>
<td>AFCMT</td>
<td>Other Information</td>
<td>48767-8</td>
</tr>
<tr>
<td>GSTN</td>
<td>Gestation</td>
<td>18185-9</td>
</tr>
</tbody>
</table>

**Reject Due To**
Gross icterus OK
Methodology
Spectrophotometric

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mg/dL

CPT Code
82247

EMR Interface Order Code
13455

TDBILI  Bilirubin, Total and Direct

Collection Container
Serum gel

Special Handling Instructions
Protect from light

Specimen Volume
1.0 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Spectrophotometric

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges

<table>
<thead>
<tr>
<th>TOTAL BILIRUBIN (TBIL)</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1 day</td>
<td>0 - 8.0</td>
<td>0 - 8.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>2 - 3 days</td>
<td>0 - 14.0</td>
<td>0 - 14.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>4 - 5 days</td>
<td>0 - 17.0</td>
<td>0 - 17.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>6 - 30 days</td>
<td>0 - 1.0</td>
<td>0 - 1.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>&gt;30 days</td>
<td>0 - 1.2</td>
<td>0 - 1.2</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIRECT BILIRUBIN (TDBILF)</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0 - 0.3</td>
<td>0 - 0.3</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

CPT Code
82248 and 82247

LOINC Code
34543-9

EMR Interface Order Code
11625

UBILE  Bilirubin, Urine

Collection Container
Tiger Top tube, Yellow top tube, urine cup

Specimen Volume
8 mL

Minimum Specimen Volume
3 mL

Transport Temperature
Tiger Top Tube: Room temperature, Yellow top tube, urine cup: refrigerated

Specimen Stability
24 hrs

Reasons for Rejection
Specimen frozen, >24 hours old, fecal contamination, grossly bloody urine, <3.0 mL

Methodology
IRIS IQ 200/Velocity

Days and Times Performed
24 hours a day, 7 days a week

Turnaround Time
STAT: 1 hour, Routine: 4 hours

Reference Ranges
Negative

CPT Code
81005

LOINC Code
5770-3

EMR Interface Order Code
63875

TBIL  Bilirubin, Total

Collection Container
Serum gel

Special Handling Instructions
Protect from light

Specimen Volume
1.0 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate
Specimen Stability
Refrigerated: 7 days

Methodology
Spectrophotometric

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges

<table>
<thead>
<tr>
<th>TOTAL BILIRUBIN (TBIL)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 - 1 day</td>
<td>0 - 8.0</td>
<td>0 - 8.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td>2 - 3 days</td>
<td>0 - 14.0</td>
<td>0 - 14.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td>4 - 5 days</td>
<td>0 - 17.0</td>
<td>0 - 17.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td>6 - 30 days</td>
<td>0 - 1.0</td>
<td>0 - 1.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td>&gt;30 days</td>
<td>0 - 1.2</td>
<td>0 - 1.2</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

Critical Results
0 - 1 day: >15.0 mg/dL
2 - 3 days: >16.0 mg/dL
4 - 5 days: >17.0 mg/dL
6 - 30 days: >1.50 mg/dL

Units of Measure
mg/dL

CPT Code
82247

LOINC Code
1975-2

EMR Interface Order Code
03950

CHERRY Bing Cherry IgE

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

BIOT Biotin (Vitamin B7, Vitamin H)

Collection Container
Red top tube
EDTA also acceptable
Gel tube not acceptable

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Frozen

Specimen Stability
Room temp: 3 days
Refrigerated: 3 days
Frozen: 14 days

CPT Code
84591

EMR Interface Order Code
14724

BIOSCR Biotinidase, Serum

Biotinidase, S

Useful For
Preferred test for diagnosing biotinidase deficiency
Follow-up testing for certain organic acidurias

Specimen Type
Serum

Minimum Specimen Volume
0.5 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>5 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Informed Consent for Genetic Testing
- Biochemical Genetics Patient Information
- Informed Consent for Genetic Testing (Spanish)

Reference Values
3.5-13.8 U/L

Day(s) and Time(s) Performed
Monday, Thursday; set up at 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82261

LOINC Code Information

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>50660</td>
<td>Specimen</td>
<td>31208-2</td>
</tr>
<tr>
<td>50661</td>
<td>Specimen ID</td>
<td>57723-9</td>
</tr>
<tr>
<td>50662</td>
<td>Source</td>
<td>31208-2</td>
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<tr>
<td>50663</td>
<td>Order Date</td>
<td>82785-7</td>
</tr>
<tr>
<td>50664</td>
<td>Reason For Referral</td>
<td>42349-1</td>
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<tr>
<td>50665</td>
<td>Method</td>
<td>49549-9</td>
</tr>
<tr>
<td>50666</td>
<td>Biotinidase, S</td>
<td>1982-8</td>
</tr>
<tr>
<td>50667</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
<tr>
<td>50668</td>
<td>Amendment</td>
<td>48767-8</td>
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<tr>
<td>50669</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
<tr>
<td>50670</td>
<td>Release Date</td>
<td>82772-5</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Colorimetric

Forms
1. **New York Clients-Informed consent is required.** Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. Biochemical Genetics Patient Information (T602) in Special Instructions.
3. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

BIRCH Birch Tree IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmuunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48540

BIS Bismuth, Blood

Mayo Clinic Laboratories in Rochester

Useful For
Determining bismuth toxicity

Special Instructions
- Trace Metals Analysis Specimen Collection and Transport

Method Name
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

Reporting Name
Bismuth, B

Specimen Type
Whole blood

Specimen Required

Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Supplies: Metal Free B-D Tube (EDTA), 6 mL (T183)

Collection Container/Tube:
Preferred: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183)

Specimen Volume: 0.8 mL

Collection Instructions:
1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.
2. Send specimen in original tube.
Specimen Minimum Volume
0.25 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis  OK
- Gross lipemia    OK
- Gross icterus    OK

Reference Values
- <1 ng/mL (unexposed)
- 4-30 ng/mL (therapeutic)

Day(s) and Time(s) Performed
Wednesday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83018

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>BIWB</td>
<td>Bismuth, B</td>
<td>8161-2</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>64274</td>
<td>Bismuth, B</td>
<td>8161-2</td>
</tr>
</tbody>
</table>

BKPPCR  BKV, PCR (Viral Load), Plasma
Baystate Reference Laboratories

Collection Container
Lavender top (EDTA)
Plasma

Special Handling Instructions
Whole blood must be spun and the plasma removed within 24 hours of draw.

Specimen Volume
4 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
4° C up to 5 days, -20° C: 6 weeks

Reasons for Rejection
Excessive delay in transport, specimen not processed in time, shared specimen; wrong tube, mislabeled specimens, insufficient quantity

Methodology
Real-time PCR with Thermal Melt analysis

BLPEP  Black/White Pepper IgE
Contracted Reference Lab

Collection Container
Serum gel or red top tube
**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
68406

**Container**
Serum gel or red top tube

---

**BLACKB  Blackberry IgE**

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
68406

**Container**
Serum gel or red top tube

---

**BLASRL  Blastomyces Antibody**

**LabCorp**

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
0.6 mL (min 0.3 mL)

**LOINC Code**
22122-7

**EMR Interface Order Code**
51150

---

**BLMUSL  Blue Mussel IgE**

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

---

**UROVY  Bladder Cancer FISH (UroVysion)**

**LabCorp**

**Additional Information**
Collection kits available by contacting BRL at 413-322-4000
Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48545

BLUBRY  Blueberry IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48545

Body Fluid Cytology  Body Fluid Cytology

Baystate Reference Laboratories

Collection Container
Green top (heparin), or any clean leak proof container with appropriate amount of heparin added (3 units of heparin/mL fluid) prior to collection.

Fresh Body Fluid

Special Handling Instructions
Gently agitate the flask as fluid is collected. Specimens collected in heparinized Vacutainer tubes should be inverted several times after collection. Label with patient’s ID label when available, or with the patient’s first and last name, medical record number (inpatient) or date of birth (outpatient), name of attending physician, and source of specimen. Deliver to Cytology Laboratory.

Minimum Specimen Volume
5 mL

Transport Temperature
Room Temperature; Refrigerate if unable to transport to Cytology Lab immediately.

Days and Times Performed
Monday - Friday, 7 am - 5 pm

Turnaround Time
24 - 72 hours. Cases requiring special stains will have more than a 24 hour turnaround time. For same day processing specimen must be received by 2 pm

Reference Ranges
Negative to abnormal cells diagnostic of malignant neoplasm.

EMR Interface Order Code
20820

BALKP  Bone Alkaline Phosphatase

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Serum

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 14 days

Reasons for Rejection
Gross hemolysis

CPT Code
84080

EMR Interface Order Code
4740

BM  Bone Marrow Aspirate and Biopsy

Baystate Reference Laboratories

Collection Container
Syringe, Lavender(EDTA)

Bone marrow

Special Handling Instructions
Deliver all specimens to Hematology ASAP after collection

Specimen Volume
10 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Ambient temperature

Days and Times Performed
24 hours a day, 7 days a week

CPT Code
85095, 85097, 88305

LOINC Code
10355-6
BPDNA  Bordetella Pertussis & Parapertussis PCR

**LabCorp**

**Collection Container**
Other
Nasopharyngeal flocked swab in M4RT transport

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
1 ml

**Transport Temperature**
Refrigerate

**Specimen Stability**
7 days

**Reasons for Rejection**
Specimen not collected using an NP flocked swab, Specimen not received in M4RT transport

**Reference Ranges**
Negative

**LOINC Code**
43913-3

**EMR Interface Order Code**
32200

PERTAB  Bordetella Pertussis Antibody, IgG

**Mass. Department of Public Health**

**Important Note**
Must include symptoms and date of onset with test request

**Additional Information**
Testing referred to State Laboratory

**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
Serum

Red top

**Special Handling Instructions**
State submission form must accompany specimen. It is vitally important that patient demographics, symptoms, date of symptom onset, pertinent vaccines be completed on the specimen submission form. Cough duration should be 14-56 days prior to collection. Serum should only be collected from patients who are at least 11 years of age.

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
1 ml

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Gross hemolysis, specimens without complete and accurate submission forms, plasma specimens. Immunity testing for Pertussis is not available.

**Turnaround Time**
5 - 10 days

**Reference Ranges**
19 mcg/mL or less: Negative, no evidence of recent infection with Bordetella pertussis

**LOINC Code**
29674-9

**EMR Interface Order Code**
56425

UBAQ  Boric Acid, Urine, Quantitative

**LabCorp**

**Collection Container**
Urine

24 Hour urine

**Specimen Volume**
6 mL

**Minimum Specimen Volume**
2.7 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 30 days, Refrigerated: 30 days, Frozen 30 days

**Reasons for Rejection**
Avoid exposure to gadolinium-based contrast media for 48 hours prior to sample collection.

**Methodology**
Inductively Coupled Plasma/Optical Emission Spectrometry (ICP/OES)

**Turnaround Time**
4 - 10 days

**CPT Code**
83018

**LOINC Code**
5603-6

**EMR Interface Order Code**
04160

BOAC  Boron, Serum/Plasma

**NMS Labs**

**Additional Test Codes**
EMR Interface Order Code: 04150

**Reporting Name**
Boron
Specimen Type
Varies

Specimen Required
Submit only 1 of the following specimens:

Serum
Draw blood in a trace metal free royal blue-top, no additive tube(s). (Serum gel tube is not acceptable.) Spin down and send 2 mL serum in an acid washed plastic screw capped vial (MCL supply number T619), ship refrigerate in a plastic vial.
Note: Label specimen appropriately (serum)

Plasma
Draw blood in a trace metal free royal blue-top EDTA tube(s). (Plasma gel tube is not acceptable.) Spin down and send 2 mL plasma in an acid washed plastic screw capped vial (MCL supply number T619), ship refrigerate in a plastic vial.
Note: Label specimen appropriately (plasma)

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>30 days</td>
<td>Acid Washed Plastic (MML Supply T619)</td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>30 days</td>
<td>Acid Washed Plastic (MML Supply T619)</td>
</tr>
<tr>
<td>Frozen</td>
<td>30 days</td>
<td>Acid Washed Plastic (MML Supply T619)</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Reporting limit determined each analysis

Normally: Less than 100 mcg/L

Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information
83018

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOAC</td>
<td>Boron</td>
<td>5607-7</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
Z1308     | Boron           | 5607-7            |
Z1470     | Reporting Limit | 19147-8           |

Reject Due To
Hemolysis | NA |
Lipemia    | NA |
Icterus    | NA |
Other      | Glass container, Polymer gel separation tube (SST or PST) |

Method Name
Inductively Coupled Plasma/Optical Emission Spectrometry (ICP/OES)

---

BRAF  BRAF
Baystate Reference Laboratories

Additional Information
Pathology report must accompany specimen in order for testing to be performed. Specimen should have at least 15% Tumor cellularity.

Collection Container
2 H&E stained and 10 unstained PET slides
Paraffin embedded tissue

Specimen Volume
10 unstained/2 H&E

Transport Temperature
Room Temperature

Specimen Stability
30 days at room temperature

Reasons for Rejection
Mislabeled specimens, insufficient quantity of tumor cells

Methodology
Real-time PCR

Days and Times Performed
Tuesday and Thursday

Turnaround Time
10 days

CPT Code
81210

---

BRAZIL  Brazil Nut IgE
Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48550
CA2729  Breast Carcinoma-Associated Antigen, Serum

Useful For
FDA-approved cancer-associated antigen (CA 27.29) for serial testing in women with prior stage II or III breast cancer who are clinically free of disease

Predicting early recurrence of disease in women with treated carcinoma of the breast

Indicating that additional tests or procedures should be performed to confirm recurrence of breast cancer

Measurement of CA 27.29 is not useful to screen women for carcinoma of the breast.

Method Name
Chemiluminimetric Immunoassay

Reporting Name
Breast Carcinoma Assoc Ag(CA 27.29)

Specimen Type
Serum

Specimen Required

Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 0.5 mL

Collection Instructions:
1. Serum gel tubes should be centrifuged within 2 hours of collection and aliquoted prior to sending (aliquot does not need to be within 2 hours).
2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume
0.25 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>90 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>4 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
</tbody>
</table>

Reference Values
Males
≥18 years: ≤38.0 U/mL (use not defined)

Females
≥18 years: ≤38.0 U/mL

Reference values have not been established for patients who are <18 years of age.

Serum markers are not specific for malignancy, and values may vary by method.

Day(s) and Time(s) Performed
Monday through Friday; 6 a.m.-3 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions.

Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86300

LOINC Code Information

<table>
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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>C2729</td>
<td>Breast Carcinoma Assoc Ag(CA 27.29)</td>
<td>17842-6</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2729</td>
<td>Breast Carcinoma Assoc Ag(CA 27.29)</td>
<td>17842-6</td>
</tr>
</tbody>
</table>

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Oncology Test Request (T729)

BROCCO  Broccoli IgE

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days
BROME  Brome Grass IgE

- **Contracted Reference Lab**
- **Collection Container**
  - Serum gel or red top tube
- **Serum**
- **Specimen Volume**
  - For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
- **Minimum Specimen Volume**
  - 0.1 mL
- **Transport Temperature**
  - Refrigerated
- **Specimen Stability**
  - Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
- **Methodology**
  - ImmunoCAP
- **Turnaround Time**
  - 3-5 days

BRUCAB  Brucella Antibody

- **Mass. Department of Public Health**
- **Additional Information**
  - Testing referred to State Laboratory
- **Collection Container**
  - Serum gel
- **Serum**
- **Other Acceptable Specimen Types**
  - Red top
- **Special Handling Instructions**
  - State submission form must accompany specimen
- **Specimen Volume**
  - 1 mL
- **Minimum Specimen Volume**
  - 1 mL
- **Transport Temperature**
  - Refrigerated
- **Specimen Stability**
  - 7 days
- **Reasons for Rejection**
  - Specimens without complete and accurate submission forms

Brushings Cytology  Brushings Cytology

- **Baystate Reference Laboratories**
- **Collection Container**
  - Cytology fixative container (CytoLyt® solution)
  - Brushing of lesion area fixed in CytoLyt® solution
- **Special Handling Instructions**
  - Limitations: Allowing the brushes to dry before they are fixed will render them unsatisfactory for cytologic evaluation.
- **Transport Temperature**
  - Room Temperature
- **Specimen Stability**
  - Stable in proper fixative
- **Reasons for Rejection**
  - Improper fixation; air drying artifact; unlabeled container; failure to include pertinent history
- **Methodology**
  - Routine cytologic examination of ThinPrep preparations
- **Days and Times Performed**
  - Monday - Friday, 7:30 am - 5 pm
- **Turnaround Time**
  - 24 - 48 hours; for same day processing, specimens must be received by 2 pm
- **Reference Ranges**
  - Negative to abnormal cells consistent with malignant neoplasm

BCKWHT  Buckwheat IgE

- **Contracted Reference Lab**
- **Collection Container**
  - Serum gel or red top tube
- **Serum**
- **Specimen Volume**
  - For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
- **Minimum Specimen Volume**
  - 0.1 mL
- **Transport Temperature**
  - Refrigerated
- **Specimen Stability**
  - Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48570

BUDDRP  Budgerigar Droppings IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49045

BUN  BUN

Baystate Reference Laboratories

Collection Container
Serum gel, lav top or green top
Serum,

Other Acceptable Specimen Types
Heparinized plasma, or edta plasma

Specimen Volume
1.0 mL

Minimum Specimen Volume
0.1 mL, or 200 ul of whole blood

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Kinetic; UV, urease/GLDH

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1 year</td>
<td>4 - 19</td>
<td>4 - 19</td>
<td>mg/dL</td>
</tr>
<tr>
<td>2 - 18 years</td>
<td>5 - 18</td>
<td>5 - 18</td>
<td>mg/dL</td>
</tr>
<tr>
<td>19 - 60 years</td>
<td>6 - 20</td>
<td>6 - 20</td>
<td>mg/dL</td>
</tr>
<tr>
<td>61 years +</td>
<td>8 - 23</td>
<td>8 - 23</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

Critical Results

> 150 mg/dL

CPT Code
84520

LOINC Code
3094-0

EMR Interface Order Code
10125

QBUPNU  Buprenorphine and Naloxone, Urine

Contracted Reference Lab

Additional Information
Includes Buprenorphine, Norbuprenorphine, Naloxone

Urine

Specimen Volume
20 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Preserved samples

Methodology
Mass spectrometry

Days and Times Performed
Daily

Turnaround Time
2 days

Reference Ranges
< 2 ng/mL

CPT Code
80348, 80362 (G0480)

LOINC Code
3415-7, 49753-7

EMR Interface Order Code
70306
Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

Additional Information
Initial screen of the Buprenorphine drug class. If screen is positive, a confirmation will be performed at an additional charge.

Reflex Tests
If positive, test will reflex to confirmation at an additional charge

Urine

Specimen Volume
20 mL

Minimum Specimen Volume
7 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Preserved samples

Methodology
Screen: Immunoassay; Confirmation: Mass Spectrometry

Days and Times Performed
Daily

Turnaround Time
Screen: 2 days; Confirms: 3-5 days

Reference Ranges
< 5 ng/mL

CPT Code
80307 (if positive, confirm is 80348 (G0480))

LOINC Code
3414-0, 3415-7, 49753-7

EMR Interface Order Code
70226

UBUPHN  Buprenorphine, Urine, Screen

Baystate Reference Laboratories

Additional Information
Assay cutoff 5 ng/mL

Collection Container
Urine

Random Urine

Specimen Volume
10 mL

Minimum Specimen Volume
1.0 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Lateral flow chromatographic immunoassay

Days and Times Performed
Screening test performed daily

Turnaround Time
24 hours

Reference Ranges
None detected

CPT Code
80307

LOINC Code
3414-0, 3415-7, 49753-7

EMR Interface Order Code
60130

QBUP  Buprenorphine, QN, Urine

Contracted Reference Lab

Additional Information
Includes Buprenorphine and Norbuprenorphine

Urine

Specimen Volume
20 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerated
**BUPROP  Bupropion and Metabolite, Serum**

*NMS Labs*

**Specimen Required**

Specimen Type: Serum  
Container/Tube: Red-top  
Preferred: Red-top  
Specimen volume: 1 mL  
Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

**Secondary ID**  
75387

**Method Name**  
High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)

**Reporting Name**  
Bupropion and Metabolite, S

**Specimen Type**  
Serum Red

**Specimen Minimum Volume**  
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: Mild reject; Gross reject
- Lipemia: Mild OK; Gross OK
- Icterus: OK
- Other: Polymer gel separation tube (SST or PST)

**Reference Values**

Reporting Limit determined each analysis.  
Units: ng/mL

**Day(s) and Time(s) Performed**

Monday through Sunday

**CPT Code Information**

80338

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>FBUMT</td>
<td>Bupropion and Metabolite, S</td>
<td>Not Provided</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z3522</td>
<td>Bupropion</td>
<td>6706-6</td>
</tr>
<tr>
<td>Z3523</td>
<td>Hydroxybupropion</td>
<td>9418-5</td>
</tr>
</tbody>
</table>

**Collective Container**  
Sterile sealed container  
Biopsy of burn wound tissue

**Special Handling Instructions**

Contact Microbiology Dept at 413-322-4122 prior to submission.

**Specimen Volume**

1 gram of tissue

**Minimum Specimen Volume**

1 gram of tissue

**Transport Temperature**

Refrigerate

**Specimen Stability**

24 hours refrigerator

**Reasons for Rejection**

Inappropriate source of specimen. Excessive delays in transport will result in qualitative culture only

**Methodology**

Graim stain, identification and quantitative bacterial counts (colonies/gram of tissue) and susceptibility testing

**Days and Times Performed**

7 days/week

**Turnaround Time**

5 - 6 days

**Reference Ranges**

No growth after 5 days

**LOINC Code**

603-1

**EMR Interface Order Code**

55825

**CPEP  C-Peptide, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**

C-Peptide, S

**Useful For**

Diagnostic workup of hypoglycemia:  
- Diagnosis of factitious hypoglycemia due to surreptitious administration of insulin  
- Evaluation of possible insulinoma  
- Surrogate measure for the absence or presence of physiological suppressibility of endogenous insulin secretion during diagnostic insulin-induced hypoglycemia (C-peptide suppression test)  
Assessing insulin secretory reserve in selected diabetic patients (as listed below) who either have insulin autoantibodies or who are receiving insulin therapy:  
- Assessing residual endogenous insulin secretory reserve  
- Monitoring pancreatic and islet cell transplant function  
- Monitoring immunomodulatory therapy aimed at slowing progression of preclinical, or very early stage type 1 diabetes mellitus

**Specimen Type**

Serum

**Reflex Tests**

Additional charge for each isolate and susceptibility.

---

**BURNBX  Burn Wound Biopsy, Culture**

*Baystate Reference Laboratories*

**Reflex Tests**

- Additional charge for each isolate and susceptibility.
Specimen Required

Patient Preparation:
1. Patient should fast for 8 hours.
2. For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.

Supplies: Aliquot Tube, 5 mL (T465)

Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top

Submission Container/Tube: Plastic, 5 mL, aliquot tube

Specimen Volume: 0.5 mL

Collection Instructions: Centrifuge and aliquot within 2 hours of collection

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
1.1-4.4 ng/mL

Reference intervals have not been formally verified in-house for pediatric patients. The published literature indicates that reference intervals for adult and pediatric patients are comparable.

Day(s) and Time(s) Performed
Monday through Friday; 5 a.m.-12 a.m.,
Saturday; 6 a.m.-6 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions.
Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
84681

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>CPR</td>
<td>C-Peptide, S</td>
<td>13037-7</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRPN</td>
<td>C-Peptide, S</td>
<td>13037-7</td>
</tr>
</tbody>
</table>

Reject Due To

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Other</td>
<td>Autopsy specimen</td>
</tr>
</tbody>
</table>

Method Name
Electrochemiluminescence Immunoassay (ECLIA)

Forms
If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.
Reasons for Rejection
Formed stool, Stool greater than 72 hours old, specimen not refrigerated.

Methodology
EIA

Reference Ranges
Negative

LOINC Code
34468-9

EMR Interface Order Code
51375

C1ESTF  C1 Esterase Inhib Function
Contracted Reference Lab
Collection Container
Red top tube or Lavender (EDTA) top tube NO GEL TUBES
Serum or plasma
Specimen Volume
0.5 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Frozen
Specimen Stability
Refrigerated: 6 hours, Frozen: 6 days
Reasons for Rejection
Serum gel tube, not frozen within 6 hours
CPT Code
86161
EMR Interface Order Code
45925

C1EST  C1 Esterase Inhibitor
Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum
Specimen Volume
1 mL
Minimum Specimen Volume
0.5 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days
Reasons for Rejection
Gross lipemia, hemolysis
CPT Code
86160

EMR Interface Order Code
45950

C2CYCL  C2 Cyclosporine
Baystate Reference Laboratories
Collection Container
Lavender (EDTA)
Whole Blood
Special Handling Instructions
Collect specimen 2 hours post Cyclosporine dose. Specimen must be received in the Chemistry lab by 10 am to be analyzed the same day
Specimen Volume
4 mL
Minimum Specimen Volume
1.0 mL
Transport Temperature
Refrigerate
Specimen Stability
Room temperature: 7 days, Refrigerated: 7 days
Methodology
Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
Days and Times Performed
Test performed daily
Turnaround Time
24 hours
Units of Measure
ng/mL
CPT Code
80158
EMR Interface Order Code
05335

FACTB  C3 Proactivator (Factor B)
Quest Diagnostics
Additional Information
Also called Properdin Factor B
Collection Container
Serum gel
Other Acceptable Specimen Types
Red top
Special Handling Instructions
Separate serum within 2 hours.
Specimen Volume
1 mL
Minimum Specimen Volume
0.5 mL
Transport Temperature
Frozen
Specimen Stability
30 days

Methodology
Nephelometry

Reference Ranges
23 - 67 mg/dL

CPT Code
83883

LOINC Code
2269-9

EMR Interface Order Code
46450

**FC3AL  C3a Level**

*National Jewish Health*

**Reporting Name**
C3a Level

**Specimen Type**
Plasma EDTA

**Specimen Required**
Draw blood in a lavender-top (EDTA) tube(s), plasma gel tube(s) is not acceptable. Mix well, centrifuge at ambient temperature within one half hour of draw, and freeze immediately. Send 1 mL of EDTA plasma frozen in plastic vial.

**Complete and submit with specimen:**
1. National Jewish Complement request form

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen</td>
<td>365 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
0 - 780 ng/mL

**Day(s) and Time(s) Performed**
1st and 3rd Thursday of month

**Test Classification**
This test uses a kit/reagent designated by the manufacturer as for research use, not for clinical use. The performance characteristics of this test have been validated by National Jewish Health. It has not been cleared or approved by the U.S. Food and Drug Administration. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions. This laboratory is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA-88) as qualified to perform high complexity clinical laboratory testing.

**CPT Code Information**
86160

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC3AL</td>
<td>C3a Level</td>
<td>Not Provided</td>
</tr>
</tbody>
</table>
CPT Code Information
86160

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC4A</td>
<td>C4a Level</td>
<td>Not Provided</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC4A</td>
<td>C4a Level</td>
<td>Not Provided</td>
</tr>
</tbody>
</table>

**C6CYCL  C6 Cyclosporine**

*Baystate Reference Laboratories*

**Additional Information**
Samples received after 10:30 AM will be analyzed the next day

**Collection Container**
Lavender (EDTA)
Whole Blood

**Specimen Volume**
4 mL

**Minimum Specimen Volume**
1.0 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 7 days, Refrigerated: 7 days

**Methodology**
Liquid chromatography/tandem mass spectrometry (LC/MS-MS)

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Units of Measure**
ng/mL

**CPT Code**
80158

**LOINC Code**
3520-4

**EMR Interface Order Code**
05310

**UCDQ  Cadmium, 24 Hour, Urine**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 04180

**Reporting Name**
Cadmium, 24 Hr, U

**Useful For**
Detecting exposure to cadmium, a toxic heavy metal in 24-hour urine specimens

**Specimen Type**
Urine

**Necessary Information**
24 Hour volume is required.

**Specimen Required**

**Patient Preparation:** High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Supplies:** Urine Tubes, 10 mL (T068)

**Collection Container/Tube:** Clean, plastic urine container with no metal cap or glued insert

**Submission Container/Tube:** Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert

**Specimen Volume:** 10 mL

**Collection Instructions:**
1. Collect urine for 24 hours.
2. Refrigerate specimen within 4 hours of completion of 24-hour collection.
3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Additional Information:** See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume**
2 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens
- Trace Metals Analysis Specimen Collection and Transport

Reference Values
0-17 years: not established
≥18 years: <0.6 mcg/24 hour

Day(s) and Time(s) Performed
Monday through Saturday; 7 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82300

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDU</td>
<td>Cadmium, 24 Hr, U</td>
<td>5612-7</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>31106</td>
<td>Cadmium, 24 Hr, U</td>
<td>5612-7</td>
</tr>
<tr>
<td>TIME7</td>
<td>Collection Duration</td>
<td>13362-9</td>
</tr>
<tr>
<td>VL83</td>
<td>Total Volume</td>
<td>3167-4</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

Urine Preservative Collection Options
Note: The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.

<table>
<thead>
<tr>
<th>Preservative</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient</td>
<td>OK</td>
</tr>
<tr>
<td>Refrigerate</td>
<td>Preferred</td>
</tr>
<tr>
<td>Frozen</td>
<td>OK</td>
</tr>
<tr>
<td>50% Acetic Acid</td>
<td>OK</td>
</tr>
<tr>
<td>Boric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Diazolidinyl Urea</td>
<td>No</td>
</tr>
<tr>
<td>6M Hydrochloric Acid</td>
<td>OK</td>
</tr>
<tr>
<td>6M Nitric Acid</td>
<td>OK</td>
</tr>
<tr>
<td>Sodium Carbonate</td>
<td>No</td>
</tr>
<tr>
<td>Thymol</td>
<td>No</td>
</tr>
<tr>
<td>Toluene</td>
<td>No</td>
</tr>
</tbody>
</table>

Reporting Name
Cadmium, B

Useful For
Detecting exposure to cadmium, a toxic heavy metal

Specimen Type
Whole blood

Specimen Required
Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183)
Specimen Volume: Full tube
Collection Instructions: Send specimen in original tube.
Additional Information:
1. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.
2. If ordering the trace element blood collection tube from BD, order catalog #368381.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
0.0-4.9 ng/mL
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday; 2 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82300

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDB</td>
<td>Cadmium, B</td>
<td>5609-3</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8682</td>
<td>Cadmium, B</td>
<td>5609-3</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis OK
Gross lipemia OK
Gross icterus OK

Method Name
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
**CAHT7**  
**CAH (Congenital Adrenal Hyperplasia)**  
**Treatment Profile 7**

LabCorp

**Collection Container**
Red  
Serum

**Special Handling Instructions**
Serum must be separated from cells within 1 hour of venipuncture.

**Specimen Volume**
1.5 mL

**Minimum Specimen Volume**
0.7 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 2 days, Refrigerated: 2 days, Frozen: up to 90 days

**Reasons for Rejection**
Collected in a gel barrier tube

**Methodology**
High-pressure liquid chromatography/tandem mass spectrometry (HPLC/MS-MS)

**Turnaround Time**
5 - 10 days

**CPT Code**
82157, 82634, 82626, 82633, 84143, 84144, 83498, 84403

**EMR Interface Order Code**
26165

---

**CTONIN**  
**Calcitonin, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Calcitonin, S

**Useful For**
Aids in the diagnosis and follow-up of medullary thyroid carcinoma
Aids in the evaluation of multiple endocrine neoplasia type II and familial medullary thyroid carcinoma
This test is not useful for evaluating calcium metabolic diseases.

**Specimen Type**
Serum

**Patient Preparation:** For the 12 hours before specimen collection, do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.

**Collection Container/Tube:**
Preferred: Serum gel  
Acceptable: Red top

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 0.8 mL

**Collection Instructions:**
1. After collection, immediately place specimen on ice.  
2. Refrigerate specimen during centrifugation and immediately transfer serum to a plastic vial.

**Specimen Minimum Volume**
0.4 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>90 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>24 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>4 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
Pediatric
1 month: ≤34 pg/mL  
2 months: ≤31 pg/mL  
3 months: ≤28 pg/mL  
4 months: ≤26 pg/mL  
5 months: ≤24 pg/mL  
6 months: ≤22 pg/mL  
7 months: ≤20 pg/mL  
8 months: ≤19.0 pg/mL  
9 months: ≤17.0 pg/mL  
10 months: ≤16.0 pg/mL  
11 months: ≤15.0 pg/mL  
12-14 months: ≤14.0 pg/mL  
15-17 months: ≤12.0 pg/mL  
18-20 months: ≤10.0 pg/mL

---

**CAH6**  
**CAH6 (Congenital Adrenal Hyperplasia)**  
**Profile**

LabCorp

**Collection Container**
Red  
Serum

**Special Handling Instructions**
Separate serum within one hour; transfer into a plastic transport tube.

**Specimen Volume**
3.5 mL

**Minimum Specimen Volume**
2.0 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 4 hours, Refrigerated: 1 day, Frozen: 90 days

**Methodology**
High-pressure liquid chromatography/tandem mass spectrometry (HPLC/MS-MS)
**21-23 months:** ≤9.0 pg/mL  
**2 years:** ≤8.0 pg/mL  
**3-9 years:** ≤7.0 pg/mL  
**10-15 years:** ≤6.0 pg/mL  
**16 years:** ≤5.0 pg/mL  
**Adults:**  
**17 years and older:**  
**Males:** ≤14.3 pg/mL  
**Females:** ≤7.6 pg/mL

For SI unit Reference Values, see https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html

**Day(s) and Time(s) Performed**  
Monday through Friday; 5 a.m.-12 a.m.  
Saturday: 6 a.m.-6 p.m.

**Test Classification**  
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions.  
Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**  
82308

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>CATN</td>
<td>Calcitonin, S</td>
<td>1992-7</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Reject Due To</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
</tbody>
</table>

**Method Name**  
Electrochemiluminescence Immunoassay

**Secondary ID**  
9160

**Forms**  
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

**D125OH, (1,25 di-OH Vitamin D)**  
Calcitriol  
1,25(OH) Vitamin D, 1,25-Dihydroxy Vitamin D,  
1,25-Dihydroxycholecalciferol, Vitamin D,  
1,25-Dihydroxy

Baystate Reference Laboratories

**Important Note**  
USE:Aid in the diagnosis of primary hyperparathyroidism, hypoparathyroidism, pseudohypoparathyroidism, renal osteodystrophy, and vitamin D-resistant rickets.

This test is not the same as Vitamin D, 25-Hydroxy [081950] (vitamin D3), which must be ordered separately.

**Collection Container**  
gel or heparin (green) or lavender top edta plasma (poured off in aliquot tube)  
Serum or plasma

**Specimen Volume**  
0.5 mL

**Minimum Specimen Volume**  
0.3 (Note: This volume does not allow for repeat testing.)

**Transport Temperature**  
Room Temp. (Sent refrigerated)

**Specimen Stability**  
Room Temp: 10 days  
Refrigerated: 10 days  
Frozen: 10 days  
Freeze/thaw cycle: Stable x3

**Methodology**  
Imunochemiluminosmetric assay (ICMA)

**Days and Times Performed**  
Monday through Friday

**Turnaround Time**  
5 days

**Reference Ranges**

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>All</td>
<td>8.6 - 10.5</td>
<td>8.6 - 10.5</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

**CA  Calcium**

Baystate Reference Laboratories

**Collection Container**  
Serum gel, or green plasma  
Serum, heparinized plasma acceptable

**Specimen Volume**  
0.5 mL

**Minimum Specimen Volume**  
0.1 mL, or 200 ul (whole blood)

**Transport Temperature**  
Refrigerate

**Specimen Stability**  
After separation: Room Temp 7 days  
Refrigerated: 5 days  
Frozen 8 months  
Refrigerated: 6 days (If stored on gel)

**Methodology**  
Spectrophotometric

**Days and Times Performed**  
Test performed daily

**Turnaround Time**  
24 hours for routine, 1 hour for stats

**Reference Ranges**
Critical Results
< 5 mg/dL or >12.5 mg/dL

CPT Code
82310

LOINC Code
17861-6

EMR Interface Order Code
04350

CACR  Calcium Creatinine Ratio

Baystate Reference Laboratories

Collection Container
Urine
Random or Timed Urine

Specimen Volume
3 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Methodology
Spectrophotometric

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

CPT Code
82340, 82570

EMR Interface Order Code
04401

UCAR  Calcium, Urine

Baystate Reference Laboratories

Collection Container
Yellow BD tube
Random Urine

Specimen Volume
5 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 2 days, Refrigerated: 4 days, Frozen: 3 weeks

Methodology
Spectrophotometric

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

CPT Code
82340

LOINC Code
17862-4

EMR Interface Order Code
04400

CENAB  California Encephalitis Antibody

Mass. Department of Public Health

Additional Information
Testing referred to State Laboratory

Collection Container
Serum gel or CSF
Serum or CSF

Other Acceptable Specimen Types
Red top

Special Handling Instructions
State submission form must accompany specimen

Specimen Volume
1 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
7 days

Reasons for Rejection
Specimens without complete and accurate submission forms

Turnaround Time
4 - 6 weeks

LOINC Code
31223-1

EMR Interface Order Code
59700

FECAPR Calprotectin, Feces

Useful For
Evaluation of patients suspected of having a gastrointestinal inflammatory process

Distinguishing inflammatory bowel disease (IBD) from irritable bowel syndrome (IBS), when used in conjunction with other diagnostic modalities, including endoscopy, histology, and imaging

Method Name
Enzyme-Linked Immunosorbent Assay (ELISA)

Reporting Name
Calprotectin, F

Specimen Type
Fecal

Shipping Instructions
Preferred shipping temperature is frozen. Refrigerated or thawed specimens received more than 72 hours postcollection will be rejected.

Secondary ID
63016

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Gastroenterology and Hepatology Client Test Request (T728)

CALR CALR Mutation Analysis, Myeloproliferative Neoplasm (MPN), Varies

Useful For
Rapid and sensitive detection of insertion and deletion-type mutations in exon 9 of CALR

An aid in distinction between reactive thrombocytosis and leukocytosis versus a myeloproliferative neoplasm (MPN), especially essential thrombocytemia (ET) and primary myelofibrosis (PMF), and is highly informative in cases in which JAK2 and MPL testing are negative

Especially helpful to the pathologist in those bone marrow cases with ambiguous etiology of thrombocytosis, equivocal bone marrow morphologic findings of MPN, and unexplained reticulin fibrosis
An aid in prognostication of PMF and thrombosis risk assessment in ET

**Special Instructions**
- Myeloproliferative Neoplasm: A Diagnostic Approach to Peripheral Blood Evaluation
- Myeloproliferative Neoplasm: A Diagnostic Approach to Bone Marrow Evaluation
- Hematopathology Patient Information

**Reporting Name**
MPN, CALR Gene Mutation, Exon 9

**Specimen Type**
Varies

**Shipping Instructions**
Specimen must arrive within 7 days (168 hours) of collection.

**Necessary Information**
The following information is required:
1. Pertinent clinical history
2. Clinical or morphologic suspicion
3. Date of collection
4. Specimen source

**Specimen Required**
Submit only 1 of the following specimens:

- **Specimen Type:** Peripheral blood
  - **Container/Tube:** EDTA (lavender top) or ACD-B (yellow top)
  - **Specimen Volume:** 3 mL
  - **Collection Instructions:**
    1. Invert several times to mix blood.
    2. Send specimen in original tube.
    3. Label specimen as blood.
  - **Specimen Stability:** Ambient (preferred)/Refrigerate

- **Specimen Type:** Bone marrow
  - **Container/Tube:** EDTA (lavender top) or ACD-B (yellow top)
  - **Specimen Volume:** 2 mL
  - **Collection Instructions:**
    1. Invert several times to mix bone marrow.
    2. Send specimen in original tube.
    3. Label specimen as bone marrow.
  - **Specimen Stability:** Ambient (preferred)/Refrigerate

- **Specimen Type:** Extracted DNA from blood or bone marrow
  - **Container/Tube:** 1.5- to 2-mL tube
  - **Specimen Volume:** Entire specimen
  - **Collection Instructions:** Label specimen as extracted DNA from blood or bone marrow and include indication of volume and concentration of the DNA.
  - **Specimen Stability:** Frozen (preferred)/Refrigerate/Ambient

**Specimen Minimum Volume**
1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Varies</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

| Gross hemolysis | Reject |
| Paraffin-embedded bone marrow aspirate clot Bone marrow biopsies, slides, or paraffin shavings | Moderately to severely clotted |

**Reference Values**
An interpretive report will be provided

**Day(s) and Time(s) Performed**
Monday through Friday; 8 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
81219-CALR (calreticulin) (eg, myeloproliferative disorders), gene analysis, common variants in exon 9

<table>
<thead>
<tr>
<th>LOINC Code Information</th>
</tr>
</thead>
</table>

**Testing Algorithm**
The following algorithms are available in Special Instructions:
- Myeloproliferative Neoplasm: A Diagnostic Approach to Peripheral Blood Evaluation
- Myeloproliferative Neoplasm: A Diagnostic Approach to Bone Marrow Evaluation

**Method Name**
Polymerase Chain Reaction (PCR) and Fragment Analysis

**Forms**
1. Hematopathology Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

**CA125 Cancer Antigen 125 (CA-125)**

**Important Note**
Please contact Chemistry lab before adding this test to a prior sample.

**Collection Container**
Serum gel
Serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.4 mL

**Transport Temperature**
Refrigerate
Specimen Stability
Room Temperature: 8 hours; Refrigerate: 5 days; Frozen: 5 months freeze/thaw cycle

Methodology
Electrochemiluminescence immunoassay (ECLIA)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
Male and Female: 0-35 U/mL

Units of Measure
U/mL

CPT Code
86304

LOINC Code
10334-1

EMR Interface Order Code
04425

CA15 Cancer Antigen 15-3 (CA 15-3), Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 04460

Reporting Name
Cancer Ag 15-3, (CA 15-3), S

Useful For
Managing breast cancer patients when used in conjunction with clinical information and other diagnostic procedures

Serial testing can assist in early detection of disease recurrence in previously treated stage II and III breast cancer patients

Monitoring response to therapy in metastatic breast cancer patients

Specimen Type
 Serum

Specimen Minimum Volume
0.45 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>90 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Males: <30 U/mL (use not defined)
Females: <30 U/mL

Day(s) and Time(s) Performed
Monday through Friday; 5 a.m.-12 a.m.
Saturday; 6 a.m.-6 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86300

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA153</td>
<td>Cancer Ag 15-3, (CA 15-3), S</td>
<td>83083-6</td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
</tbody>
</table>

Specimen Required

Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.

Supplies: Aliquot Tube, 5 mL (T465)

Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top

Submission Container/Tube: Plastic, 5 mL, aliquot tube

Specimen Volume: 0.5 mL

Collection Instructions: Centrifuge and aliquot serum

Method Name
Electrochemiluminescence Immunoassay (ECLIA)

Forms

If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

FCANA Candida albicans Antibody

Quest Diagnostics

Collection Container
Serum gel or red top tube

Serum

Specimen Volume
1 mL

Minimum Specimen Volume
0.3 mL

Transport Temperature
Refrigerated

Specimen Stability
7 days

Reasons for Rejection
Microbially-contaminated specimen; heat-treated specimen; specimens containing particulate matter; gross hemolysis; lipemia or icterus

Methodology
Enzyme-linked immunosorbent assay (ELISA)

Days and Times Performed
Set up and reported 2 times a week.
CANDAL  Candida albicans IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86628

EMR Interface Order Code
51225

CANNB  Cannabinoid Analysis, Whole Blood

Medtox Laboratories, Inc.

Secondary ID
75172

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMARR</td>
<td>THC, MS, WB/SP Rx</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm
If the Cannabinoid Analysis, Whole Blood is positive, then the THC, GC/MS Confirmation (FMARR) will be performed at an additional charge.

Method Name
Immunooassay (IA) - Screen
Gas Chromatography/Mass Spectrometry (GC/MS) - Confirmation, if applicable

Reporting Name
THC, Scr w/Conf, WB

Specimen Type
Whole blood

Specimen Required
Draw blood in a purple-top (EDTA), green-top (sodium-heparin) or grey-top (NaF/oxalate) tube(s). Send 7 mL of whole blood refrigerated in a plastic vial.

Specimen Minimum Volume
3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>N/A</td>
</tr>
<tr>
<td>Lipemia</td>
<td>N/A</td>
</tr>
<tr>
<td>Icterus</td>
<td>N/A</td>
</tr>
<tr>
<td>Other</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Reference Values
Cannabinoid Screen:
THC (MARIJUANA) Metabolite- Negative; Cutoff: 5 ng/mL
Cannabinoid Confirmation:
Tetrahydrocannabinol (THC)
Carboxy-THC
Hydroxy-THC
Cannabinoil
Cannabidiol
Confirmation threshold: 1.0 ng/mL

Day(s) and Time(s) Performed
Monday through Sunday

Test Classification
This test was developed and its performance characteristics determined by LabCorp. It has not been cleared or approved by the Food and Drug Administration.

CPT Code Information
80307
80349- if applicable

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMARI</td>
<td>THC, Scr w/Conf, WB</td>
<td>42491-1</td>
</tr>
</tbody>
</table>

Result ID
Test Result Name
Result LOINC Value
Z4819   THC (Marijuana) Metabolite 42491-1

UCANN  Cannabinoids, Urine, Screen

Baystate Reference Laboratories

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by
important note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

additional information
Confirmatory testing performed at an additional charge

reflex tests
QMARM

collection container
Yellow BD tube
random urine

specimen volume
20 mL

minimum specimen volume
5 mL

transport temperature
Refrigerate

specimen stability
Refrigerated: 7 days

methodology
Screen: Kinetic interaction of microparticles in a solution (KIMS)

days and times performed
Screening test performed daily

turnaround time
24 hours

reference ranges
None detected

CPT code
80307

LOINC code
19291-4

EMR interface order code
04500

UCANZ Cannabinoids, Urine, Screen with Confirmation

Baystate Reference Laboratories

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

Additional Information
Confirmatory testing performed at an additional charge

Reflex Tests
QMARM

Collection Container
Yellow BD tube
Random Urine

Specimen Volume
20 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerate

specimen stability
Refrigerated: 7 days

methodology
Screen: Kinetic interaction of microparticles in a solution (KIMS)

Days and Times Performed
Screening test performed daily

Turnaround Time
24 hours

Reference Ranges
None detected

CPT Code
80307

LOINC Code
19289-8

EMR Interface Order Code
04501

CARBAM Carbamazepine

Baystate Reference Laboratories

Additional Information
Collect trough level immediately before the next dose. Specimen must be separated off the gel within 24 hours.

Collection Container
Serum gel
Serum, red top and heparin also acceptable.

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 2 days (Aliquot)
Refrigerate: 24 hours on gel
Refrigerate: 7 days (Aliquot)
Frozen: 4 months

Methodology
Cedia enzyme immunoassay (EIA)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
Male and Female: 4 - 10 mg/L

Critical Results
>15 mg/L

Units of Measure
mg/L

CPT Code
80156
**CAREPX** Carbamazepine-10,11-Epoxide, Serum

**Mayo Clinic Laboratories in Rochester**

**Specimen Required**

**Container/Tube:** Red top

**Specimen Volume:** 2 mL

**Collection Instructions:** Draw blood 12 hours (trough value) after last dose.

**Forms**

If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

**Useful For**

Monitoring patients exhibiting symptoms of carbamazepine toxicity whose total serum carbamazepine concentration is within the therapeutic range, but who may be producing significant levels of the active metabolite epoxide, which can accumulate to concentrations equivalent to carbamazepine

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARTA</td>
<td>Carbamazepine, Tot, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1011E</td>
<td>Carb-10,11-Epoxide, S</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Method Name**

CARTA: Homogeneous Microparticle Agglutination Immunoassay

1011E: High-Performance Liquid Chromatography (HPLC)

**Reporting Name**

Carbamazepine-10,11-Epoxide, S

**Specimen Type**

Serum Red

**Specimen Minimum Volume**

1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>48 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

**Reference Values**

CARBAMAZEPINE, TOTAL

Therapeutic: 4.0-12.0 mcg/mL

Critical value: ≥15.0 mcg/mL

CARBAMAZEPINE-10,11-EPOXIDE

Therapeutic concentration: 0.4-4.0 mcg/mL

Toxic concentration: ≥8.0 mcg/mL

**Day(s) and Time(s) Performed**

CARTA: Monday through Sunday; Continuously

1011E: Tuesday; 11 a.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

80156-Carbamazepine, Tot, S

80299-Carbamazepine-10,11-Epoxide

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBG</td>
<td>Carbamazepine-10,11-Epoxide, S</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7467</td>
<td>Carb-10,11-Epoxide, S</td>
<td>9415-1</td>
</tr>
<tr>
<td>CARTA</td>
<td>Carbamazepine, Tot, S</td>
<td>3432-2</td>
</tr>
</tbody>
</table>

**FRCARB Carbamazepine, Free and Total, Serum**

**Mayo Clinic Laboratories in Rochester**

**Additional Test Codes**

EMR Interface Order Code: 09210

**Useful For**

Monitoring carbamazepine (free and total) therapy in uremic patients

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARTA</td>
<td>Carbamazepine, Tot, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>CARF</td>
<td>Carbamazepine, Free, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Method Name**

CARF: Ultrafiltration Followed by Homogeneous Microparticle Agglutination Immunoassay

CARTA: Homogeneous Microparticle Agglutination Immunoassay

**Reporting Name**

Carbamazepine, Free and Total, S

**Specimen Type**

Serum Red

**Shipping Instructions**

- 

**Specimen Required**

**Container/Tube:** Red top

**Specimen Volume:** 2 mL

**Collection Instructions:** Tubes should be centrifuged and aliquoted within 2 hours of collection.
Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>48 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
| Gross hemolysis | Reject |

Reference Values

CARBAMAZEPINE, TOTAL
Therapeutic: 4.0-12.0 mcg/mL
Critical value: ≥15.0 mcg/mL

CARBAMAZEPINE, FREE
Therapeutic: 1.0-3.0 mcg/mL
Critical value: ≥4.0 mcg/mL

Day(s) and Time(s) Performed
Monday through Sunday; Continuously

Test Classification
This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80156-Carbamazepine, Total, S
80157-Carbamazepine, Free, S

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARFT</td>
<td>Carbamazepine, Free and Total, S</td>
<td>34545-4</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CARF</td>
<td>Carbamazepine, Free, S</td>
<td>3433-0</td>
</tr>
<tr>
<td>CARTA</td>
<td>Carbamazepine, Tot, S</td>
<td>3432-2</td>
</tr>
</tbody>
</table>

Reject Due To
| Gross hemolysis | Reject |
| Gross lipemia   | OK     |

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

CA19 Carbohydrate Antigen 19-9 (CA 19-9), Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 04450

Reporting Name
Carbohydrate Ag 19-9, S

Useful For
Potentially useful adjunct for diagnosis and monitoring of pancreatic cancer
May be used for differentiating patients with cholangiocarcinoma and primary sclerosing cholangitis (PSC) from those with PSC alone

Specimen Type
Serum

Specimen Required

Patient Preparation: For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.

Container/Tube:
Preferred: Serum gel
Acceptable: Red top

Specimen Volume: 0.6 mL

Collection Instructions:
1. Serum gel tubes should be centrifuged within 2 hours of collection.
2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>90 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
<35 U/mL

Day(s) and Time(s) Performed
Monday through Friday: 5 a.m.-12 a.m.
Saturday: 6 a.m.-6 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86301

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA19</td>
<td>Carbohydrate Ag 19-9, S</td>
<td>83084-4</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CA19</td>
<td>Carbohydrate Ag 19-9, S</td>
<td>83084-4</td>
</tr>
</tbody>
</table>

Reject Due To
| Gross hemolysis | Reject |
| Gross lipemia   | OK     |

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Oncology Test Request (T729)

GCDT Carbohydrate Deficient Transferrin for Congenital Disorders of Glycosylation, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 09315

Reporting Name
CDG, S
Useful For
Screening for congenital disorders of glycosylation

Specimen Type
Serum

Advisory Information
This test is for congenital disorders of glycosylation. If the ordering physician is looking for evaluation of alcohol abuse, order CDTA / Carbohydrate Deficient Transferrin, Adult, Serum.

If either PMM2-CDG (CDG-Ia) or MPI-CDG (CDG-Ib) is suspected, order PMMIIL / Phosphomannomutase and Phosphomannose Isomerase, Leukocytes.

Necessary Information
1. Patient's age is required.
2. Reason for referral is required.

Specimen Required
Collection Container/Tube:
Preferred: Red top
Acceptable: Serum gel
Submission Container/Tube: Plastic vial
Specimen Volume: 0.1 mL

Specimen Minimum Volume
0.05 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>45 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Biochemical Genetics Patient Information
- Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm

Reference Values

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Normal</th>
<th>Indeterminate</th>
<th>Abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transferrin Mono-oligo/Di-oligo Ratio</td>
<td>≤0.06</td>
<td>0.07-0.09</td>
<td>≥0.10</td>
</tr>
<tr>
<td>Transferrin A-oligo/Di-oligo Ratio</td>
<td>≤0.011</td>
<td>0.012-0.021</td>
<td>≥0.022</td>
</tr>
<tr>
<td>Transferrin Tri-sialo/Di-oligo Ratio</td>
<td>≤0.05</td>
<td>0.06-0.12</td>
<td>≥0.13</td>
</tr>
<tr>
<td>Apo CIII-1/Apo CIII-2 Ratio</td>
<td>≤2.91</td>
<td>2.92-3.68</td>
<td>≥3.69</td>
</tr>
<tr>
<td>Apo CIII-0/Apo CIII-2 Ratio</td>
<td>≤0.48</td>
<td>0.49-0.68</td>
<td>≥0.69</td>
</tr>
</tbody>
</table>

Day(s) and Time(s) Performed
Monday, Thursday, 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82373

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>CDG</td>
<td>CDG, S</td>
<td>53803-3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BG160</td>
<td>Reason for Referral</td>
<td>42349-1</td>
</tr>
<tr>
<td>31721</td>
<td>Mono-oligo/Di-oligo Ratio</td>
<td>35469-6</td>
</tr>
<tr>
<td>31720</td>
<td>A-oligo/Di-oligo Ratio</td>
<td>35475-3</td>
</tr>
<tr>
<td>34474</td>
<td>Tri-sialo/Di-oligo Ratio</td>
<td>90420-1</td>
</tr>
<tr>
<td>34476</td>
<td>Apo CIII-1/Apo CIII-2 Ratio</td>
<td>90421-9</td>
</tr>
<tr>
<td>34475</td>
<td>Apo CIII-0/Apo CIII-2 Ratio</td>
<td>90419-3</td>
</tr>
<tr>
<td>50820</td>
<td>Interpretation</td>
<td>53808-2</td>
</tr>
<tr>
<td>50822</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis OK
- Gross lipemia OK
- Gross icterus OK

Method Name
Affinity Chromatography-Mass Spectrometry (MS)

Forms
1. Biochemical Genetics Patient Information (T602) in Special Instructions.
2. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

Testing Algorithm
Suggested Testing Strategy:

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Target</th>
<th>Mayo Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-glycan, O-glycan, and conserved oligomeric Golgi (COG) complex defects</td>
<td>Transferrin, apolipoprotein Clll</td>
<td>CDG / Carbohydrate Deficient Transferrin for Congenital Disorders of Glycosylation, Serum</td>
</tr>
<tr>
<td>N-glycan, O-glycan, and COG complex defects</td>
<td>Serum total N-linked glycans, transferrin, and apolipoprotein Clll</td>
<td>CDGN / Congenital Disorders of N-Glycosylation, Serum</td>
</tr>
<tr>
<td>glycoporphatidylinositol (GPI)-anchored protein glycosylation disorders</td>
<td>CD59, CD55, CD16b, ALP, and aerolysin (FLAER)</td>
<td>Testing may be available on a research basis for these disorders. Contact a BGL genetic counselor for more information.</td>
</tr>
<tr>
<td>alpha-dystroglycanopathies</td>
<td>Genes: DAG1, FKRP, FKTN, ISPD, LARGE1, POMGNT1, POMGNT2, POMT1, POMT2</td>
<td>CDGNP / CDG Normal Transferrin Panel</td>
</tr>
</tbody>
</table>

See Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm in Special Instructions.
Additional Test Codes
EMR Interface Order Code: 09235

Reporting Name
Carb Def Transferrin, Adult, S

Useful For
An indicator of chronic alcohol abuse
This test is not appropriate for screening patients for congenital disorders of glycosylation.

Specimen Type
Serum

Specimen Required
Collection Container/Tube:
Preferred: Red top
Acceptable: Serum gel
Submission Container/Tube: Plastic vial
Specimen Volume: 0.1 mL

Specimen Minimum Volume
0.05 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>45 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
≤0.10
0.11-0.12 (indeterminate)

Day(s) and Time(s) Performed
Wednesday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82373

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDTA</td>
<td>Carb Def Transferrin, Adult, S</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>31714</td>
<td>Mono-oligo/Di-oligo Ratio</td>
<td>35469-6</td>
</tr>
<tr>
<td>31715</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis OK
Gross lipemia OK
Gross icterus OK

Method Name
Affinity Chromatography/Mass Spectrometry (MS)

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

CO Carboxyhemoglobin

Baystate Reference Laboratories

Collection Container
Green
Whole Blood

Specimen Volume
5 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 10 days, Refrigerate: 10 days

Reasons for Rejection
Serum, plasma, (no microtainers) or urine submitted

Methodology
Co oximetry

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges
NON-SMOKER: 0 - 5%
SMOKER: 5 - 10%

Units of Measure
%

CPT Code
82375

LOINC Code
2030-5

EMR Interface Order Code
04550
PCCEA  Carcinoembryonic Antigen (CEA), Pancreatic Cyst Fluid

Mayo Clinic Laboratories in Rochester

Reporting Name
CEA, Pancreatic Cyst

Useful For
When used in conjunction with imaging studies, cytology, and other pancreatic cyst fluid tumor markers:
- Distinguishing between mucinous and nonmucinous pancreatic cysts
- Determining the likely type of malignant pancreatic cyst

Specimen Type
Pancreatic Cyst Fluid

Advisory Information
This test should not be ordered for pancreatic fluid of noncyst origin (eg, pancreatic duct fluid; peripancreatic fluid) since reference values have not been established for this specimen type. Call 800-533-1710 for ordering assistance.

Specimen Required
Container/Tube: Plain, plastic, screw-top tube
Specimen Volume: 1 mL

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pancreatic Cyst Fluid</td>
<td>Frozen (preferred)</td>
<td>90 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
An interpretive report will be provided.

Day(s) and Time(s) Performed
Monday through Friday; Varies

Test Classification
This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82378

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEAPC</td>
<td>CEA, Pancreatic Cyst</td>
<td>12515-3</td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis &gt;5000 mg/dL</td>
<td>Reject</td>
</tr>
</tbody>
</table>

Method Name
Immunoenzymatic Assay

Forms
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

PTCEA  Carcinoembryonic Antigen (CEA), Peritoneal Fluid

Mayo Clinic Laboratories in Rochester

Reporting Name
CEA, Peritoneal Fluid

Useful For
An adjunct to cytology to differentiate between malignancy-related and benign causes of ascites formation

Specimen Type
Peritoneal

Specimen Required
Container/Tube: Plain, plastic, screw top tube
Specimen Volume: 2 mL

Specimen Minimum Volume
0.5 mL (Samples <0.5 mL may be rejected)

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peritoneal</td>
<td>Frozen (preferred)</td>
<td>90 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
An interpretive report will be provided.

Day(s) and Time(s) Performed
Monday through Friday; Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82378

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEAPT</td>
<td>CEA, Peritoneal Fluid</td>
<td>40622-3</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CEAPN</td>
<td>CEA, Peritoneal Fluid</td>
<td>40622-3</td>
</tr>
<tr>
<td>SITE6</td>
<td>Site</td>
<td>39111-0</td>
</tr>
</tbody>
</table>
Method Name
Immunoenzymatic Assay

Forms
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

CVRMP Cardiovascular Risk Marker Panel, Serum

Mayo Clinic Laboratories in Rochester

Useful For
Assessment for risk of developing cardiovascular disease, major adverse cardiovascular events, or ischemic cerebrovascular events

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOHDL</td>
<td>Non-HDL Cholesterol</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>CALDL</td>
<td>Calculated LDL</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>HDCDC</td>
<td>HDL Cholesterol, CDC, S</td>
<td>Yes, (order HDCH)</td>
<td>Yes</td>
</tr>
<tr>
<td>TCCDC</td>
<td>Cholesterol, Total, CDC, S</td>
<td>Yes, (order CHOL)</td>
<td>Yes</td>
</tr>
<tr>
<td>TGCD1</td>
<td>Triglycerides, Total, CDC, S</td>
<td>Yes, (order TRIG)</td>
<td>Yes</td>
</tr>
<tr>
<td>CVINT</td>
<td>Interpretation</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>LIPA</td>
<td>Lipoprotein (a), S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>HSCRP</td>
<td>C-Reactive Protein, High Sens, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Special Instructions
- Lipids and Lipoproteins in Blood Plasma (Serum)

Specimen Type
Serum

Specimen Required

Patient Preparation:
1. Patients must be fasting for at least 12 to 14 hours.
2. Patient must not consume any alcohol for 24 hours before the specimen is drawn.

Container/Tube: Serum gel

Specimen Volume: 2.5 mL

Specimen Minimum Volume
1.25 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

Page 144
Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
</tbody>
</table>

Reference Values

Reference values apply to fasting specimens only.

<table>
<thead>
<tr>
<th>Age</th>
<th>Non-HDL Cholesterol (mg/dL)</th>
<th>LDL Cholesterol (mg/dL)</th>
<th>HDL Cholesterol (mg/dL)</th>
<th>Total Cholesterol (mg/dL)</th>
<th>LIPOPROTEIN (a) (mg/dL)</th>
<th>C-REACTIVE PROTEIN HIGH SENSITIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-17 years</td>
<td>** Acceptable: &lt;120</td>
<td>** Acceptable: &lt;110</td>
<td>** Acceptable: &lt;170</td>
<td>≤30 mg/dL</td>
<td>* Lower risk: &lt;2.0 mg/L</td>
<td>* Normal: &lt;150</td>
</tr>
<tr>
<td></td>
<td>Borderline high: 120-144</td>
<td>Borderline high: 110-129</td>
<td>Borderline high: 170-199</td>
<td>Values &gt;30 mg/dL may suggest increased risk of coronary heart disease.</td>
<td>Higher risk: ≥2.0 mg/L</td>
<td>Borderline high: 150-199</td>
</tr>
<tr>
<td></td>
<td>High: ≥145</td>
<td>High: ≥130</td>
<td>High: ≥200</td>
<td>≤30 mg/dL</td>
<td>Acute inflammation: &gt;10.0 mg/L</td>
<td>High: 200-499</td>
</tr>
<tr>
<td>&gt;18 years</td>
<td>* Desirable: &lt;130 mg/dL</td>
<td>*** Desirable: &lt;100</td>
<td>* Desirable: &lt; 200</td>
<td>≤30 mg/dL</td>
<td>Lower risk: &lt;2.0 mg/L</td>
<td>Very high: ≥240</td>
</tr>
<tr>
<td></td>
<td>Above Desirable: 130-159 mg/dL</td>
<td>Borderline high: 130-159</td>
<td>Borderline high: 200-239</td>
<td>Values &gt;30 mg/dL may suggest increased risk of coronary heart disease.</td>
<td>Higher risk: ≥2.0 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High: 160-189</td>
<td>High: 160-189</td>
<td>High: 239</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Very high: ≥220 mg/dL</td>
<td>Very high: ≥190</td>
<td>Very high: ≥240</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*National Lipid Association 2014

**Expert Panel on Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents

***National Cholesterol Education Program (NCEP)

Day(s) and Time(s) Performed

Monday through Friday; Continuously

CPT Code Information

80061-Lipid panel (includes: HDL [CPT Code 83718], total cholesterol [CPT Code 82465], and triglycerides [CPT Code 84478])
83695-Lipoprotein (a)
86141-C-reactive protein; high sensitivity (hsCRP)
**FCRDE  Carmine Dye/Red Dye IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
68600

**Container**
Serum gel or red top tube

---

**UCARN  Carnitine, Random, Urine**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 04610

**Reporting Name**
Carnitine, U

**Useful For**
Evaluation of patients with a clinical suspicion of a wide range of conditions including organic acidemias and fatty acid oxidation disorders

Monitoring carnitine treatment

**Specimen Type**
Urine

**Specimen Required**

**Supplies:** Urine Tubes, 10 mL (T068)
**Container/Tube:** Plastic, 10-mL urine tube
**Specimen Volume:** 1.5 mL

**Collection Instructions:** Collect a random urine specimen.

**Specimen Minimum Volume**
1 mL

---

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen (preferred)</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

FREE
77-214 nmol/mg of creatinine

TOTAL
180-412 nmol/mg of creatinine

RATIO
Acyl to free: 0.7-3.4

**Day(s) and Time(s) Performed**
Tuesday; 8 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
82379

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARNU</td>
<td>Carnitine, U</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>27121</td>
<td>Total</td>
<td>17866-5</td>
</tr>
<tr>
<td>27122</td>
<td>Free (FC)</td>
<td>22704-1</td>
</tr>
<tr>
<td>15789</td>
<td>AC/FC Ratio</td>
<td>43576-8</td>
</tr>
<tr>
<td>21550</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
</tbody>
</table>

**Reject Due To**

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Method Name**
Flow Injection Analysis-Tandem Mass Spectrometry (FIA-MS/MS)

**Forms**
If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

---

**CARNI  Carnitine, Serum**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 05025

**Reporting Name**
Carnitine, S

**Useful For**
Evaluation of patients with a clinical suspicion of a wide range of conditions including organic acidemias, fatty acid oxidation disorders, and primary carnitine deficiency in serum specimens

**Specimen Type**
Serum
Specimen Required

Collection Container/Tube:
Preferred: Red top
Acceptable: Serum gel
Submission Container/Tube: Plastic vial
Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Day(s) and Time(s) Performed
Monday through Friday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82379

Reference Values — Carnitine, Serum

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Total Carnitine (TC)</th>
<th>Free Carnitine (FC)</th>
<th>Acylcarnitine (AC)</th>
<th>AC/FC Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤1 day</td>
<td>23-68</td>
<td>12-36</td>
<td>7-37</td>
<td>0.4-1.7</td>
</tr>
<tr>
<td>2-7 days</td>
<td>17-41</td>
<td>10-21</td>
<td>3-24</td>
<td>0.2-1.4</td>
</tr>
<tr>
<td>8-31 days</td>
<td>19-59</td>
<td>12-46</td>
<td>4-15</td>
<td>0.1-0.7</td>
</tr>
<tr>
<td>32 days-12 months</td>
<td>38-68</td>
<td>27-49</td>
<td>7-19</td>
<td>0.2-0.5</td>
</tr>
<tr>
<td>13 months-6 years</td>
<td>35-84</td>
<td>24-63</td>
<td>4-28</td>
<td>0.1-0.8</td>
</tr>
<tr>
<td>7-10 years</td>
<td>28-83</td>
<td>22-66</td>
<td>3-32</td>
<td>0.1-0.9</td>
</tr>
<tr>
<td>11-17 years</td>
<td>34-77</td>
<td>22-65</td>
<td>4-29</td>
<td>0.1-0.9</td>
</tr>
<tr>
<td>≥18 years</td>
<td>34-78</td>
<td>25-54</td>
<td>5-30</td>
<td>0.1-0.8</td>
</tr>
</tbody>
</table>

*Values expressed as nmol/mL
Used with permission of European Journal of Pediatrics, Springer-Verlag, New York, Inc., Secaucus, NJ
Carotene, Beta

Additional Test Codes
EMR Interface Order Code: 04625

Secondary ID
75178

Useful For
Confirm the diagnosis of carotenoderma; detect fat malabsorption; depressed carotene levels may be found in cases of steatorrhea.

Method Name
High-pressure liquid chromatography (HPLC)

Reporting Name
Carotene, Beta

Specimen Type
Serum

Specimen Required
Supplies: Amber vial (T192)
Specimen Type: Serum
Container/Tube: Red
Specimen Volume: 1 mL
Collection Instructions: Draw blood in a plain, red-top tube(s).
(Serum gel tube is acceptable.)
Spin Down and send 1 mL of serum ambient in an amber vial (T192) to protect from light.

Note:
1. Protect from light within 1 hour of collection.
2. Patient must be fasting overnight (12 hours).
3. Abstain from alcohol for 24 hours prior to collection.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information
<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Ambient (preferred)</td>
<td>14 days</td>
<td>LIGHT PROTECTED</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td>LIGHT PROTECTED</td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td>LIGHT PROTECTED</td>
</tr>
</tbody>
</table>

Reject Due To
Hemolysis: Mild reject; Gross reject
Thawing: Warm OK; Cold OK
Lipemia: NA
Icterus: NA
Other: Specimen other than serum Red or SST, or if not light protected.

Reference Values
3 - 91 ug/dL

Day(s) and Time(s) Performed
Monday, Wednesday, Friday

CPT Code Information
82380

Carrot IgE

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48585

Casein IgE

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days
**IGGCAS  Casein IgG**

**Viracor Eurofins**

**Method Name**  
Enzyme Immunoassay (FEIA)

**Reporting Name**  
Casein IgG

**Specimen Type**  
Serum

**Specimen Required**

Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**

0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: NA
- Thawing: Warm OK; Cold OK
- Lipemia: NA
- Icterus: NA
- Other: NA

**Reference Values**

Reference ranges have not been established for food-specific IgG tests. The clinical utility of food-specific IgG tests has not been established. These tests can be used in special clinical situations to select foods for evaluation by diet elimination and challenge in patients who have food-related complaints. It should be recognized that the presence of food-specific IgG alone cannot be taken as evidence of food allergy and only indicates immunologic sensitization by the food allergen in question. This test should only be ordered by physicians who recognize the limitations of the test.

**Day(s) and Time(s) Performed**

Monday through Friday

**Test Classification**

This test was developed and its performance characteristics determined by Viracor Eurofins. It has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

86008

**EMR Interface Order Code**

48590

---

**CASHEW  Cashew Nut IgE**

**Contracted Reference Lab**

**Collection Container**  
Serum gel or red top tube

**Specimen Volume**

For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**

0.1 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**

ImmunoCAP

**Turnaround Time**

3-5 days

**CPT Code**

86003

**EMR Interface Order Code**

48595

---

**CSCOMR  Cashew Nut IgE with Reflex to Components**

**Baystate Reference Laboratories**

**LOINC Code**

6718-1

**EMR Interface Order Code**

71004

---

**CSTBN  Castor Bean IgE**

**Contracted Reference Lab**

**Collection Container**  
Serum gel or red top tube

**Specimen Volume**

For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**

0.1 mL
**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48490

---

**CATEP**  
*Cat Dander IgE*

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48600

---

**UFRCAT**  
*Catecholamines, Fractionated, 24 hour urine*

*LabCorp*

**Important Note**
Urine must be collected in a urine jug containing 6N HCl. Contact BRL for the appropriate container.

**Collection Container**
24 hour urine jug with 6N HCl added
24 hour urine, acidified
Refrigerate during and after collection period

**Specimen Volume**
Entire 24 hour collection

**Minimum Specimen Volume**
4 mL

---

**Transport Temperature**
Refrigerated

**Reasons for Rejection**
pH >5, Sample not collected with 6N HCl

**Turnaround Time**
5-8 days

**CPT Code**
82384

**EMR Interface Order Code**
26225

---

**CATECH**  
*Catecholamines, Fractionated, Blood*

*LabCorp*

**Additional Information**
Patient preparation: Patient should be fasting for four or more hours without smoking.

Walnuts, bananas, and alpha-methyldopa (Aldomet) should be avoided for a week prior to sampling.

Other drug interference may occur, including epinephrine and epinephrine-like drugs (eg, nosedrops, sinus and cough preparations, bronchodilators, appetite suppressants)

Test is unreliable in subjects on levodopa or methenamine mandelate.

Avoid patient stress

An indwelling heparinized venous catheter is advocated, since venipuncture can cause an increase in the substances for which testing is being done.

Patient should remain supine in quiet surroundings for at least 30 minutes

**Collection Container**
Green

**Special Handling Instructions**
Draw blood in lavender-top (EDTA) tube or green-top (heparin) tube. Invert to mix with preservatives. Centrifuge and transfer the plasma to labeled plastic transport tube. Freeze immediately (within one hour after collection) at -20 (degrees)C and ship frozen

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
2.2 mL

**Transport Temperature**
Frozen

**Reasons for Rejection**
Plasma not received frozen; thawed specimen; inadequate patient preparation

**Methodology**
High-pressure liquid chromatography (HPLC) with electrochemical (EC) detection

**Turnaround Time**
4 - 8 days
CPT Code
82384
EMR Interface Order Code
26200

UCATR  Catecholamines, Urine, Random
LabCorp

Important Note
Testing requires the use of a Urine Monovette with pH stabilizer at collection. Please call the Referral Lab for collection information. 413-322-4667

Additional Information
Avoid patient stress.
Many drugs (reserpine and alpha methyldopa, levodopa, monoamine oxidase inhibitors, and sympathomimetic amines) may interfere and should be discontinued two weeks prior to specimen collection.
Nose drops, sinus and cough medicines, bronchodilators and appetite suppressants, (Alpha)(2)-agonists, calcium channel blockers, converting enzyme inhibitors, bromocriptine, phenothiazine, tricyclic antidepressants, alpha- and beta-blockers, and labetalol may interfere. Mandelamine interferes, but thiazides do not.
Caffeine products should be avoided before and during collection.
The patient should not be subjected to hypoglycemia or exertion.
Increased intracranial pressure and clonidine withdrawal can cause false-positive results.

Collection Container
Urine Monovette with pH stabilizer
Random Urine

Specimen Volume
10 mL

Minimum Specimen Volume
4 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 14 days, Frozen: 30 days

Methodology
High-pressure liquid chromatography (HPLC) with electrochemical (EC) detection

CPT Code
82384, 82570

LOINC Code
73879-9

EMR Interface Order Code
28375

LAXSC  Cathartic Laxatives Profile, Stool
NMS Labs

Specimen Type
Fecal

Specimen Required
10 g of stool. No preservative. Send specimen in an acid-washed or trace metal-free plastic container, MCL supply T656. Send specimen refrigerated.

Specimen Minimum Volume
10 mL stool liquid or 10 g stool solid

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal</td>
<td>Refrigerated (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Reporting limit determined each analysis

Magnesium (mg/g)
Magnesium concentrations in stool water above the normal levels of 0.7-1.2 mg/mL have been indicative of surreptitious abuse of magnesium containing laxatives.
NMS Labs Calculated Normal: approximately 0.5-10 mg/g (Based on the reported range of magnesium eliminated per day in stool and the range of stool mass per day in adults).
Not for clinical diagnostic purposes.

Phosphorus (mg/g)
Phosphorus concentration in stool water averaged 1.8 ± 0.3 mg/mL (ranged from 0.3-4.2 mg/mL) following administration of 105 mmol of sodium phosphate.
NMS Labs calculated normal: approximately 1.4-22 mg/g (Based on the reported range of phosphorus eliminated per day in stool and the range of stool mass per day in adults).
Not for clinical diagnostic purposes.

Day(s) and Time(s) Performed
Varies, Monday, Tuesday, Wednesday and Friday

CPT Code Information
83735-Magnesium
84100-Phosphorus Inorganic (Phosphate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCLPS</td>
<td>Cathartic Laxatives Profile, F</td>
<td>Not Provided</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1336</td>
<td>Magnesium</td>
<td>29911-5</td>
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<tr>
<td>Z1350</td>
<td>Reporting Limit</td>
<td>19147-8</td>
</tr>
<tr>
<td>Z1337</td>
<td>Phosphorus</td>
<td>10884-5</td>
</tr>
<tr>
<td>Z1351</td>
<td>Reporting Limit</td>
<td>19147-8</td>
</tr>
</tbody>
</table>
Reject Due To

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

Method Name
Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES)

CTIPC  Catheter Tip Culture

Baystate Reference Laboratories

Additional Information
No gram stain performed. Consider submitting companion blood cultures for optimal interpretation of results.

Reflex Tests
Susceptibility testing only performed on isolates considered clinically significant.

Collection Container
Sterile sealed container

Two-inch segment of catheter. Specify proximal or distal and type of catheter segment submitted.

Specimen Volume
Two-inch segment

Minimum Specimen Volume
Two-inch segment

Transport Temperature
Refrigerate

Specimen Stability
24 hours refrigerated

Reasons for Rejection
Urinary catheter is not acceptable

Methodology
Semi-quantitation

Days and Times Performed
7 days/week

Turnaround Time
2 - 3 days

Reference Ranges
No growth after 48 hours.

LOINC Code
19128-8

EMR Interface Order Code
51250

CBC  CBC (Complete Blood Count)

Baystate Reference Laboratories

Collection Container
Lavender (EDTA), BD EDTA microtainer
EDTA whole blood

Specimen Volume
Lavender tube: 4 mL, BD Microtainer: 500 microliters

Minimum Specimen Volume
Lavender tube: 1 mL, BD Microtainer: 500 mL

Transport Temperature
Refrigerate

Specimen Stability
24 hours refrigerated

Reasons for Rejection
Specimen clotted, <1.0 mL, greater than 72 hours old, specimen frozen

Methodology
XN9000

Days and Times Performed
24 hours a day, 7 days a week

Turnaround Time
Stat:1 hour, Routine: 8 hours

CPT Code
85027

LOINC Code
58410-2

EMR Interface Order Code
32150

CALFL  Cauliflower IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Serum
### Critical Values

#### HEMATOCRIT (HCT)

<table>
<thead>
<tr>
<th>Age</th>
<th>&lt;30%</th>
<th>&gt;62%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-7 Days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-14 Days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-60 Days</td>
<td>&lt;24%</td>
<td>&gt;62%</td>
</tr>
<tr>
<td>61-180 Days</td>
<td>&lt;21%</td>
<td>&gt;62%</td>
</tr>
<tr>
<td>&gt;180 Days</td>
<td>&lt;20%</td>
<td>&gt;60%</td>
</tr>
</tbody>
</table>

#### HEMOGLOBIN (HGB)

<table>
<thead>
<tr>
<th>Age</th>
<th>&lt;10 g/dL</th>
<th>&gt;20 g/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-7 Days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-14 Days</td>
<td>&lt;9 g/dL</td>
<td>&gt;20 g/dL</td>
</tr>
<tr>
<td>15-60 Days</td>
<td>&lt;8 g/dL</td>
<td>&gt;20 g/dL</td>
</tr>
<tr>
<td>61-180 Days</td>
<td>&lt;7 g/dL</td>
<td>&gt;20 g/dL</td>
</tr>
<tr>
<td>&gt;180 Days</td>
<td>&lt;6.5 g/dL</td>
<td>&gt;20 g/dL</td>
</tr>
</tbody>
</table>

#### PLATELET COUNT (PLT)

<table>
<thead>
<tr>
<th>Age</th>
<th>&lt;100 K/mm³</th>
<th>&gt;1,000 K/mm³</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-180 Days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;180 Days</td>
<td>&lt;30 K/mm³</td>
<td>&gt;1,000 K/mm³</td>
</tr>
</tbody>
</table>

#### WHITE BLOOD CELL COUNT (WBC)

<table>
<thead>
<tr>
<th>Age</th>
<th>&lt;6.0 K/mm³</th>
<th>&gt;25.0 K/mm³</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-180 Days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;180 Days</td>
<td>&lt;2.0 K/mm³</td>
<td>&gt;40.0 K/mm³</td>
</tr>
</tbody>
</table>
### Reference Ranges — CBC (Complete Blood Count)

#### WHITE BLOOD CELL COUNT (WBC)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 3 days</td>
<td>6.8 - 13.3</td>
<td>8.0 - 14.3</td>
<td>K/mm³</td>
</tr>
<tr>
<td>4 - 7 days</td>
<td>8.3 - 14.1</td>
<td>8.8 - 14.8</td>
<td>K/mm³</td>
</tr>
<tr>
<td>8 - 14 days</td>
<td>8.2 - 14.4</td>
<td>8.4 - 15.4</td>
<td>K/mm³</td>
</tr>
<tr>
<td>15 - 30 days</td>
<td>7.4 - 14.6</td>
<td>8.3 - 14.7</td>
<td>K/mm³</td>
</tr>
<tr>
<td>31 - 60 days</td>
<td>6.4 - 14.2</td>
<td>7.0 - 15.1</td>
<td>K/mm³</td>
</tr>
<tr>
<td>61 - 180 days</td>
<td>6.9 - 15.7</td>
<td>6.8 - 16.0</td>
<td>K/mm³</td>
</tr>
<tr>
<td>0.5 to &lt;2 years</td>
<td>6.2 - 14.5</td>
<td>6.4 - 15.0</td>
<td>K/mm³</td>
</tr>
<tr>
<td>2 to &lt;6 years</td>
<td>5.3 - 11.5</td>
<td>5.3 - 11.5</td>
<td>K/mm³</td>
</tr>
<tr>
<td>6 to &lt;12 years</td>
<td>4.5 - 10.5</td>
<td>4.7 - 10.3</td>
<td>K/mm³</td>
</tr>
<tr>
<td>≥ 12 years</td>
<td>4.0 - 11.0</td>
<td>4.0 - 11.0</td>
<td>K/mm³</td>
</tr>
</tbody>
</table>

#### RED BLOOD CELL COUNT (RBC)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 3 Days</td>
<td>4.2 - 5.5</td>
<td>3.4 - 5.4</td>
<td>m/m³</td>
</tr>
<tr>
<td>4 - 7 days</td>
<td>3.9 - 5.4</td>
<td>3.5 - 5.5</td>
<td>m/m³</td>
</tr>
<tr>
<td>8 - 14 Days</td>
<td>3.4 - 5.1</td>
<td>3.2 - 5.0</td>
<td>m/m³</td>
</tr>
<tr>
<td>15 - 30 Days</td>
<td>3.1 - 4.6</td>
<td>3.1 - 4.6</td>
<td>m/m³</td>
</tr>
<tr>
<td>31 - 60 Days</td>
<td>2.9 - 3.9</td>
<td>2.9 - 4.1</td>
<td>m/m³</td>
</tr>
<tr>
<td>61 - 180 Days</td>
<td>3.5 - 4.7</td>
<td>3.4 - 4.6</td>
<td>m/m³</td>
</tr>
<tr>
<td>0.5 to &lt;2 Years</td>
<td>4.1 - 5.0</td>
<td>4.1 - 4.9</td>
<td>m/m³</td>
</tr>
<tr>
<td>2 to &lt;6 Years</td>
<td>4.0 - 4.9</td>
<td>4.0 - 4.9</td>
<td>m/m³</td>
</tr>
<tr>
<td>6 to &lt;12 Years</td>
<td>4.0 - 4.9</td>
<td>4.0 - 4.9</td>
<td>m/m³</td>
</tr>
<tr>
<td>≥ 12 Years</td>
<td>4.7 - 6.1</td>
<td>4.2 - 5.4</td>
<td>m/m³</td>
</tr>
</tbody>
</table>

#### HEMOGLOBIN (HGB)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 3 Days</td>
<td>14.7 - 18.6</td>
<td>12.7 - 18.3</td>
<td>g/dL</td>
</tr>
<tr>
<td>4 - 7 Days</td>
<td>13.4 - 17.9</td>
<td>12.2 - 18.7</td>
<td>g/dL</td>
</tr>
<tr>
<td>8 - 14 Days</td>
<td>11.1 - 16.7</td>
<td>11.9 - 16.9</td>
<td>g/dL</td>
</tr>
<tr>
<td>15 - 30 Days</td>
<td>9.9 - 14.9</td>
<td>10.5 - 14.7</td>
<td>g/dL</td>
</tr>
<tr>
<td>31 - 60 Days</td>
<td>8.9 - 11.9</td>
<td>8.9 - 12.3</td>
<td>g/dL</td>
</tr>
<tr>
<td>61 - 180 Days</td>
<td>9.7 - 12.2</td>
<td>9.7 - 12.0</td>
<td>g/dL</td>
</tr>
<tr>
<td>0.5 to &lt;2 Years</td>
<td>10.5 - 13.5</td>
<td>10.5 - 13.5</td>
<td>g/dL</td>
</tr>
<tr>
<td>2 to &lt;6 Years</td>
<td>11.5 - 14.5</td>
<td>11.5 - 14.5</td>
<td>g/dL</td>
</tr>
<tr>
<td>6 to &lt;12 Years</td>
<td>11.5 - 15.5</td>
<td>11.5 - 15.5</td>
<td>g/dL</td>
</tr>
<tr>
<td>12 to &lt;18 Years</td>
<td>13.0 - 16.0</td>
<td>12.0 - 16.0</td>
<td>g/dL</td>
</tr>
<tr>
<td>≥ 18 Years</td>
<td>13.7 - 17.1</td>
<td>11.7 - 15.5</td>
<td>g/dL</td>
</tr>
</tbody>
</table>

#### HEMATOCRIT (HCT)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 3 Days</td>
<td>43.4 - 56.1</td>
<td>37.4 - 55.9</td>
<td>%</td>
</tr>
<tr>
<td>4 - 7 Days</td>
<td>40.2 - 54.7</td>
<td>39.1 - 56.7</td>
<td>%</td>
</tr>
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<td>8 - 14 Days</td>
<td>33.7 - 51.1</td>
<td>36.4 - 51.2</td>
<td>%</td>
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<td>15 - 30 Days</td>
<td>29.7 - 44.2</td>
<td>30.6 - 44.7</td>
<td>%</td>
</tr>
<tr>
<td>31 - 60 Days</td>
<td>26.2 - 35.3</td>
<td>26.3 - 36.6</td>
<td>%</td>
</tr>
<tr>
<td>61 - 180 Days</td>
<td>28.7 - 36.1</td>
<td>28.5 - 36.1</td>
<td>%</td>
</tr>
<tr>
<td>0.5 to 2 Years</td>
<td>33.0 - 39.0</td>
<td>33.0 - 39.0</td>
<td>%</td>
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<tr>
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<td>12 to &lt;18 Years</td>
<td>37.0 - 49.0</td>
<td>36.0 - 46.0</td>
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#### MEAN CORPUSCULAR VOLUME (MCV)

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### MEAN CORPUSCULAR HEMOGLOBIN (MCH)

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<td>24.7 - 29.6</td>
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<tr>
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### MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION (MCHC)

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<td>g/dL</td>
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<td>15 - 30 Days</td>
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<td>g/dL</td>
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<tr>
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<tr>
<td>61 - 180 Days</td>
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<td>32.0 - 35.1</td>
<td>g/dL</td>
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<tr>
<td>&lt;0.5 to &lt;2 Years</td>
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<td>g/dL</td>
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<tr>
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<tr>
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<td>33.0 - 37.0</td>
<td>g/dL</td>
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### RED CELL DISTRIBUTION WIDTH (RDW-SD)

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### MEAN PLATELET VOLUME (MPV)

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### PLATELETS (PLT)

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<th>Units</th>
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<tr>
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<td>164 - 351</td>
<td>234 - 346</td>
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<td>4 - 7 Days</td>
<td>220 - 411</td>
<td>126 - 462</td>
<td>K/mm3</td>
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<tr>
<td>8 - 14 Days</td>
<td>226 - 587</td>
<td>265 - 557</td>
<td>K/mm3</td>
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<td>15 - 30 Days</td>
<td>210 - 493</td>
<td>236 - 554</td>
<td>K/mm3</td>
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<tr>
<td>31 - 60 Days</td>
<td>275 - 567</td>
<td>295 - 615</td>
<td>K/mm3</td>
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<tr>
<td>61 - 180 Days</td>
<td>275 - 566</td>
<td>288 - 598</td>
<td>K/mm3</td>
</tr>
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<td>0.5 to &lt;2 Days</td>
<td>219 - 452</td>
<td>229 - 465</td>
<td>K/mm3</td>
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<td>2 to &lt;6 Days</td>
<td>204 - 405</td>
<td>204 - 402</td>
<td>K/mm3</td>
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<td>194 - 364</td>
<td>183 - 369</td>
<td>K/mm3</td>
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<tr>
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<td>150 - 460</td>
<td>150 - 460</td>
<td>K/mm3</td>
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</tbody>
</table>
CBCD  CBC (Complete Blood Count) with Differential

Baystate Reference Laboratories

Additional Information
Under specific conditions (including failure of the automated differential, meeting specific criteria for review, and on all patients under 90 days of age) a manual differential will be performed. A peripheral blood smear is made when indicated based on instrument flagging, on all microtainer specimens, and on all specimens received from the D’Amour Center for Cancer Cure.

EDTA whole blood

Specimen Volume
Lavender tube: 4 mL, BD Microtainer: 500 microliters

Minimum Specimen Volume
Lavender tube: 1 mL, BD Microtainer: 500 mL

Transport Temperature
Refrigerate

Specimen Stability
24 hours refrigerated

Reasons for Rejection
Specimen clotted, <1.0 mL, greater than 72 hours old, specimen frozen

Methodology
XN9000

Days and Times Performed
24 hours a day, 7 days a week

Turnaround Time
Stat: 1 hour, Routine: 8 hours

CPT Code
85025

EMR Interface Order Code
32151

Critical Values

<table>
<thead>
<tr>
<th>HEMATOCRIT (HCT)</th>
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<tbody>
<tr>
<td>Age</td>
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<tr>
<td>1-7 Days</td>
</tr>
<tr>
<td>8-14 Days</td>
</tr>
<tr>
<td>15-60 Days</td>
</tr>
<tr>
<td>61-180 Days</td>
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<td>&gt;180 Days</td>
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<table>
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<td>1-7 Days</td>
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<td>8-14 Days</td>
</tr>
<tr>
<td>15-60 Days</td>
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<tr>
<td>61-180 Days</td>
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<td>&gt;180 Days</td>
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<table>
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<table>
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<th>WHITE BLOOD CELL COUNT (WBC)</th>
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<th>BLAST%</th>
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<tbody>
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<tr>
<td>&lt;180 Days</td>
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<td>&gt;180 Days</td>
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## Reference Ranges — CBC (Complete Blood Count) with Differential

### WHITE BLOOD CELL COUNT (WBC)

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<th>Males</th>
<th>Females</th>
<th>Units</th>
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<td>8.8 - 14.8</td>
<td>K/mm³</td>
</tr>
<tr>
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<td>8.4 - 15.4</td>
<td>K/mm³</td>
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<tr>
<td>15 - 30 days</td>
<td>7.4 - 14.6</td>
<td>8.3 - 14.7</td>
<td>K/mm³</td>
</tr>
<tr>
<td>31 - 60 days</td>
<td>6.4 - 14.2</td>
<td>7.0 - 15.1</td>
<td>K/mm³</td>
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<tr>
<td>61 - 180 days</td>
<td>6.9 - 15.7</td>
<td>6.8 - 16.0</td>
<td>K/mm³</td>
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<tr>
<td>0.5 to &lt;2 years</td>
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<td>K/mm³</td>
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<tr>
<td>2 to &lt;6 years</td>
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<td>5.3 - 11.5</td>
<td>K/mm³</td>
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<tr>
<td>6 to &lt;12 years</td>
<td>4.5 - 10.5</td>
<td>4.7 - 10.3</td>
<td>K/mm³</td>
</tr>
<tr>
<td>≥ 12 years</td>
<td>4.0 - 11.0</td>
<td>4.0 - 11.0</td>
<td>K/mm³</td>
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### RED BLOOD CELL COUNT (RBC)

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<td>m/m³</td>
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<td>8 - 14 Days</td>
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<td>3.2 - 5.0</td>
<td>m/m³</td>
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<td>15 - 30 Days</td>
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<td>3.1 - 4.6</td>
<td>m/m³</td>
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<td>m/m³</td>
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<td>m/m³</td>
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<td>0.5 to &lt;2 Years</td>
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<td>m/m³</td>
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### HEMOGLOBIN (HGB)

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<td>8 - 14 Days</td>
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<td>8.9 - 12.3</td>
<td>g/dL</td>
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<td>g/dL</td>
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<td>2 to &lt;6 Years</td>
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<td>g/dL</td>
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<tr>
<td>12 to &lt;18 Years</td>
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### HEMATOCRIT (HCT)

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<td>28.7 - 36.1</td>
<td>28.5 - 36.1</td>
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<td>33.0 - 39.0</td>
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<td>2 to &lt;6 Years</td>
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<tr>
<td>6 to &lt;12 Years</td>
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<tr>
<td>12 to &lt;18 Years</td>
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<td>≥ 18 Years</td>
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### MEAN CORPUSCULAR VOLUME (MCV)

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<td>4 - 7 Days</td>
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<td>15 - 30 Days</td>
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<td>91.8 - 102.5</td>
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<tr>
<td>Age</td>
<td>Males</td>
<td>Females</td>
<td>Units</td>
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<td>-------------</td>
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<td>84.6 - 95.4</td>
<td>85.0 - 96.9</td>
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<td>74.7 - 87.6</td>
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<td>fl</td>
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<tr>
<td>2 to &lt;6 Years</td>
<td>72.7 - 83.6</td>
<td>73.8 - 84.3</td>
<td>fl</td>
</tr>
<tr>
<td>6 to &lt;12 Years</td>
<td>75.9 - 86.5</td>
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<td>≥ 12 Years</td>
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<td>80.0 - 100.0</td>
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**MEAN CORPUSCULAR HEMOGLOBIN (MCH)**

<table>
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<th>Females</th>
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<td>8 - 14 Days</td>
<td>30.6 - 35.7</td>
<td>31.7 - 36.5</td>
<td>pg</td>
</tr>
<tr>
<td>15 - 30 Days</td>
<td>30.1 - 33.8</td>
<td>30.8 - 34.6</td>
<td>pg</td>
</tr>
<tr>
<td>31 - 60 Days</td>
<td>28.4 - 32.6</td>
<td>28.6 - 32.9</td>
<td>pg</td>
</tr>
<tr>
<td>61 - 180 Days</td>
<td>24.5 - 29.1</td>
<td>24.7 - 29.6</td>
<td>pg</td>
</tr>
<tr>
<td>0.5 to &lt;2 Years</td>
<td>23.2 - 27.5</td>
<td>23.5 - 27.6</td>
<td>pg</td>
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<tr>
<td>2 to &lt;6 Years</td>
<td>24.1 - 28.4</td>
<td>24.3 - 28.6</td>
<td>pg</td>
</tr>
<tr>
<td>6 to &lt;12 Years</td>
<td>25.4 - 29.4</td>
<td>25.4 - 29.6</td>
<td>pg</td>
</tr>
<tr>
<td>≥ 12 Years</td>
<td>27.0 - 34.0</td>
<td>27.0 - 34.0</td>
<td>pg</td>
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</tbody>
</table>

**MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION (MCHC)**

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 3 Days</td>
<td>32.1 - 34.2</td>
<td>31.6 - 34.7</td>
<td>g/dL</td>
</tr>
<tr>
<td>4 - 7 Days</td>
<td>32.0 - 34.6</td>
<td>31.8 - 34.6</td>
<td>g/dL</td>
</tr>
<tr>
<td>8 - 14 Days</td>
<td>32.0 - 35.0</td>
<td>32.1 - 34.8</td>
<td>g/dL</td>
</tr>
<tr>
<td>15 - 30 Days</td>
<td>32.3 - 35.0</td>
<td>32.0 - 35.0</td>
<td>g/dL</td>
</tr>
<tr>
<td>31 - 60 Days</td>
<td>32.5 - 35.5</td>
<td>32.2 - 35.3</td>
<td>g/dL</td>
</tr>
<tr>
<td>61 - 180 Days</td>
<td>32.0 - 35.1</td>
<td>32.0 - 35.1</td>
<td>g/dL</td>
</tr>
<tr>
<td>&lt;0.5 to &lt;2 Years</td>
<td>31.9 - 35.0</td>
<td>31.8 - 34.8</td>
<td>g/dL</td>
</tr>
<tr>
<td>2 to &lt;6 Years</td>
<td>31.9 - 35.1</td>
<td>31.9 - 35.0</td>
<td>g/dL</td>
</tr>
<tr>
<td>6 to &lt;12 Years</td>
<td>32.2 - 35.2</td>
<td>31.9 - 35.0</td>
<td>g/dL</td>
</tr>
<tr>
<td>≥ 12 Years</td>
<td>33.0 - 37.0</td>
<td>33.0 - 37.0</td>
<td>g/dL</td>
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**RED CELL DISTRIBUTION WIDTH (RDW-SD)**

<table>
<thead>
<tr>
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<th>Females</th>
<th>Units</th>
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<tr>
<td>≥ 12 Years</td>
<td>&lt;47.0</td>
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**MEAN PLATELET VOLUME (MPV)**

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<td>9.4 - 12.4</td>
<td>9.4 - 12.4</td>
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**PLATELETS (PLT)**

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<th>Males</th>
<th>Females</th>
<th>Units</th>
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<tbody>
<tr>
<td>1 - 3 days</td>
<td>164 - 351</td>
<td>234 - 346</td>
<td>K/mm3</td>
</tr>
<tr>
<td>4 - 7 Days</td>
<td>220 - 411</td>
<td>126 - 462</td>
<td>K/mm3</td>
</tr>
<tr>
<td>8 - 14 Days</td>
<td>226 - 587</td>
<td>265 - 557</td>
<td>K/mm3</td>
</tr>
<tr>
<td>15 - 30 Days</td>
<td>210 - 493</td>
<td>236 - 554</td>
<td>K/mm3</td>
</tr>
<tr>
<td>31 - 60 Days</td>
<td>275 - 567</td>
<td>295 - 615</td>
<td>K/mm3</td>
</tr>
<tr>
<td>61 - 180 Days</td>
<td>275 - 566</td>
<td>288 - 598</td>
<td>K/mm3</td>
</tr>
<tr>
<td>0.5 to &lt;2 Years</td>
<td>219 - 452</td>
<td>229 - 465</td>
<td>K/mm3</td>
</tr>
<tr>
<td>2 to &lt;6 Days</td>
<td>204 - 405</td>
<td>204 - 402</td>
<td>K/mm3</td>
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<tr>
<td>6 to &lt;12 Years</td>
<td>194 - 364</td>
<td>183 - 369</td>
<td>K/mm3</td>
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<tr>
<td>≥ 12 Days</td>
<td>150 - 460</td>
<td>150 - 460</td>
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**NEUTROPHIL ABSOLUTE NUMBER**

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<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
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<tbody>
<tr>
<td>1 - 3 Days</td>
<td>1.7 - 4.7</td>
<td>2.1 - 8.4</td>
<td>K/mm3</td>
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<tr>
<td>4 - 7 Days</td>
<td>1.9 - 4.1</td>
<td>1.8 - 5.1</td>
<td>K/mm3</td>
</tr>
<tr>
<td>8 - 14 Days</td>
<td>1.9 - 5.2</td>
<td>1.7 - 5.4</td>
<td>K/mm3</td>
</tr>
<tr>
<td>15 - 30 Days</td>
<td>1.5 - 3.6</td>
<td>1.3 - 4.3</td>
<td>K/mm3</td>
</tr>
<tr>
<td>31 - 60 Days</td>
<td>1.2 - 4.4</td>
<td>1.2 - 4.9</td>
<td>K/mm3</td>
</tr>
<tr>
<td>61 - 180 Days</td>
<td>1.4 - 6.4</td>
<td>1.4 - 6.7</td>
<td>K/mm3</td>
</tr>
<tr>
<td>Age</td>
<td>0.5 to &lt;2 Years</td>
<td>2 to &lt;6 Years</td>
<td>6 to &lt;12 Years</td>
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<tr>
<td>-------------------</td>
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<tr>
<td></td>
<td>1.6 - 8.3 K/mm³</td>
<td>1.8 - 7.4 K/mm³</td>
<td>1.8 - 6.6 K/mm³</td>
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<td>LYMPHOCYTES ABSOLUTE NUMBER</td>
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<table>
<thead>
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<th>Males</th>
<th>Females</th>
<th>Units</th>
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<tbody>
<tr>
<td>1 - 3 days</td>
<td>2.2 - 5.4 K/mm³</td>
<td>2.8 - 5.3 K/mm³</td>
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<tr>
<td>4 - 7 days</td>
<td>4.3 - 7.7 K/mm³</td>
<td>4.9 - 7.0 K/mm³</td>
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<tr>
<td>8 - 14 Days</td>
<td>4.2 - 7.4 K/mm³</td>
<td>4.4 - 8.3 K/mm³</td>
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<tr>
<td>15 - 30 Days</td>
<td>3.9 - 8.5 K/mm³</td>
<td>4.1 - 8.9 K/mm³</td>
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<tr>
<td>31 - 60 Days</td>
<td>3.3 - 8.3 K/mm³</td>
<td>3.2 - 9.1 K/mm³</td>
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<tr>
<td>61 - 180 Days</td>
<td>2.8 - 8.3 K/mm³</td>
<td>2.8 - 8.4 K/mm³</td>
<td></td>
</tr>
<tr>
<td>0.5 to &lt;2 Years</td>
<td>1.9 - 6.8 K/mm³</td>
<td>1.2 - 7.0 K/mm³</td>
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<tr>
<td>2 to &lt;6 Years</td>
<td>1.3 - 4.7 K/mm³</td>
<td>1.4 - 4.7 K/mm³</td>
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<tr>
<td>6 to &lt;12 Years</td>
<td>1.1 - 3.4 K/mm³</td>
<td>1.1 - 3.5 K/mm³</td>
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<tr>
<td>≥ 12 Years</td>
<td>0.8 - 3.1 K/mm³</td>
<td>0.8 - 3.1 K/mm³</td>
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<table>
<thead>
<tr>
<th>MONOCYTE ABSOLUTE NUMBER</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
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<tbody>
<tr>
<td>1 - 3 Days</td>
<td>0.2 - 1.8 K/mm³</td>
<td>0.2 - 2.2 K/mm³</td>
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<td>4 - 7 Days</td>
<td>0.2 - 2.2 K/mm³</td>
<td>0.2 - 2.2 K/mm³</td>
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<tr>
<td>8 - 14 Days</td>
<td>0.3 - 3.0 K/mm³</td>
<td>0.1 - 2.9 K/mm³</td>
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</tr>
<tr>
<td>15 - 30 Days</td>
<td>0.2 - 3.5 K/mm³</td>
<td>0.2 - 5.0 K/mm³</td>
<td></td>
</tr>
<tr>
<td>31 - 60 Days</td>
<td>0.3 - 2.7 K/mm³</td>
<td>0.2 - 2.1 K/mm³</td>
<td></td>
</tr>
<tr>
<td>61 - 180 Days</td>
<td>0.5 - 1.9 K/mm³</td>
<td>0.6 - 1.9 K/mm³</td>
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</tr>
<tr>
<td>0.5 to &lt;2 Years</td>
<td>0.4 - 2.0 K/mm³</td>
<td>0.3 - 1.5 K/mm³</td>
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</tr>
<tr>
<td>2 to &lt;6 Years</td>
<td>0.3 - 1.2 K/mm³</td>
<td>0.5 - 1.1 K/mm³</td>
<td></td>
</tr>
<tr>
<td>6 to &lt;12 Years</td>
<td>0.3 - 0.9 K/mm³</td>
<td>0.4 - 0.9 K/mm³</td>
<td></td>
</tr>
<tr>
<td>≥ 12 Years</td>
<td>0.4 - 1.3 K/mm³</td>
<td>0.4 - 0.9 K/mm³</td>
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<table>
<thead>
<tr>
<th>EOSINOPHIL ABSOLUTE NUMBER</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>≥ 12 Years</td>
<td>0.0 - 0.4 K/mm³</td>
<td>0.0 - 0.4 K/mm³</td>
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<table>
<thead>
<tr>
<th>BASOPHIL ABSOLUTE NUMBER</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
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<tbody>
<tr>
<td>≥ 12 Years</td>
<td>0.0 - 0.1 K/mm³</td>
<td>0.0 - 0.1 K/mm³</td>
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</table>
### CEA  CEA, Monoclonal

**Baystate Reference Laboratories**

**Important Note**
Please contact Chemistry lab before adding this test to a prior sample.

**Collection Container**
Serum gel
Serum

**Specimen Volume**
1.0 mL

**Minimum Specimen Volume**
0.4 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days, Frozen: 6 months freeze/thaw cycle:3

**Methodology**
Electrochemiluminescence immunoassay ECLIA

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
20 - 69 year old: 0 - 3.8ng/mL
20-69 year old: smokers 5.5ng/mL

**CPT Code**
82378

**LOINC Code**
2039-6

**EMR Interface Order Code**
48605

### CDCOMP  Celiac Disease Comprehensive

**Baystate Reference Laboratories**

**Important Note**
Includes: Deaminated Gliadin IgA & IgG, Tissue Transglutaminase IgA & IgG, and Serum IgA Quantitation

**Collection Container**
Serum gel or red top tube
3 mL serum

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**Reasons for Rejection**
Hemolysis, lipemia, gross bacterial contamination

**CPT Code**
83516 x4, 82784

**LOINC Code**
2458-8, 58709-7, 58710-5, 31017-7, 32998-7

**EMR Interface Order Code**
68506

### CELHLA  Celiac Disease HLA DQ Association

**LabCorp**

**Additional Information**
More than 95% of celiac disease patients are positive for either DQ2 or DQ8; however, these antigens may also be present in patients without celiac disease.

**Collection Container**
Lavender top (EDTA)
Whole blood

**Other Acceptable Specimen Types**
Buccal swabs

**Specimen Volume**
7 mL

**Minimum Specimen Volume**
3 mL

**Transport Temperature**
 Ambient

**Specimen Stability**
30 days

**Methodology**
Polymerase chain reaction (PCR)
CPT Code
81377, 81383

LOINC Code
45023-9

EMR Interface Order Code
65010

**CFCLCT  Cell Count, CSF**

*Baystate Reference Laboratories*

**Collection Container**
CSF

**Spinal fluid**

**Special Handling Instructions**
Specimen should be transported to the laboratory ASAP after collection

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Reasons for Rejection**
Grossly clotted specimen, quantity not sufficient

**Methodology**
XN9000/Hemocytometer

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Test performed upon receipt in laboratory

**CPT Code**
81377

**LOINC Code**
45023-9

**EMR Interface Order Code**
65010

---

**CPT Code**
81383

**LOINC Code**
45023-9

**EMR Interface Order Code**
65010

---

**CELLCT  Cell Count, Fluid**

*Baystate Reference Laboratories*

**Collection Container**
Lavender (EDTA)

**Body fluid**

**Special Handling Instructions**
Specimen should be transported to the laboratory ASAP after collection

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Reasons for Rejection**
Grossly clotted specimen, quantity not sufficient

**Methodology**
XN9000/Hemocytometer

Day(s) and Time(s) Performed
Monday through Saturday; 4 p.m.

**Test Classification**
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.
CPT Code Information
83516

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>CMA</td>
<td>Centromere Ab, IgG, S</td>
<td>31290-0</td>
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<table>
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<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>CMA</td>
<td>Centromere Ab, IgG, S</td>
<td>31290-0</td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: OK

Method Name
Multiplex Flow Immunoassay

Secondary ID
9278

CENB  Centromere B Antibodies

LabCorp

Important Note
If Centromere B is not specified, use test code CENTAB

Collection Container
Serum gel or red top tube

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days
Refrigerated: 14 days
Frozen: 14 days

CPT Code
86235

EMR Interface Order Code
71399

CEPHLO  Cephalosporin IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

LOINC Code
50033-0

EMR Interface Order Code
00500

CSF Cytology  Cerebrospinal Fluid Cytology

Baystate Reference Laboratories

Additional Information
Label with patient’s name, hospital number, date of birth, and name of
attending physician. Use patient’s ID label if possible. Deliver to the
Cytology Laboratory.

Use: Establish the presence of primary or metastatic neoplasm; aid in
the diagnosis of fungal meningitis, particularly Cryptococcus.

Collection Container
Sterile tube from lumbar puncture tray or sterile disposable container.

Fresh Fluid

Special Handling Instructions
Specimens should not be stored because cerbrospinal fluid specimens
degenerate rapidly. Deliver to the laboratory immediately.

Specimen Volume
1 - 2 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
Transport specimen to Cytology as soon as possible

Reasons for Rejection
Inadequate quantity to process; unlabeled or improperly labeled
specimen; fixation of any type

Methodology
Routine cytologic examination of ThinPrep preparations

Turnaround Time
24 - 48 hours; for same day processing, specimens must be received
by 2 pm

Reference Ranges
From absence of abnormal findings (negative for malignancy) to
malignant cells present

CPT Code
88104
**CERT**  
Certolizumab Level and Antibody

*Esoterix Endocrinology Laboratory*

**Important Note**
Allow a minimum clotting time of 30 to 60 minutes with serum separation within 2 hours of collection.

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
0.6 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Frozen: 14 days  
Refrigerated: 14 days  
Ambient: 4 hours

**Methodology**
Electrochemiluminescence immunoassay (ECLIA); Surface Plasmon Resonance

**CPT Code**
80299, 82397

**EMR Interface Order Code**
46075

---

**Cervical/Vaginal Cytology - TP**  
Cervical/Vaginal Cytology - ThinPrep® Pap Test

*Baystate Reference Laboratories*

**Reflex Tests**
HPV if ASCUS

**Collection Container**
Cytology Pap test fixative container (PreservCyt® solution), available through Client Services by calling (413) 322-4000, option 3

One cytology fixative bottle (PreservCyt® Solution) containing adequate sampling from both the ectocervix and endocervix or vaginal specimen.

**Special Handling Instructions**
Record the patients name, date of birth and/or medical record number on the vial.

Remove lid from fixative bottle prior to specimen collection to facilitate rapid fixation. Obtain an adequate sampling from the ectocervix using a plastic spatula. Rinse the spatula into PreservCyt® solution vial by swirling the spatula vigorously in the vial 10 times. Discard spatula.

Next, obtain an adequate sampling from the endocervix using an endocervical brush device. Slowly rotate 1/4 or 1/2 turn to one direction. Do not over-rotate. Rinse the brush in the PresevCyt® solution by rotating the device in the solution one time while pushing against the PreservCyt® vial wall. Swirl the brush vigorously to further release material. Discard brush.

Tighten the cap so that the torque line on the cap passes the torque line on the vial. Place the labeled vial with the completed requisition in a specimen bag for transport to the laboratory.

**Specimen Volume**
PreservCyt® Fixative Vial

**Transport Temperature**
Room Temperature

**Specimen Stability**
Due to storage constraints vials will be discarded after 30 days.

**Reasons for Rejection**
Unlabeled or mislabeled fixative container.

**Methodology**
Hologic ThinPrep® Imaging System

**Days and Times Performed**
Monday - Friday, 7:30 am - 5 pm

**Turnaround Time**
3 - 7 working days

**Reference Ranges**
Negative to abnormal cells consistent with malignant neoplasm

**CPT Code**
88175 (Technical), 88141(Professional)
CCHESE  Cheddar Cheese IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

CHSNUT  Chestnut (Food) IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

CHIFSH  CHIC2 FISH

Mayo Medical Laboratories

Collection Container
Blood: Green (Sodium Heparin)
Bone Marrow: Syringe with heparin
Peripheral Blood

Special Handling Instructions
Send to Referral Laboratory with copy of ordering requisition and copy of surgical pathology (if available).

Specimen Volume
5 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Ambient

Specimen Stability
Stable at ambient temperature

Reasons for Rejection
Incorrect tube, insufficient quantity

Methodology
Fluorescent in-situ hybridization

Turnaround Time
Preliminary results available after 2 - 3 days, final report within 10 - 14 days

Reference Ranges
Laboratory to provide interpretive report
CHCKNF  Chicken Feathers IgE

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
88271, 88275

**EMR Interface Order Code**
69200

CHKPEA  Chickpea IgE

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48645

CHIKV  Chikungunya IgM and IgG, Antibody, Serum

**Mayo Clinic Laboratories in Rochester**

**Useful For**
Aiding in the diagnosis of recent infection with Chikungunya virus in patients with recent travel to endemic areas and a compatible clinical syndrome

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIKM</td>
<td>Chikungunya IgM, Ab, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>CHIKG</td>
<td>Chikungunya IgG, Ab, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>CHIKI</td>
<td>Chikungunya Interpretation</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Method Name**
Enzyme-Linked Immunosorbent Assay (ELISA)

**Reporting Name**
Chikungunya IgM and IgG, Ab, S

**Specimen Type**
Serum

**Specimen Required**

<table>
<thead>
<tr>
<th>Collection Container/Tube:</th>
<th>Preferred: Serum gel</th>
<th>Acceptable: Red top</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submission Container/Tube:</td>
<td>Aliquot tube</td>
<td></td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>0.5 mL</td>
<td></td>
</tr>
</tbody>
</table>
Additional Information: Testing a patient in a convalescent period is recommended because specimens collected too early following infection may be negative for antibodies to Chikungunya virus.

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

Reference Values
- IgM: Negative
- IgG: Negative

Reference values apply to all ages.

Day(s) and Time(s) Performed
Tuesday; 11 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
- IgM: 86790
- IgG: 86790

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIKV</td>
<td>Chikungunya IgM and IgG, Ab, S</td>
<td>93976-9</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>CHIKI</td>
<td>Chikungunya Interpretation</td>
<td>69048-7</td>
</tr>
<tr>
<td>CHIKG</td>
<td>Chikungunya IgG, Ab, S</td>
<td>88630-9</td>
</tr>
<tr>
<td>CHIKM</td>
<td>Chikungunya IgM, Ab, S</td>
<td>88629-1</td>
</tr>
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</table>

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

Testing Algorithm
See Mosquito-borne Disease Laboratory Testing in Special Instructions.

Special Instructions
- Mosquito-borne Disease Laboratory Testing

Secondary ID
64173

CHILI Chili Pepper IgE

Contracted Reference Lab

Collection Container
- Serum gel or red top tube
- Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
68546

Container
Serum gel or red top tube

SCLAM Chlamydia Serology, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Chlamydia Serology, S

Useful For
Aids in the clinical diagnosis of chlamydia infections

Specimen Type
Serum

Advisory Information
This test is not intended for medical-legal use.

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.2 mL

Specimen Minimum Volume
0.15 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
- Chlamydia pneumoniae
  - IgG: <1:64
  - IgM: <1:10

- Chlamydia psittaci
  - IgG: <1:64
IgM: <1:10

*Chlamydia trachomatis*

IgG: <1:64
IgM: <1:10

**Day(s) and Time(s) Performed**
Monday through Friday; 9 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
86631 x 3-IgG
86632 x 3-IgM

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>SCLAM</td>
<td>Chlamydia Serology, S</td>
<td>77166-7</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>185</td>
<td>C. pneumoniae IgG</td>
<td>6913-8</td>
</tr>
<tr>
<td>186</td>
<td>C. pneumoniae IgM</td>
<td>6914-6</td>
</tr>
<tr>
<td>190</td>
<td>C. trachomatis IgG</td>
<td>6919-5</td>
</tr>
<tr>
<td>191</td>
<td>C. trachomatis IgM</td>
<td>6920-3</td>
</tr>
<tr>
<td>187</td>
<td>C. psittaci IgG</td>
<td>6916-1</td>
</tr>
<tr>
<td>188</td>
<td>C. psittaci IgM</td>
<td>6917-9</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: Reject
- Gross lipemia: Reject

**Method Name**
Micro-Immunofluorescent Antibody (MIF) Assay

**Testing Algorithm**
Includes *Chlamydothila pneumoniae*, *Chlamydothila psittaci*, and *Chlamydia trachomatis*.

**Forms**
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

---

**UCTAPR  Chlamydia trachomatis Amplified Probe, Urine**

*Baystate Reference Laboratories*

**Additional Information**

**Reflex Tests**

**Collection Container**
Gen-Probe Aptima

**Other Acceptable Specimen Types**

**Special Handling Instructions**

**Specimen Volume**
2 mL

Minimum Specimen Volume

Transport Temperature

Specimen Stability

Reasons for Rejection

Methodology
A negative urine result for a patient who is Withdraw in GenProbe Aptima® tube. Swab specimens must be Remove cap from specimen transport tube and immediately (Aptima® collection kits are available Break swab Gently rotate swab Withdraw Break swab (Aptima® collection kits are available in GenProbe Aptima® tube. Swab specimens must be counted the white “cleaning” swab instead of the collection swab.

**Specimen Volume**
Swab: GenProbe Aptima® swab for each source

**Transport Temperature**
2 - 30° C

**Specimen Stability**
Store swab in GenProbe Aptima® tube. Swab specimens must be tested within 60 days of collection.

**Reasons for Rejection**
Swab specimens collected into the Aptima® transport tubes received without a swab other than urine; Aptima® transport tube received containing the white “cleaning” swab instead of the collection swab.

**Methodology**
The GenProbe Aptima® Combo2 assay is a second generation nucleic acid amplification test that utilized target capture, transcription-mediated amplification, and hybridization protection assay technologies to streamline specimen processing, amplify target rRNA and detect amplicon, respectively.

**Days and Times Performed**
Daily; testing performed Monday - Friday

**Turnaround Time**
24 - 72 hours

**Reference Ranges**
No Chlamydia trachomatis RNA detected; no Neisseria gonorrhoeae RNA detected

**CPT Code**
87491 (Chlamydia amplified probe); 87591 (Gonorrhoeae amplified probe)

**EMR Interface Order Code**
59065

**PCTGC** Chlamydia/GC Amplified Probe, Pharyngeal

**Baystate Reference Laboratories**

**Additional Information**

**Limitations:** A Negative result does not preclude infection with C. trachomatis or N. gonorrhoeae because results are dependent on adequate specimen collection, absence of inhibitors, and sufficient rRNA to be detected. The Aptima® Combo2 assay is not intended for the evaluation of suspected sexual abuse or for other medicolegal indications such as testing patients at age younger than 13 years old. As is true for all non-culture methods, a positive specimen obtained from a patient after therapeutic treatment cannot be interpreted as indicating the presence of viable C trachomatis or N. gonorrhoeae.

Therapeutic failure or success cannot be determined with Aptima® Combo2 assay since nucleic acid may persist following appropriate antimicrobial therapy. A negative urine result for a patient who is clinically suspected of having a chlamydial infection does not rule out the presence of C. trachomatis or N. gonorrhoeae in the urogenital tract. Testing of an endocervical (female) or urethral (male) specimen is recommended if there is high clinical suspicion of infection.

**Rectal/Pharyngeal swab collection**: Insert the specimen collection swab (blue shaft) into anal canal or pharynx. Gently rotate swab clockwise for 2-3 seconds to ensure adequate sampling. Withdraw swab. Remove cap from specimen transport tube and immediately place blue specimen collection swab into transport tube. Break swab shaft at the scoreline and recap the specimen transport tube tightly.

**Collection Container**
GenProbe Aptima® swab (Aptima® collection kits are available through Client Service, (413) 322-4000 option 5

**Rectal/Pharyngeal swab**: Male or female rectal or pharyngeal swab placed in Uniex GenProbe Aptima® swab transport tube.

**Specimen Volume**
Swab: GenProbe Aptima® swab for each source

**Transport Temperature**
2 - 30° C

**Specimen Stability**
Store swab in GenProbe Aptima® tube. Swab specimens must be tested within 60 days of collection.

**Reasons for Rejection**
Swab specimens collected into the Aptima® transport tubes received without a swab other than urine; Aptima® transport tube received containing the white “cleaning” swab instead of the collection swab.

**Methodology**
The GenProbe Aptima® Combo2 assay is a second generation nucleic acid amplification test that utilized target capture, transcription-mediated amplification, and hybridization protection assay technologies to streamline specimen processing, amplify target rRNA and detect amplicon, respectively.

**Days and Times Performed**
Daily; testing performed Monday - Friday

**Turnaround Time**
24 - 72 hours

**Reference Ranges**
No Chlamydia trachomatis RNA detected; no Neisseria gonorrhoeae RNA detected

**CPT Code**
87491 (Chlamydia amplified probe); 87591 (Gonorrhoeae amplified probe)

**EMR Interface Order Code**
66200

**RCTGC** Chlamydia/GC Amplified Probe, Rectal

**Baystate Reference Laboratories**

**Additional Information**

**Limitations:** A Negative result does not preclude infection with C. trachomatis or N. gonorrhoeae because results are dependent on adequate specimen collection, absence of inhibitors, and sufficient rRNA to be detected. The Aptima® Combo2 assay is not intended for the evaluation of suspected sexual abuse or for other medicolegal indications such as testing patients at age younger than 13 years old. As is true for all non-culture methods, a positive specimen obtained from a patient after therapeutic treatment cannot be interpreted as indicating the presence of viable C trachomatis or N. gonorrhoeae.

Therapeutic failure or success cannot be determined with Aptima® Combo2 assay since nucleic acid may persist following appropriate antimicrobial therapy. A negative urine result for a patient who is clinically suspected of having a chlamydial infection does not rule out the presence of C. trachomatis or N. gonorrhoeae in the urogenital tract. Testing of an endocervical (female) or urethral (male) specimen is recommended if there is high clinical suspicion of infection.

**Rectal/Pharyngeal swab collection**: Insert the specimen collection swab (blue shaft) into anal canal or pharynx. Gently rotate swab clockwise for 2-3 seconds to ensure adequate sampling. Withdraw swab. Remove cap from specimen transport tube and immediately place blue specimen collection swab into transport tube. Break swab shaft at the scoreline and recap the specimen transport tube tightly.

**Collection Container**
GenProbe Aptima® swab (Aptima® collection kits are available through Client Service, (413) 322-4000 option 5

**Rectal/Pharyngeal swab**: Male or female rectal or pharyngeal swab placed in Uniex GenProbe Aptima® swab transport tube.

**Specimen Volume**
Swab: GenProbe Aptima® swab for each source

**Transport Temperature**
2 - 30° C

**Specimen Stability**
Store swab in GenProbe Aptima® tube. Swab specimens must be tested within 60 days of collection.
Amplified Probe, Urine

A negative urine result for a patient who is within 24 hours of collection. The patient should be instructed not to urinate for at least 1 hour prior to specimen collection, transferred to GenProbe Aptima® urine transport tube within 24 hours of collection.

Methodology
The GenProbe Aptima® Combo2 assay is a second generation nucleic acid amplification test that utilized target capture, transcription-mediated amplification, and hybridization protection assay technologies to streamline specimen processing, amplify target rRNA and detect amplicon, respectively.

Days and Times Performed
Daily; testing performed Monday - Friday

Turnaround Time
24 - 72 hours

Reference Ranges
No Chlamydia trachomatis RNA detected; no Neisseria gonorrhoeae RNA detected

CPT Code
87491 (Chlamydia amplified probe); 87591 (Gonorrhoeae amplified probe)

EMR Interface Order Code
66210

UCCTGC  Chlamydia/GC Amplified Probe, Urine

Baystate Reference Laboratories

Additional Information
Limitations: A Negative result does not preclude infection with C. trachomatis or N. gonorrhoeae because results are dependent on adequate specimen collection, absence of inhibitors, and sufficient rRNA to be detected. The Aptima® Combo2 assay is not intended for the evaluation of suspected sexual abuse or for other medicolegal indications such as testing patients at age younger than 13 years old. As is true for all non-culture methods, a positive specimen obtained from a patient after therapeutic treatment cannot be interpreted as indicating the presence of viable C. trachomatis or N. gonorrhoeae. Therapeutic failure or success cannot be determined with Aptima® Combo2 assay since nucleic acid may persist following appropriate antimicrobial therapy. A negative urine result for a patient who is clinically suspected of having a chlamydial infection does not rule out the presence of C. trachomatis or N. gonorrhoeae in the urogenital tract. Testing of an endocervical (female) or urethral (male) specimen is recommended if there is high clinical suspicion of infection.

Urine collection: Patient should not have urinated for at least 1 hour prior to specimen collection. The patient should be instructed not to cleanse the area and to collect the first 20 - 30mL of voided urine, the first part of the stream rather than a midstream specimen. 2 mL of collected urine sample must be carefully transferred to an Aptima® urine transport tube within 24 hours of collection.

Collection Container
GenProbe Aptima® Urine transport tube (Aptima® collection kits are available through Client Service, (413) 322-4000 option 5, ThinPrep PreservCyt® liquid Pap vial

Urine: First void urine, or patient should not have urinated for at least one hour prior to specimen collection, transferred to GenProbe Aptima® urine transport tube (see “collection” for details).

Specimen Volume
Urine: 20 - 30 mL

Transport Temperature
2 - 30° C

CTGCTP  Chlamydia/GC ThinPrep

Baystate Reference Laboratories

Additional Information
Limitations: A Negative result does not preclude infection with C. trachomatis or N. gonorrhoeae because results are dependent on adequate specimen collection, absence of inhibitors, and sufficient rRNA to be detected. The Aptima® Combo2 assay is not intended for the evaluation of suspected sexual abuse or for other medicolegal indications such as testing patients at age younger than 13 years old. As is true for all non-culture methods, a positive specimen obtained from a patient after therapeutic treatment cannot be interpreted as indicating the presence of viable C. trachomatis or N. gonorrhoeae.

Therapeutic failure or success cannot be determined with Aptima® Combo2 assay since nucleic acid may persist following appropriate antimicrobial therapy. A negative urine result for a patient who is clinically suspected of having a chlamydial infection does not rule out the presence of C. trachomatis or N. gonorrhoeae in the urogenital tract. Testing of an endocervical (female) or urethral (male) specimen is recommended if there is high clinical suspicion of infection.

ThinPrep specimen: Collect ThinPrep specimen according to the ThinPrep test packaging insert.

Collection Container
ThinPrep PreservCyt® liquid Pap vial

ThinPrep: Cervical/endocervical specimen collected in vial or ThinPrep PreservCyt® solution.

Specimen Volume
ThinPrep: One ThinPrep PreservCyt® vial

Transport Temperature
2 - 30° C
Specimen Stability
ThinPrep specimens processed for Chlamydia and GC testing by the laboratory must be tested within 14 days of processing.

Reasons for Rejection
ThinPrep specimens collected from sites other than cervical/endocervical (female). Test requests from ThinPrep specimens received after the Pap testing has been performed cannot be tested due to risk of contamination.

Methodology
The GenProbe Aptima® Combo2 assay is a second generation nucleic acid amplification test that utilized target capture, transcription-mediated amplification, and hybridization protection assay technologies to streamline specimen processing, amplify target rRNA and detect amplicon, respectively.

Days and Times Performed
Daily; testing performed Monday - Friday

Turnaround Time
24 - 72 hours

Reference Ranges
No Chlamydia trachomatis RNA detected; no Neisseria gonorrhoeae RNA detected

CLDIAZ  Chlordiazepoxide and Metabolite, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 07185

Reporting Name
Chlordiazepoxide and metabolite, S

Useful For
Monitoring chlordiazepoxide therapy
Assessing toxicity

Specimen Type
Serum Red

Shipping Instructions
Ship specimen in amber vial to protect from light.

Specimen Required
Supplies: Amber Frosted Tube, 5 mL (T192)
Collection Container/Tube: Red top
Submission Container/Tube: Amber vial
Specimen Volume: 0.5 mL
Collection Instructions: Spin down within 2 hours of draw.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated</td>
<td>14 days</td>
<td>LIGHT PROTECTED</td>
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<tr>
<td></td>
<td>(preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td>14 days</td>
<td></td>
<td>LIGHT PROTECTED</td>
</tr>
<tr>
<td>Ambient</td>
<td>24 hours</td>
<td></td>
<td>LIGHT PROTECTED</td>
</tr>
</tbody>
</table>

Reference Values
Therapeutic concentration:
Chlordiazepoxide: 400-3,000 ng/mL
Nordiazepam: 100-500 ng/mL

Day(s) and Time(s) Performed
Tuesday

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80346
G0480 (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>CDP</td>
<td>Chlordiazepoxide and metabolite, S</td>
<td>33060-5</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>8610</td>
<td>Chlordiazepoxide</td>
<td>3457-9</td>
</tr>
<tr>
<td>37321</td>
<td>Nordiazepam</td>
<td>3537-8</td>
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</tbody>
</table>

Reject Due To
Gross hemolysis   OK
Gross lipemia    OK
Gross icterus    OK

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
-Neurology Specialty Testing Client Test Request (T732)
-Therapeutics Test Request (T831)

CL  Chloride

Baystate Reference Laboratories

Collection Container
Serum gel
Serum, Heparinized plasma

Special Handling Instructions
Serum must be separated from cells within 6 hours of collection.

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 7 days, Refrigerated: 6 days

Reasons for Rejection
Serum/plasma not separated from cells within 6 hours of collection

Methodology
Ion selective electrode

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges

<table>
<thead>
<tr>
<th>CHLORIDE (CL)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 - 30 days</td>
<td>110-116</td>
<td>110-116</td>
<td>mmol/L</td>
</tr>
<tr>
<td></td>
<td>1 month - Adult</td>
<td>98-107</td>
<td>98-107</td>
<td>mmol/L</td>
</tr>
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</table>

CPT Code
82435

LOINC Code
2075-0

EMR Interface Order Code
04700

CSFCL  Chloride, CSF

Baystate Reference Laboratories

Collection Container
CSF
Cerebral Spinal Fluid

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Methodology
Ion selective electrode

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mmol/L

CPT Code
82438

EMR Interface Order Code
04700

FCL  Chloride, Fluid

Baystate Reference Laboratories

Collection Container
Fluid
Identify source of body fluid

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Methodology
Ion selective electrode

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mmol/L

CPT Code
82438

EMR Interface Order Code
12700

UCLR  Chloride, Urine

Baystate Reference Laboratories

Collection Container
Yellow BD tube
Random Urine

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Methodology
Ion selective electrode

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mmol/L

CPT Code
82436

LOINC Code
2078-4
**EMR Interface Order Code**
04720

**UCLQ Chloride, Urine, Quantitative**

*Baystate Reference Laboratories*

**Collection Container**
Jug

24 Hour urine

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Methodology**
Ion selective electrode

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Units of Measure**
mmol/24hr

**CPT Code**
82436

**LOINC Code**
2078-4

**EMR Interface Order Code**
04710

---

**CLRPRO Chlorpromazine (Thorazine)**

*Medtox Laboratories, Inc.*

**Additional Test Codes**
EMR Interface Order Code: 09700

**Reporting Name**
Chlorpromazine (Thorazine)

**Specimen Type**
Varies

**Specimen Required**
Submit only 1 of the following specimens:

**Plasma**
Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 1 mL sodium heparin plasma refrigerated in a plastic vial.

**Serum**
Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**
0.25 mL

---

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
Reference Range: 30 Ì¬â€œ 300 ng/mL

**Day(s) and Time(s) Performed**
Monday through Sunday

**CPT Code Information**
80342

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCHPZ</td>
<td>Chlorpromazine (Thorazine)</td>
<td>3471-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
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<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z3318</td>
<td>Chlorpromazine</td>
<td>3471-0</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

**Method Name**
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

---

**CHOCOL Chocolate IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48670
CHOL89  Cholest enol 8 9 Level

Kennedy Institute For Handicapped Children

Collection Container
Lavender (EDTA)

Plasma

Other Acceptable Specimen Types
Heparinized plasma

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Methodology
Chromatography Mass Spectroscopy

CPT Code
82542

EMR Interface Order Code
04785

FCHOL  Cholesterol Fluid

Baystate Reference Laboratories

Collection Container
Fluid

Identify source of body fluid

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Methodology
Enzymatic colorimetric

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 19 years</td>
<td>&lt; 170</td>
<td>&lt; 170</td>
<td>mg/dL</td>
</tr>
<tr>
<td>20 years +</td>
<td>&lt; 200</td>
<td>&lt; 200</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

CPT Code
82465

LOINC Code
2093-3

EMR Interface Order Code
04585

FCNAB  Chromatin (Nucleosomal) Antibody

Quest Diagnostics Nichols Institute

Reporting Name
Chromatin (Nucleosomal) Ab

Specimen Type
Serum

Specimen Required
Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
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<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>4 days</td>
<td></td>
</tr>
</tbody>
</table>

Page 173
Reject Due To

- Hemolysis
- Lipemia
- Icterus
- Other

Reference Values
Reference Range: <1.0 Negative AI

Day(s) and Time(s) Performed
Monday through Saturday

CPT Code Information
86235

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCNAB</td>
<td>Chromatin (Nucleosomal) Ab</td>
<td>34416-8</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCNAB</td>
<td>Chromatin (Nucleosomal) Ab</td>
<td>34416-8</td>
</tr>
</tbody>
</table>

Method Name
Immunoassay

CHRCO Chromium and Cobalt, Whole Blood

Medtox Laboratories, Inc.

Collection Container
Royal blue top (EDTA) metal-free tube
Whole blood

Specimen Volume
4 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Room temperature

Specimen Stability
Room temp: 3 days
For storage beyond 3 days, specimen should be refrigerated

Reasons for Rejection
Serum gel or red top tube

Methodology
Inductively coupled plasma/mass spectrometry (ICP/MS)

Reference Ranges
The following stratification applies to chromium or cobalt as individual analytes, not to the combined total.
- Low risk group: <3.0 ng/mL
- Moderate risk group: 3.0−10.0 ng/mL
- High risk group: >10.0 ng/mL

CPT Code
82495, 83018

LOINC Code
5619-2, 5625-9

EMR Interface Order Code
71127

UCHROQ Chromium, 24 Hour, Urine

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 04810

Reporting Name
Chromium, 24 Hr, U

Useful For
Screening for occupational exposure to chromium
Monitoring metallic prosthetic implant wear

Specimen Type
Urine

Specimen Required

Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert

Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert

Specimen Volume: 10 mL

Collection Instructions:
1. Collect urine for 24 hours.
2. Refrigerate specimen within 4 hours of completion of 24-hour collection.
3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Additional Information:
1. 24-Hour volume is required.
2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature (preferred)</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
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<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambiant</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens
- Trace Metals Analysis Specimen Collection and Transport

Reference Values
- 0-15 years: not established
- ≥18 years: 0.0-7.9 mcg/specimen

Day(s) and Time(s) Performed
Monday, Wednesday, Friday; 8 a.m

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82495
LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRU</td>
<td>Chromium, 24 Hr, U</td>
<td>5624-2</td>
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</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>8593</td>
<td>Chromium, 24 Hr, U</td>
<td>5624-2</td>
</tr>
<tr>
<td>TM44</td>
<td>Collection Duration</td>
<td>13362-9</td>
</tr>
<tr>
<td>VL42</td>
<td>Urine Volume</td>
<td>3167-4</td>
</tr>
<tr>
<td>45492</td>
<td>Chromium Concentration</td>
<td>21201-9</td>
</tr>
</tbody>
</table>

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name

Dynamic Reaction Cell-Inductively Coupled Plasma-Mass Spectrometry (DRC-ICP-MS)

Urine Preservative Collection Options

Note: The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient</td>
<td>OK</td>
</tr>
<tr>
<td>Refrigerate</td>
<td>Preferred</td>
</tr>
<tr>
<td>Frozen</td>
<td>OK</td>
</tr>
<tr>
<td>50% Acetic Acid</td>
<td>No</td>
</tr>
<tr>
<td>Boric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Diazolidinyl Urea</td>
<td>No</td>
</tr>
<tr>
<td>6M Hydrochloric Acid</td>
<td>No</td>
</tr>
<tr>
<td>6M Nitric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Sodium Carbonate</td>
<td>No</td>
</tr>
<tr>
<td>Thymol</td>
<td>No</td>
</tr>
<tr>
<td>Toluene</td>
<td>No</td>
</tr>
</tbody>
</table>

CHROM  Chromium, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes

EMR Interface Order Code: 04800

Reporting Name

Chromium, S

Useful For

Screening for occupational exposure

Monitoring metallic prosthetic implant wear

Specimen Type

Serum

Advisory Information

COWB / Cobalt, Blood is the FDA recommended test for monitoring cobalt in metal-on-metal implant patients.

Specimen Required

Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Supplies:

- Metal Free B-D Tube (No Additive), 6 mL (T184)
- Metal Free Specimen Vial (T173)

Collection Container/Tube: Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184)

Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173)

Specimen Volume: 1.6 mL

Collection Instructions:

1. Allow the specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction.
2. Remove the stopper. Carefully pour specimen into a Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of blood. Do not insert a pipet into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer.
3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Additional Information: If ordering the trace element blood collection tube from BD, order catalog #368380.

Specimen Minimum Volume

0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td>METAL FREE</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td>METAL FREE</td>
</tr>
</tbody>
</table>

Special Instructions

• Trace Metals Analysis Specimen Collection and Transport

Reference Values

<0.3 ng/mL

When collected by a phlebotomist experienced in ultra-clean collection technique and handled according to the instructions in Trace Metals Analysis Specimen Collection and Transport in Special Instructions, we have observed the concentration of chromium in serum to be <0.3 ng/mL. However, the majority of specimens submitted for analysis from unexposed individuals contain 0.3 ng/mL to 0.9 ng/mL of chromium. Commercial evacuated blood collection tubes not designed for trace-metal specimen collection yield serum containing 2.0 ng/mL to 5.0 ng/mL chromium derived from the collection tube.

Day(s) and Time(s) Performed

Monday, Wednesday, Friday; 8 a.m.

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

82495

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>CRS</td>
<td>Chromium, S</td>
<td>5622-6</td>
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</table>

Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>8638</td>
<td>Chromium, S</td>
<td>5622-6</td>
</tr>
</tbody>
</table>
CHROMA  Chromogranin A, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 04885

Reporting Name
Chromogranin A, S

Useful For
Follow-up or surveillance of patients with known or treated carcinoid tumors
An adjunct in the diagnosis of carcinoid tumors
An adjunct in the diagnosis of other neuroendocrine tumors, including pheochromocytomas, medullary thyroid carcinomas, functioning and nonfunctioning islet cell and gastrointestinal amine precursor uptake and decarboxylation tumors, and pituitary adenomas
A possible adjunct in outcome prediction and follow-up in advanced prostate cancer

Specimen Type
Serum

Specimen Required

Patient Preparation: Proton pump inhibitor drugs should be discontinued for at least 2 weeks before collection.

Supplies: Aliquot Tube, 5 mL (T465)

Collection Container/Tube:
Preferred: Red top
Acceptable: Serum gel

Submission Container/Tube: Plastic, 5 mL, aliquot tube (T465)

Specimen Volume: 0.5 mL

Collection Information: Centrifuge and remove serum from clot. Do not submit in original tube.

Specimen Minimum Volume
0.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen</td>
<td>365 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
<93 ng/mL
Reference values apply to all ages.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
86316

LOINC Code Information

<table>
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<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>CGAK</td>
<td>Chromogranin A, S</td>
<td>9811-1</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGAK</td>
<td>Chromogranin A, S</td>
<td>9811-1</td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis: Reject
Gross lipemia: OK
Gross icterus: OK

Day(s) and Time(s) Performed
Monday through Friday; 8 a.m.-4 p.m.
Saturday; 8 a.m. -5 p.m.

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Oncology Test Request (T729)

Secondary ID
34641

Method Name
Immunofluorescent Assay

CMACB  Chromosomal Microarray, Congenital, Blood

Mayo Clinic Laboratories in Rochester

Useful For
First-tier, postnatal testing for individuals with multiple anomalies that are not specific to well-delineated genetic syndromes, apparently nonsyndromic developmental delay or intellectual disability, or autism spectrum disorders as recommended by the American College of Medical Genetics (ACMG)

Follow-up testing for individuals with unexplained developmental delay or intellectual disability, autism spectrum disorders, or congenital anomalies with a previously normal conventional chromosome study

Determining the size, precise breakpoints, gene content, and any unappreciated complexity of abnormalities detected by other methods such as conventional chromosome and FISH studies

Determining if apparently balanced abnormalities identified by previous conventional chromosome studies have cryptic imbalances, since a proportion of such rearrangements that appear balanced at the resolution of a chromosome study are actually unbalanced when analyzed by higher-resolution chromosomal microarray

Assessing regions of homozygosity related to uniparental disomy or identity by descent

Special Instructions
- Informed Consent for Genetic Testing
- Prader-Willi and Angelman Syndromes: Laboratory Approach to Diagnosis
- Chromosomal Microarray Patient Information
- GenomeConnect Patient Portal
- Family Member Phenotype Information for Genomic Testing
- Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm
- Informed Consent for Refractory (Spanish)
Method Name
Chromosomal Microarray (CMA) Using Applied Biosystems (Affymetrix) Cytoscan HD

Reporting Name
Chromosomal Microarray, Blood

Specimen Type
Whole blood

Shipping Instructions

Necessary Information
The reason for referral is required.

Specimen Required
This test requires 2 blood specimens: 1 sodium heparin and 1 EDTA.

Specimen Type: Whole blood
Container/Tube: Green top (sodium heparin) and lavender top (EDTA)
Specimen Volume: 3 mL EDTA tube and 4 mL sodium heparin tube
Collection Instructions:
1. Invert several times to mix blood.
2. Send specimens in original tubes.

Specimen Minimum Volume
2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Ambient (preferred)</td>
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</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Reference Values
An interpretive report will be provided.

Day(s) and Time(s) Performed
Samples processed Monday through Sunday. Results reported Monday through Friday; 8 a.m.-5 p.m. CST.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
81229

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>CMACB</td>
<td>Chromosomal Microarray, Blood</td>
<td>62343-9</td>
</tr>
</tbody>
</table>

Testing Algorithm
This test is not appropriate for detecting acquired copy number changes and excessive homozygosity. If this test is ordered with a reason for referral indicating a hematological disorder, the test will be cancelled and CMAH / Chromosomal Microarray, Hematologic Disorders will be performed as the appropriate test.

The following algorithms are available in Special Instructions:
- Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm
- Prader-Willi and Angelman Syndromes: Laboratory Approach to Diagnosis

Secondary ID
35247

Forms
1. New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. Chromosomal Microarray Patient Information (T665) in Special Instructions
3. If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request (T732) with the specimen.

BKAR Chromosome Analysis - Peripheral Blood, Congenital

Mayo Medical Laboratories

Additional Information
Do not refrigerate sample. If STAT/newborn blood after hours, page on-call technologist 2-4700.

Collection Container
Green top (sodium heparin)
Peripheral Blood

Other Acceptable Specimen Types
Cord blood

Special Handling Instructions
Send to Referral Laboratory with copy of ordering requisition. If newborn baby, send to laboratory immediately. This is considered STAT testing.

Specimen Volume
4 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Ambient
Specimen Stability
Stable at ambient temperature

Reasons for Rejection
Incorrect tube or insufficient quantity

Methodology
Stimulated lymphocyte culture

Turnaround Time
STAT final report within 7 days, routine final report within 14 - 21 days.

Reference Ranges
Laboratory to provide interpretive result.

CPT Code
88230, 88260, 88262

EMR Interface Order Code
69498

BONEC  Chromosome Analysis, Bone Marrow
Mayo Medical Laboratories

Additional Information
Do not refrigerate sample

Collection Container
Green (sodium heparin) or Syringe with heparin
Bone Marrow Aspirate

Special Handling Instructions
Send to Referral Laboratory with copy of ordering requisition and copy of surgical pathology (if available).

Specimen Volume
2 – 5 mL

Minimum Specimen Volume
Unrestricted

Transport Temperature
Ambient

Specimen Stability
Stable at ambient temperature

Reasons for Rejection
Incorrect tube, insufficient quantity

Methodology
Unstimulated Short term cultures, stimulated when diagnostically indicated

Turnaround Time
Final report within 10 - 14 days.

CPT Code
88237, 88264

EMR Interface Order Code

GMISC  Chromosome Analysis, Hematologic Disorders, Blood
Mayo Clinic Laboratories in Rochester

Useful For
Assisting in the classification and follow-up of certain malignant hematological disorders when bone marrow is not available

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
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<tr>
<td>_ML20</td>
<td>Metaphases, 1-19</td>
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<tr>
<td>_M25</td>
<td>Metaphases, 20-25</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>_MG25</td>
<td>Metaphases, &gt;25</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>_STAC</td>
<td>Ag-Nor/CBL Stain</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm
This test includes a charge for cell culture of fresh specimens and professional interpretation of results. Analysis charges will be incurred for total work performed, and generally include 2 banded karyograms and the analysis of 20 metaphase cells. If no metaphase cells are available for analysis, no analysis charges will be incurred. If additional analysis work is required, additional charges may be incurred.

This test is not appropriate for detecting constitutional/congenital chromosome abnormalities. If this test is ordered with a reason for referral indicating a concern for a constitutional/congenital chromosome abnormality, the test will be cancelled and CHRCB / Chromosome Analysis, Congenital Disorders, Blood will be added and performed as the appropriate test.

If this test is ordered and the laboratory is informed that the patient is on a COG protocol, this test will be canceled and automatically reordered by the laboratory as COGBL / Chromosome Analysis, Hematologic Disorders, Childrenâ€™s Oncology Group Enrollment Testing, Blood.

Special Instructions
• Laboratory Screening Tests for Suspected Multiple Myeloma

Method Name
Cell Culture without Mitogens* followed by Chromosome Analysis*

*In addition to the cell culture without mitogens, a CpG stimulated culture will be added and 10 additional cells will be analyzed for any specimen received from a patient age 30 or older with a reason for referral of chronic lymphocytic leukemia (CLL), small lymphocytic lymphoma (SLL), lymphocytosis, Waldenström macroglobulinemia, or when CLLF / Chronic Lymphocytic Leukemia (CLL), FISH is ordered concurrently.

Reporting Name
Chromosomes, Hematologic, Blood

Specimen Type
Whole blood

Necessary Information
A pathology and/or flow cytometry report may be requested by the Genomics Laboratory to optimize testing and aid in interpretation of results.

Specimen Required
Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed.

**Container/Tube:** Green top (sodium heparin)  
**Specimen Volume:** 5-10 mL  
**Collection Instructions:**  
1. Invert several times to mix blood.  
2. Other anticoagulants are not recommended and are harmful to the viability of the cells.  
**Additional Information:** Advise Express Mail or equivalent if not on courier service.

### Specimen Minimum Volume

3 mL

### Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Ambient (preferred)</td>
<td></td>
<td>Refrigerated</td>
</tr>
</tbody>
</table>

### Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

### Reference Values

An interpretative report will be provided.

### Day(s) and Time(s) Performed

Samples processed Monday through Sunday. Results reported Monday through Friday, 8 a.m. to 5 p.m.

### Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

### CPT Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>_ML20</td>
<td>Metaphases, 1-19</td>
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<td>No</td>
</tr>
<tr>
<td>_M25</td>
<td>Metaphases, 20-25</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>_MG25</td>
<td>Metaphases, &gt;25</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>_STAC</td>
<td>Ag-Nor/CBL Stain</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
</tbody>
</table>

### Testing Algorithm

This test includes a charge for cell culture of fresh specimens and professional interpretation of results. Analysis charges will be incurred for total work performed, and generally include 2 banded karyograms and the analysis of 20 metaphase cells. If no metaphase cells are available for analysis, no analysis charges will be incurred. If additional analysis work is required, additional charges may be incurred.

### Method Name

Cell Culture followed by Chromosome Analysis

### Reporting Name

Chromosomes, Solid Tumor

### Specimen Type

Tissue

### Specimen Required

Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed. Include pathology reports, if available.

**Container/Tube:** Sterile container with sterile Hank's balanced salt solution (T132), Ringer's solution, or normal saline  
**Specimen Volume:** 0.5-3 cm(3) or larger  
**Additional Information:** Advise Express Mail or equivalent if not on courier service.

### Specimen Minimum Volume

0.5 cm(3)

### Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tissue</td>
<td>Refrigerated (preferred)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.
Reference Values
An interpretive report will be provided.

Day(s) and Time(s) Performed
Samples processed Monday through Sunday. Results reported Monday through Friday, 8 a.m-5 p.m. CST.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
88239, 88291- Tissue culture for tumor, Interpretation and report
88264 w/modifier 52-Chromosome analysis <20 cells (if appropriate)
88264-Chromosome analysis with 20 to 25 cells (if appropriate)
88264, 88285 - Chromosome analysis with >25 cells (if appropriate)
88283-Additional specialized banding technique (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>CHRST</td>
<td>Chromosomes, Solid Tumor</td>
<td>In Process</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>52350</td>
<td>Result Summary</td>
<td>50397-9</td>
</tr>
<tr>
<td>52352</td>
<td>Interpretation</td>
<td>69965-2</td>
</tr>
<tr>
<td>52351</td>
<td>Result</td>
<td>82939-0</td>
</tr>
<tr>
<td>CG773</td>
<td>Reason for Referral</td>
<td>42349-1</td>
</tr>
<tr>
<td>52353</td>
<td>Specimen</td>
<td>31208-2</td>
</tr>
<tr>
<td>52354</td>
<td>Source</td>
<td>31208-2</td>
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<tr>
<td>52356</td>
<td>Method</td>
<td>49549-9</td>
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<tr>
<td>52355</td>
<td>Banding Method</td>
<td>62359-5</td>
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<tr>
<td>54628</td>
<td>Additional Information</td>
<td>48767-8</td>
</tr>
<tr>
<td>52357</td>
<td>Released By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

Forms
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

Secondary ID
35320

CLLFSH  Chronic Lymphocytic Leukemia Panel
Baystate Reference Laboratories

Collection Container
Blood: Green (Sodium Heparin)
Bone Marrow: Syringe with heparin
Peripheral Blood or Bone Marrow

Other Acceptable Specimen Types
Bone Marrow Aspirate

Special Handling Instructions
Send to Molecular Pathology with a copy of ordering requisition and copy of surgical pathology, (if applicable).

Specimen Volume
5 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Ambient

Specimen Stability
Stable at ambient temperature

Reasons for Rejection
Incorrect tube, insufficient quantity

Methodology
Fluorescent in-situ hybridization

Turnaround Time
Preliminary results available after 3 - 4 days, final report within 10 - 14 days

Reference Ranges
Laboratory to provide interpretive report

CPT Code
88237, 88271, 88275, 88291

EMR Interface Order Code
69184

FCHYL  Chylomicron Screen, Fluid
LabCorp

Collection Container
Fluid

Identify source of body fluid

Specimen Volume
1.0 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: unacceptable, Refrigerated: 7 days, Frozen: unacceptable

Reasons for Rejection
Room temperature or frozen

Methodology
Qualitative Electrophoresis

Turnaround Time
2 - 10 days

CPT Code
82664

LOINC Code
33009-2

EMR Interface Order Code
04832

CHYL  Chylous Effusion
Baystate Reference Laboratories

Additional Information
-
Special Handling Instructions

Specimen Volume
mL

Minimum Specimen Volume

Transport Temperature

Specimen Stability

Reasons for Rejection

Methodology

Days and Times Performed

Turnaround Time

CPT Code

EMR Interface Order Code

---

CHYM  Chymopapain IgE

Contracted Reference Lab

Collection Container

Serum gel or red top tube

Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology

ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48650

Container
Serum gel or red top tube

---

FCHYMO  Chymotrypsin, Stool

Quest Diagnostics Nichols Institute

Reporting Name
Chymotrypsin, Stool

Specimen Type
Fecal

Specimen Required

Collect 1 gm random stool in sterile leak proof container, ship refrigerate.

Note:
Dietary restrictions: Patients receiving pancreatic enzymes should discontinue taking the enzymes at least 5 days before the collection of the stool sample.

Specimen Minimum Volume
0.5 gram

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>Fecal</td>
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<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
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</table>

Reject Due To

<table>
<thead>
<tr>
<th>Condition</th>
<th>Reason</th>
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</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>NA</td>
</tr>
<tr>
<td>Lipemia</td>
<td>NA</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
</tr>
</tbody>
</table>

Reference Values
2.3 Å€-51.4 U/g

Day(s) and Time(s) Performed
Wednesday

CPT Code Information
84311

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>FCHYS</td>
<td>Chymotrypsin, Stool</td>
<td>25375-7</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value
---------|------------------|-------------------|
FCHYS     | Chymotrypsin, Stool | 25375-7 |

Method Name
Enzymatic/Spectrophotometric

---

CILBX  Cilia Biopsy

Baystate Reference Laboratories

Collection Container
Glutaraldehyde solution

Bronchial tissue or nasal brushing from high in the antrum

Special Handling Instructions
Fix tissue or nasal brush immediately in glutaraldehyde solution
**Specimen Type**

Urine

**Specimen Required**

**Patient Preparation:** Any drug that causes alkalemia or acidemia may be expected to alter citrate excretion and should be avoided, if possible.

**Container/Tube:** Plastic, 5-mL tube (T465)

**Specimen Volume:** 4 mL

**Collection Instructions:**
1. Collect a random urine specimen.
2. No preservative.

**Additional Information:** A timed 24-hour collection is the preferred specimen for measuring and interpreting this urinary analyte. Random collections normalized to urinary creatinine may be of some clinical use in patients who cannot collect a 24-hour specimen, typically small children. Therefore, this random test is offered for children <16 years old.

**Specimen Minimum Volume**

1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

No established reference values

**Day(s) and Time(s) Performed**

Monday through Saturday; 8 a.m.-4 p.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

82507

**LOINC Code Information**

<table>
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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
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<tr>
<td>RCITR</td>
<td>Citrate Excretion, Peds, Random, U</td>
<td>In Process</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITR1</td>
<td>Citrate Concentration, Peds, Random, U</td>
<td>2128-7</td>
</tr>
<tr>
<td>CREAT9</td>
<td>Creatinine Concentration</td>
<td>2161-8</td>
</tr>
<tr>
<td>RAT06</td>
<td>Citrate/Creatinine Ratio</td>
<td>13722-4</td>
</tr>
</tbody>
</table>

**Reject Due To**

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Method Name**

Enzymatic

**Forms**

If not ordering electronically, complete, print, and send a Renal Diagnostics Test Request (T830) with the specimen.
UCITQ  Citrate Urine Quantitative

LabCorp

Patient Instructions
Any drug that causes alkalemia or acidemia may be expected to alter citrate excretion and should be avoided, if possible. Refrigerate during and after collection.

Collection Container
24 hour urine jug, kept refrigerated during and after collection
24 hour urine
Refrigerate during and after collection period

Specimen Volume
Entire 24 hour collection

Minimum Specimen Volume
2.5 mL

Transport Temperature
Refrigerated

Turnaround Time
3-6 days

CPT Code
82507

EMR Interface Order Code
04900

CITRIC  Citric Acid (Citrate), Blood

Mayo Medical Laboratories

Additional Information

Reflex Tests

Collection Container
serum, gel, or red top, or green top
Serum from gel, or red top, or plasma from a green top (heparinized tube)

Other Acceptable Specimen Types

Special Handling Instructions

Specimen Volume
2 mL

Minimum Specimen Volume
1 mL, No repeat available.

Transport Temperature
Refrigerated.

Specimen Stability
Refrigerated (18 days)
Frozen (30 days)

Reasons for Rejection

Methodology

Days and Times Performed

Turnaround Time
.4-18 days

Reference Ranges
male 1.3-2.6
females 1.7-3.0
Units: mg/dL

CPT Code
82507.

EMR Interface Order Code
04925

CKICFM  CKMB Confirmation

Baystate Reference Laboratories

Additional Information
A total CK is first performed and if the result is > 90 a CKMB confirmation is reflexed

Collection Container
Serum gel
Serum

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 4 hours, Refrigerated: 8 hours, Frozen: 3 months

Methodology
Electrochemiluminescence immunoassay ECLIA

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges
Male and Female 0 - 6 ng/mL

Units of Measure
ng/mL

CPT Code
82553

LOINC Code
13969-1

EMR Interface Order Code
04990
## CLADO  Cladosporium herbarum IgE

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48655

## CLBAZM  Clobazam and Metabolite, Serum

**Mayo Clinic Laboratories in Rochester**

### Specimen Required

**Collection Container/Tube:** Red top

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 0.5 mL

**Collection Instructions:**
1. Draw specimen immediately before next scheduled dose.
2. Spin down within 2 hours of draw and move serum to plastic vial.
3. Trough specimens are recommended as therapeutic ranges are based on specimens drawn at trough (ie, immediately before the next dose).

**Secondary ID**
65483

### Useful For
Monitoring clobazam therapy

### Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

### Reporting Name
Clobazam and metabolite, S

### Specimen Type
Serum Red

### Specimen Minimum Volume
0.35 mL

#### Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

### Reject Due To

- Gross hemolysis  OK
- Gross lipemia    OK
- Gross icterus    OK

### Reference Values

**CLOBAZAM**
Therapeutic Range: 30-300 ng/mL

**NORCLOBAZAM**
Therapeutic Range: 300-3,000 ng/mL

### Day(s) and Time(s) Performed
Monday-Friday; 5 p.m.

### Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

### CPT Code Information

80339 (G0480 if appropriate)

### LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>CLOBZ</td>
<td>Clobazam and metabolite, S</td>
<td>79408-1</td>
</tr>
</tbody>
</table>
**CLOM  Clomipramine, Serum**

*Mayo Clinic Laboratories in Rochester*

**Useful For**
Determining whether a poor therapeutic response is attributable to noncompliance
Monitoring serum concentration of clomipramine and norclomipramine to assist in optimizing the administered dose

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Reporting Name**
Clomipramine, S

**Specimen Type**
Serum Red

**Specimen Required**

*Container/Tube:* Red top

*Specimen Volume:* 1 mL

**Collection Instructions:**
1. Draw specimen immediately before next scheduled dose (minimum 12 hours after last dose).
2. Serum must be separated from cells within 2 hours of draw.

**Specimen Minimum Volume**
0.25

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
<tr>
<td>Serum Red</td>
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<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

**Reference Values**
CLOMIPRAMINE AND NORCLOMIPRAMINE
Therapeutic concentration: 230-450 ng/mL

**Note:** Therapeutic ranges are for specimens drawn at trough (i.e., immediately before next scheduled dose). Levels may be elevated in non-trough specimens.

**Day(s) and Time(s) Performed**
Monday through Friday; Varies

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
- 80335
- G0480 (if appropriate)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>CLOM</td>
<td>Clomipramine, S</td>
<td>43127-0</td>
</tr>
</tbody>
</table>

---

**CZPS  Clonazepam and 7-Aminoclonazepam, Serum**

*Mayo Clinic Laboratories in Rochester*

**Useful For**
Assessing patient compliance
Monitoring for appropriate therapeutic level
Assessing clonazepam toxicity

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Reporting Name**
Clonazepam and 7-Aminoclonazepam, S

**Specimen Type**
Serum Red

**Specimen Required**

*Collection Container/Tube:* Red top

*Submission Container/Tube:* Plastic vial

*Specimen Volume:* 1.2 mL

**Collection Instructions:**
1. Draw blood immediately before next scheduled dose (minimum 12 hours after last dose).
2. Within 2 hours of collection, the specimen must be centrifuged and the serum aliquoted into a plastic vial.

**Specimen Minimum Volume**
0.6 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
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</table>

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Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
</tbody>
</table>

Reference Values

Clonazepam
Anticonvulsant: 20-70 ng/mL
Anxiolytic: 4-80 ng/mL

Some individuals may show therapeutic response outside of these ranges, or may display toxicity within the therapeutic range, thus interpretation should include clinical evaluation.

Note: Therapeutic ranges are for specimens drawn at trough (i.e., immediately before next scheduled dose). Levels may be elevated in non-trough specimens.

Day(s) and Time(s) Performed
Tuesday; 1 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80346 and G0480 (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>CZPS</td>
<td>Clonazepam and 7-Aminoclonazepam, S</td>
<td>In Process</td>
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<table>
<thead>
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<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>65044</td>
<td>Clonazepam</td>
<td>3494-2</td>
</tr>
<tr>
<td>41782</td>
<td>7-Aminoclonazepam</td>
<td>28059-4</td>
</tr>
</tbody>
</table>

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

CLONI
Clonidine (Catapres)

Medtox Laboratories, Inc.

Reporting Name
Clonidine (Catapres)

Specimen Type
Varies

Specimen Required
Submit only 1 of the following specimens:

Plasma
Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 5 mL sodium heparin plasma refrigerated in a plastic vial.

Serum
Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume
1.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varieties</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
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<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
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</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>NA</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
</tr>
</tbody>
</table>

Reference Values

Reference Range: 1.00 - 2.00 ng/mL

Sedation has been associated with serum clonidine concentrations greater than 1.5 ng/mL

Toxic concentration has not been established.

Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information
80375

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>FCLON</td>
<td>Clonidine (Catapres)</td>
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<table>
<thead>
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<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>Z1184</td>
<td>Clonidine</td>
<td>3495-9</td>
</tr>
</tbody>
</table>

Method Name
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

CLRT
Clot Retraction

Baystate Reference Laboratories

Collection Container
Red
Joint fluid

Special Handling Instructions
Specimen should be transported to the laboratory ASAP after collection

Specimen Volume
5 mL

Minimum Specimen Volume
1.0 mL

Days and Times Performed
7 am - 3 pm, 7 days a week

Turnaround Time
Daily

CPT Code
83872
**CLOZ Preparations**

**Clozapine, Serum**

*Mayo Clinic Laboratories in Rochester*

**Secondary ID**
42366

**Useful For**
Monitoring patient compliance
An aid to achieving desired plasma levels

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Reporting Name**
Clozapine, S

**Specimen Type**
Serum Red

**Specimen Required**

- **Container/Tube:** Red top
- **Specimen Volume:** 1 mL
- **Additional Information:** Therapeutic range (trough level) applies to specimens drawn immediately prior to next dose.

**Specimen Minimum Volume**
0.6 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: Reject

**Reference Values**

- **CLOZAPINE**
  Therapeutic range: >350 ng/mL
- **CLOZAPINE + NORCLOZAPINE**
  Therapeutic range: >450 ng/mL

**Day(s) and Time(s) Performed**

Monday through Friday

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
80159

---

**COBALT Preparations**

**Cobalt, Serum**

*Mayo Clinic Laboratories in Rochester*

**Useful For**
Detecting cobalt toxicity
Monitoring metallic prosthetic implant wear

**Specimen Type**
Serum

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
<tr>
<td>Serum</td>
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<td>28 days</td>
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<td></td>
<td>Ambient</td>
<td>28 days</td>
<td>METAL FREE</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td>METAL FREE</td>
</tr>
</tbody>
</table>

**Reference Values**

- 0.0-0.9 ng/mL
- <10 ng/mL (MoM implant)

Reference values apply to all ages.

The reported unit of measurement for cobalt of ng/mL is equivalent to mcg/L.

**Day(s) and Time(s) Performed**

Monday, Wednesday, Friday; 5 p.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
83018
LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
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<tbody>
<tr>
<td>COS</td>
<td>Cobalt, S</td>
<td>5627-5</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>80084</td>
<td>Cobalt, S</td>
<td>5627-5</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

COCANE  Cocaine and Benzoylecgonine, Blood

LabCorp

Additional Information
Detection limit: Cocaine: 30 ng/mL, Benzoylecgonine: 30 ng/mL

Collection Container
Red
Serum

Other Acceptable Specimen Types
Heparinized plasma

Specimen Volume
5 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Refrigerate

Specimen Stability
Separate serum/plasma from cells within 2 hours of collection.
Refrigerated or frozen

Methodology
Chromatography with Mass Spectrometry

CPT Code
80353

EMR Interface Order Code
65785

Specimen Stability
14 days

Reasons for Rejection
Preserved samples

Days and Times Performed
Daily

Turnaround Time
1 – 3 days

CPT Code
80353/G0480

EMR Interface Order Code
70846

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

QSCOC  Cocaine with Conf, Oral Fluid

Contracted Reference Lab

Reflex Tests
If positive, will reflex to confirmations at an additional charge

Collection Container
Oral-Eze container
Oral fluid

Specimen Volume
3 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp:72 hr Refrigerated: 7 days Frozen: 30 days with swab removed

Reasons for Rejection
Not submitted in Oral-Eze device, no swab (unless frozen)

Days and Times Performed
Daily

Turnaround Time
4 days

CPT Code
80307

EMR Interface Order Code
71063

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.
UCOC  Cocaine, Urine, Screen

Baystate Reference Laboratories

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

Collection Container
Urine
Random Urine

Specimen Volume
20 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Kinetic interaction of microparticles in a solution (KIMS)

Days and Times Performed
Screening test performed daily

Turnaround Time
24 hours

Reference Ranges
Negative

CPT Code
80307

LOINC Code
19357-3

EMR Interface Order Code
11505

SCOC  Coccidioides Antibody, Serum

Mayo Clinic Laboratories in Rochester

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top

Specimen Volume: 1.8 mL

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

Useful For
Diagnosing coccidioidomycosis in serum specimens

Method Name
Complement Fixation (CF) Using Coccidioidin: IgG
Immunodiffusion: IgG and IgM

Reporting Name
Coccidioides Ab, S

Specimen Type
Serum

Specimen Minimum Volume
1.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
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<tbody>
<tr>
<td>Serum</td>
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<td>14 days</td>
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</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
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Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
</tbody>
</table>
Reference Values
COMPLEMENT FIXATION
Negative
If positive, results are titered.

IMMUNODIFFUSION
Negative
Results are reported as positive, negative, or equivocal.

Day(s) and Time(s) Performed
Monday 6 a.m.
Tuesday through Friday; 9:30 a.m.

Test Classification
This test uses a standard method. Its performance characteristics were
determined by Mayo Clinic in a manner consistent with CLIA
requirements. This test has not been cleared or approved by the U.S.
Food and Drug Administration.

CPT Code Information
86635 x 3

LOINC Code Information

<table>
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<tr>
<td>SCOC</td>
<td>Coccidioides Ab, S</td>
<td>87435-4</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>8295</td>
<td>Cocci Complement F</td>
<td>5096-3</td>
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<tr>
<td>21649</td>
<td>Cocci Immunodiffusion-IgG</td>
<td>22209-1</td>
</tr>
<tr>
<td>21648</td>
<td>Cocci Immunodiffusion-IgM</td>
<td>22210-9</td>
</tr>
</tbody>
</table>

CBUR  Cocklebur IgE

Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
48665

CKROCH  Cockroach IgE

Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
48665

COCO  Coconut IgE

Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
48675
CODFSH  Codfish IgE

Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
48685

COQ10  Coenzyme Q10

Contracted Reference Lab
Collection Container
Green (Na hep) top tube, protected from light
Plasma, protected from light
Specimen Volume
1 mL
Minimum Specimen Volume
0.5 mL
Transport Temperature
Frozen
Specimen Stability
Frozen: 72 hours
Reasons for Rejection
Not drawn in chilled tube, not protected from light, not separated within 45 minutes of draw
CPT Code
82542
EMR Interface Order Code
8935

CFFE  Coffee IgE

Contracted Reference Lab
Collection Container
Serum gel or red top tube
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
48685

COLD  Cold Agglutinins

LabCorp
Additional Information
This test is not specific for Mycoplasma pneumoniae. For diagnosis of Mycoplasma pneumoniae infections, see Mycoplasma pneumoniae Antibodies, IgG, IgM
Collection Container
Red top
Serum
Special Handling Instructions
Transport blood immediately to laboratory. Incubate at 37° C and allow to clot at 37° C. Separate serum from cells.
Specimen Volume
1 mL
Minimum Specimen Volume
0.5 mL
Transport Temperature
Ambient. Do NOT refrigerate prior to separation of serum from red cells. Store SEPARATED serum in the refrigerator.
Reasons for Rejection
Refrigeration of the specimen before separating serum from cells
Methodology
Hemagglutination
Days and Times Performed
Tuesday and Friday
Turnaround Time
3 - 5 days
Reference Ranges
Negative <1:32
Units of Measure
Titer
CBA  Collagen Binding Assay

LabCorp

Collection Container
Light Blue
Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 2 mL, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 1 mL, Whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Methodology
ELISA

Turnaround Time
Up to 1 week, depending on receipt in laboratory

Reference Ranges
50-150%

CPT Code
83520, 85246

LOINC Code
50377-1

EMR Interface Order Code
32940

CMIL  Common Millet IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49115

CRAG  Common (Short) Ragweed IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
70548

Container
Serum gel or red top tube

C1QOMP  Complement C1q, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Complement C1q, S

Useful For
Assessment of an undetectable total complement (CH50) level
Diagnosing congenital C1 (first component of complement) deficiency
Diagnosing acquired deficiency of C1 inhibitor

Specimen Type
Serum
Specimen Required

Patient Preparation: Fasting
Container/Tube:
Preferred: Red top
Acceptable: Serum gel
Specimen Volume: 1 mL

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
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<td></td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Reference Values
12-22 mg/dL

Day(s) and Time(s) Performed
Monday through Saturday; Continuously until 3 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
86160

LOINC Code Information
<table>
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<th>Test ID</th>
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<th>Order LOINC Value</th>
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<tbody>
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<td>C1Q</td>
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<td>4478-4</td>
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<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>C1Q</td>
<td>Complement C1q, S</td>
<td>4478-4</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis: OK
Gross lipemia: Reject
Gross icterus: OK

Method Name
Nephelometry

Secondary ID
8851

C3  Complement Component C3

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Frozen

Specimen Stability
28 days

Reasons for Rejection
Gross hemolysis; Gross lipemia

Methodology
Radial Immunodiffusion (RID)

Reference Ranges
1.6 - 3.5 mg/dL

CPT Code
86160

LOINC Code
4484-2

EMR Interface Order Code
46000

C2  Complement Component C2

Quest Diagnostics

Additional Information
Please send separate aliquot for each complement ordered.

Collection Container
Red top
Serum

Other Acceptable Specimen Types
Serum gel, Plasma (EDTA)

Special Handling Instructions
Separate serum within 1 hour. Can be transported to lab refrigerated.
**C4  Complement Component C4**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel
Serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 2 days, Refrigerated: 8 days, Frozen: 3 months

**Methodology**
Immunoturbidimetric assay

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
Males and Females: 10 - 40 mg/dL

**CPT Code**
86160

**LOINC Code**
4498-2

**EMR Interface Order Code**
46200

---

**C5  Complement Component C5**

*Quest Diagnostics*

**Additional Information**
Please send separate aliquot for each complement ordered.

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Red top

**Special Handling Instructions**
Separate serum within 1 hour. Can be transported to lab refrigerated.

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Frozen

**Specimen Stability**
21 days

**Reasons for Rejection**
Gross hemolysis; Gross lipemia

**Methodology**
Radial Immunodiffusion (RID)

**Reference Ranges**
7.1 - 12.8 mg/dL

**CPT Code**
86160

**LOINC Code**
4507-0

**EMR Interface Order Code**
46025

---

**C6  Complement Component C6**

*Quest Diagnostics*

**Additional Information**
Please send separate aliquot for each complement ordered.

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Red top, Plasma (EDTA)

**Special Handling Instructions**
Separate serum within 1 hour. Can be transported to lab refrigerated.

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Frozen

**Specimen Stability**
21 days

**Reasons for Rejection**
Gross hemolysis; Gross lipemia

**Methodology**
Radial Immunodiffusion (RID)

**Reference Ranges**
6 - 20 mg/dL

**CPT Code**
86160

**LOINC Code**
4505-4

**EMR Interface Order Code**
46225

---

**C7  Complement Component C7**

*Quest Diagnostics*

**Additional Information**
Please send separate aliquot for each complement ordered.
**C8  Complement Component C8**

*Quest Diagnostics*

**Additional Information**
Please send separate aliquot for each complement ordered.

**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
Red top, Plasma (EDTA)

**Special Handling Instructions**
Separate serum within 1 hour. Can be transported to lab refrigerated.

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Frozen

**Specimen Stability**
30 days

**Reasons for Rejection**
Gross hemolysis; Gross lipemia

**Methodology**
Radial Immunodiffusion (RID)

**Reference Ranges**
4 - 11 mg/dL

**CPT Code**
86160

**LOINC Code**
4508-8

**EMR Interface Order Code**
47500

---

**CH50  Complement, Total, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Complement, Total, S

**Useful For**
Detection of individuals with an ongoing immune process

First-order screening test for congenital complement deficiencies
**Specimen Type**
Serum Red

**Specimen Required**

**Patient Preparation:** Fasting preferred.

**Supplies:** Aliquot Tube, 5 mL (T465)

**Collection Container/Tube:** Red top

**Submission Container/Tube:** Plastic, 5 mL tube

**Specimen Volume:** 1 mL

**Collection Instructions:**
1. Immediately after specimen collection, place the tube on wet ice.
2. Centrifuge and separate serum from clot.
3. Immediately freeze specimen.

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
≥16 years: 30-75 U/mL

Reference values have not been established for patients that are <16 years of age.

**Day(s) and Time(s) Performed**
Monday through Saturday; 3 p.m.

**Test Classification**
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**
86162

**LOINC Code Information**

<table>
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<th>Test ID</th>
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<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>COM</td>
<td>Complement, Total, S</td>
<td>4532-8</td>
</tr>
</tbody>
</table>

**Reject Due To**

| Gross hemolysis | OK |
| Gross lipemia   | OK |
| Gross icterus   | OK |

**Method Name**
Automated Liposome Lysis Assay

**Secondary ID**
8167

**COMPP  Comprehensive Metabolic Panel**

_Baystate Reference Laboratories_

**Important Note**
This Panel includes: Glucose, BUN, Creatinine, Sodium, Potassium, Chloride, Bicarbonate, Anion Gap (calc), Albumin, Calcium, Total Bilirubin, Total Protein, Albumin/Globulin Ratio (calc), AST (SGOT), Alkaline Phosphatase (ALP), ALT (SGPT) and Estimated Glomerular Filtration Rate (GFR) (calc)

**Collection Container**
Serum gel
Serum

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
1.5 mL

**Transport Temperature**
Refrigerate

**Methodology**
See individual test listings

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**CPT Code**
80053

**LOINC Code**
24323-8

**EMR Interface Order Code**
14086
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<th>GLUCOSE - FASTING (FBS)</th>
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<th>Males</th>
<th>Females</th>
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<tbody>
<tr>
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<td>40 - 80</td>
<td>40 - 80</td>
<td>mg/dL</td>
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<tr>
<td>2 months to 1 year</td>
<td>50 - 100</td>
<td>50 - 100</td>
<td>mg/dL</td>
<td></td>
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<tr>
<td>2 - 15 years</td>
<td>60 - 99</td>
<td>60 - 99</td>
<td>mg/dL</td>
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<tr>
<td>16 years +</td>
<td>70 - 99</td>
<td>70 - 99</td>
<td>mg/dL</td>
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<tr>
<td>BLOOD UREA NITROGEN (BUN)</td>
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<td>Females</td>
<td>Units</td>
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<tr>
<td>0 - 1 year</td>
<td>4 - 19</td>
<td>4 - 19</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>2 - 18 years</td>
<td>5 - 18</td>
<td>5 - 18</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>19 - 60 years</td>
<td>6 - 20</td>
<td>6 - 20</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>61 years +</td>
<td>8 - 23</td>
<td>8 - 23</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>CREATININE (CR)</td>
<td>Age</td>
<td>Males</td>
<td>Females</td>
<td>Units</td>
</tr>
<tr>
<td>0 - 30 days</td>
<td>0.3 - 0.9</td>
<td>0.3 - 0.9</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>1 month - 2 years</td>
<td>0.2 - 0.4</td>
<td>0.2 - 0.4</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>3 - 4 years</td>
<td>0.3 - 0.4</td>
<td>0.3 - 0.4</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>5 - 8 years</td>
<td>0.3 - 0.5</td>
<td>0.3 - 0.5</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>9 - 10 years</td>
<td>0.3 - 0.6</td>
<td>0.3 - 0.6</td>
<td>mg/dL</td>
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</tr>
<tr>
<td>11 - 12 years</td>
<td>0.4 - 0.7</td>
<td>0.4 - 0.7</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>13 - 14 years</td>
<td>0.5 - 0.8</td>
<td>0.5 - 0.8</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>15 years+</td>
<td>0.7 - 1.2</td>
<td>0.7 - 1.2</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>SODIUM (NA)</td>
<td>Age</td>
<td>Males</td>
<td>Females</td>
<td>Units</td>
</tr>
<tr>
<td>All</td>
<td>133 - 145</td>
<td>133 - 145</td>
<td>mmol/L</td>
<td></td>
</tr>
<tr>
<td>POTASSIUM (K)</td>
<td>Age</td>
<td>Males</td>
<td>Females</td>
<td>Units</td>
</tr>
<tr>
<td>All</td>
<td>3.6 - 5.2</td>
<td>3.6 - 5.2</td>
<td>mmol/L</td>
<td></td>
</tr>
<tr>
<td>CHLORIDE (CL)</td>
<td>Age</td>
<td>Males</td>
<td>Females</td>
<td>Units</td>
</tr>
<tr>
<td>0 - 30 days</td>
<td>110-116</td>
<td>110-116</td>
<td>mmol/L</td>
<td></td>
</tr>
<tr>
<td>1 month - Adult</td>
<td>98-107</td>
<td>98-107</td>
<td>mmol/L</td>
<td></td>
</tr>
<tr>
<td>BICARBONATE (CO2)</td>
<td>Age</td>
<td>Males</td>
<td>Females</td>
<td>Units</td>
</tr>
<tr>
<td>All</td>
<td>22 - 29</td>
<td>22 - 29</td>
<td>mmol/L</td>
<td></td>
</tr>
<tr>
<td>ALBUMIN (ALB)</td>
<td>Age</td>
<td>Males</td>
<td>Females</td>
<td>Units</td>
</tr>
<tr>
<td>0 - 3 days</td>
<td>2.8 - 4.4</td>
<td>2.8 - 4.4</td>
<td>gm/dL</td>
<td></td>
</tr>
<tr>
<td>4 days - 13 years</td>
<td>3.8 - 5.4</td>
<td>3.8 - 5.4</td>
<td>gm/dL</td>
<td></td>
</tr>
<tr>
<td>14 - 17 years</td>
<td>3.2 - 4.5</td>
<td>3.2 - 4.5</td>
<td>gm/dL</td>
<td></td>
</tr>
<tr>
<td>18 years +</td>
<td>3.4 - 4.8</td>
<td>3.4 - 4.8</td>
<td>gm/dL</td>
<td></td>
</tr>
<tr>
<td>CALCIUM (CA)</td>
<td>Age</td>
<td>Males</td>
<td>Females</td>
<td>Units</td>
</tr>
<tr>
<td>All</td>
<td>8.6 - 10.5</td>
<td>8.6 - 10.5</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>TOTAL BILIRUBIN (TBIL)</td>
<td>Age</td>
<td>Males</td>
<td>Females</td>
<td>Units</td>
</tr>
<tr>
<td>0 - 1 day</td>
<td>0 - 8.0</td>
<td>0 - 8.0</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>2 - 3 days</td>
<td>0 - 14.0</td>
<td>0 - 14.0</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>4 - 5 days</td>
<td>0 - 17.0</td>
<td>0 - 17.0</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>6 - 30 days</td>
<td>0 - 1.0</td>
<td>0 - 1.0</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>&gt;30 days</td>
<td>0 - 1.2</td>
<td>0 - 1.2</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>TOTAL PROTEIN (TP)</td>
<td>Age</td>
<td>Males</td>
<td>Females</td>
<td>Units</td>
</tr>
<tr>
<td>0 - 30 days</td>
<td>4.0 - 6.7</td>
<td>4.0 - 6.7</td>
<td>gm/dL</td>
<td></td>
</tr>
<tr>
<td>1 month - 2 years</td>
<td>5.0 - 7.0</td>
<td>5.0 - 7.0</td>
<td>gm/dL</td>
<td></td>
</tr>
<tr>
<td>&gt; 3 years</td>
<td>6.2 - 8.2</td>
<td>6.2 - 8.2</td>
<td>gm/dL</td>
<td></td>
</tr>
<tr>
<td>ALKALINE PHOSPHATASE (ALP)</td>
<td>Age</td>
<td>Males</td>
<td>Females</td>
<td>Units</td>
</tr>
<tr>
<td>18 years+</td>
<td>40 - 129</td>
<td>35 - 104</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>13 - 17 years</td>
<td>0 - 390</td>
<td>0 - 187</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Males</td>
<td>Females</td>
<td>Units</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-------</td>
<td>---------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>0 - 38</td>
<td>0 - 32</td>
<td>U/L</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0 - 41</td>
<td>0 - 33</td>
<td>U/L</td>
</tr>
</tbody>
</table>
CAH21  Congenital Adrenal Hyperplasia (CAH) Profile for 21-Hydroxylase Deficiency, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
CAH 21-Hydroxylase Profile

Useful For
Preferred screening test for congenital adrenal hyperplasia (CAH) that is caused by 21-hydroxylase deficiency

Part of a battery of tests to evaluate females with hirsutism or infertility, which can result from adult-onset CAH

Profile Information

Test ID  Reporting Name  Available Separately  Always Performed
CORTI  Cortisol, S  Yes, (order CINP)  Yes
ANDRO  Androstenedione, S  Yes, (order ANST)  Yes
H17  17-Hydroxyprogesterone, S  Yes, (order OHPG)  Yes

Specimen Type
Serum Red

Specimen Required

Container/Tube: Red top
Specimen Volume: 0.6 mL
Collection Instructions:
1. Morning (8 a.m.) and afternoon (4 p.m.) specimens are preferred.
2. Include time of draw.
Additional Information: If multiple specimens are drawn, send separate order for each specimen.

Specimen Minimum Volume
0.25 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

CORTISOL
5-25 mcg/dL (a.m.)
2-14 mcg/dL (p.m.)
Pediatric reference ranges are the same as adults, as confirmed by peer-reviewed literature.

ANDROSTENEDIONE
PEDIATRICS*
Premature infants
26-28 weeks, day 4: 92-282 ng/dL
31-35 weeks, day 4: 80-446 ng/dL
Full-term infants
1-7 days: 20-290 ng/dL
1 month-1 year: <69 ng/dL

Males*

Females*

<table>
<thead>
<tr>
<th>Tanner Stages</th>
<th>Age (Years)</th>
<th>Reference Range (ng/dL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I (prepubertal)</td>
<td>&lt;9.8</td>
<td>&lt;51</td>
</tr>
<tr>
<td>Stage II</td>
<td>9.8-14.5</td>
<td>31-65</td>
</tr>
<tr>
<td>Stage III</td>
<td>10.7-15.4</td>
<td>50-100</td>
</tr>
<tr>
<td>Stage IV</td>
<td>11.8-16.2</td>
<td>48-140</td>
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<tr>
<td>Stage V</td>
<td>12.8-17.3</td>
<td>65-210</td>
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</table>

Females*

<table>
<thead>
<tr>
<th>Tanner Stages</th>
<th>Age (Years)</th>
<th>Reference Range (ng/dL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I (prepubertal)</td>
<td>&lt;9.2</td>
<td>&lt;51</td>
</tr>
<tr>
<td>Stage II</td>
<td>9.2-13.7</td>
<td>42-100</td>
</tr>
<tr>
<td>Stage III</td>
<td>10.0-14.4</td>
<td>80-190</td>
</tr>
<tr>
<td>Stage IV</td>
<td>10.7-15.6</td>
<td>77-225</td>
</tr>
<tr>
<td>Stage V</td>
<td>11.8-18.6</td>
<td>80-240</td>
</tr>
</tbody>
</table>


ADULTS
Males: 40-150 ng/dL
Females: 30-200 ng/dL

17-HYDROXYPROGESTERONE
Children
Preterm infants: Preterm infants may exceed 630 ng/dL, however, it is uncommon to see levels reach 1,000 ng/dL.
Term infants
0-28 days: <630 ng/dL
Levels fall from newborn (<630 ng/dL) to prepubertal gradually within 6 months.
Prepubertal males: <110 ng/dL
Prepubertal females: <100 ng/dL
Adults
Males: <220 ng/dL
Females
Follicular: <80 ng/dL
Luteal: <285 ng/dL
Postmenopausal: <51 ng/dL


Day(s) and Time(s) Performed
Monday through Friday; 4 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82157-Androstenedione
82533-Cortisol; total
83498-Hydroxyprogesterone, 17-d

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAH21</td>
<td>CAH 21-Hydroxylase Profile</td>
<td>In Process</td>
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</table>
### Result ID

<table>
<thead>
<tr>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Androstenedione, S</td>
<td>1854-9</td>
</tr>
<tr>
<td>17-Hydroxyprogesterone, S</td>
<td>1668-3</td>
</tr>
<tr>
<td>Cortisol, S</td>
<td>2143-6</td>
</tr>
<tr>
<td>AM Cortisol</td>
<td>9813-7</td>
</tr>
<tr>
<td>PM Cortisol</td>
<td>9812-9</td>
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</table>

### Reject Due To

<table>
<thead>
<tr>
<th>Reason</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
<tr>
<td>Other</td>
<td>Serum gel tube</td>
</tr>
</tbody>
</table>

### Method Name

Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Portions of this test are covered by patent(s) held by Quest Diagnostics

### Forms

If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

---

### HLTEST  Connexin-26

_Baylor Miraca Genetics Laboratory_

#### Reflex Tests

Mitochondrial Deafness (MTA1555G) (MTDEAF) if negative; Connexin-30 (CONN30) if positive

Whole blood

#### Special Handling Instructions

Requisition must accompany sample

#### Specimen Volume

4 mL

#### Minimum Specimen Volume

3 mL

#### Transport Temperature

Ambient

#### Specimen Stability

72 hours

#### Reasons for Rejection

Gross hemolysis

#### CPT Code

81252

#### EMR Interface Order Code

67008

---

### UCUQ  Copper, 24 Hour, Urine

_Mayo Clinic Laboratories in Rochester_

#### Additional Test Codes

EMR Interface Order Code: 05130

#### Reporting Name

Copper, 24 Hr, U

#### Useful For

Investigation of Wilson disease and obstructive liver disease using a 24-hour urine specimen

#### Specimen Type

Urine

#### Necessary Information

24-Hour volume is required.

#### Specimen Required

**Patient Preparation:** High concentrations of barium are known to interfere with this test. If barium-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Supplies:** Urine Tubes, 10 mL (T068)

**Collection Container/Tube:** Clean, plastic urine collection container with no metal cap or glued insert

**Submission Container/Tube:** Plastic urine tube or clean, plastic aliquot container with no metal cap or glued insert

**Specimen Volume:** 10 mL

**Collection Instructions:**
1. Collect urine for 24 hours.
2. Refrigerate specimen within 4 hours of completion of 24-hour collection.
3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Additional Information:** See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.
Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens
- Trace Metals Analysis Specimen Collection and Transport

Reference Values
0-17 years: not established
≥18 years: 9-71 mcg/24 hours

Day(s) and Time(s) Performed
Tuesday, Thursday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82525

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
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<td>CUU</td>
<td>Copper, 24 Hr, U</td>
<td>5633-3</td>
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</table>

<table>
<thead>
<tr>
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<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8590</td>
<td>Copper, 24 Hr, U</td>
<td>5633-3</td>
</tr>
<tr>
<td>TM7</td>
<td>Collection Duration</td>
<td>13362-9</td>
</tr>
<tr>
<td>VL4</td>
<td>Urine Volume</td>
<td>3167-4</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Inductively Coupled Plasma-Mass Spectrometry

Urine Preservative Collection Options
Note: The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient</td>
<td>OK</td>
<td></td>
</tr>
<tr>
<td>Refriger</td>
<td>Preferred</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td>OK</td>
<td></td>
</tr>
<tr>
<td>50% Acetic Acid</td>
<td>OK</td>
<td></td>
</tr>
<tr>
<td>Boric Acid</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Diazolidinyl Urea</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>6M Hydrochloric Acid</td>
<td>OK</td>
<td></td>
</tr>
<tr>
<td>6M Nitric Acid</td>
<td>OK</td>
<td></td>
</tr>
<tr>
<td>Sodium Carbonate</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Thymol</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Toluene</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
-Gastroenterology and Hepatology Client Test Request (T728)

- Inborn Errors of Metabolism Test Request (T798)

**CURBC Copper, RBC**

LabCorp

Collection Container
Dark Blue (EDTA)

Both packed cells and plasma are required

Special Handling Instructions
Both packed cells and plasma are required. Separate plasma from cells within 2 hours of collection before shipping. Transfer RBCs and plasma into separate plastic acid washed, trace metal free tubes trace metal free tubes.

Specimen Volume
3 mL each plasma AND packed RBCs

Minimum Specimen Volume
0.5 mL each plasma AND packed RBCs

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 8 days

Reasons for Rejection
Failure to separate may cause rejection due to hemolysis of red cells and contamination of the plasma

Methodology
Inductively coupled plasma/mass spectrometry (ICP/MS)

CPT Code
82525 x2

LOINC Code
5630-9

EMR Interface Order Code
05140

**CU Copper, Serum**

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 05125

Specimen Required

Patient Preparation: High concentrations of gadolinium, iodine, and barium are known to interfere with most metals tests. If gadolinium-, iodine, or barium-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Supplies:
-Metal Free B:D Tube (No Additive), 6 mL (T184)
-Metal Free Specimen Vial (T173)

Collection Container/Tube: 6-mL Plain, royal blue-top Vacutainer plastic trace element blood collection tube (T184)

Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial (T173)

Specimen Volume: 0.8 mL

Collection Instructions:
1. Allow the specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction.
2. Remove the stopper. Carefully pour specimen into Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of
blood. Do not insert a pipet into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer.

3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Inborn Errors of Metabolism Test Request (T798)
- Gastroenterology and Hepatology Client Test Request (T728)

Useful For
Diagnosis of:
- Wilson disease
- Primary biliary cirrhosis
- Primary sclerosing cholangitis

Special Instructions
• Trace Metals Analysis Specimen Collection and Transport

Method Name
Dynamic Reaction Cell-Inductively Coupled Plasma-Mass Spectrometry (DRC-ICP-MS)

Reporting Name
Copper, S

Specimen Type
Serum

Specimen Minimum Volume
0.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td>METAL FREE</td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td>METAL FREE</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td>METAL FREE</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis OK
- Gross lipemia OK
- Gross icterus OK

Reference Values
0-2 months: 0.40-1.40 mcg/mL
3-6 months: 0.40-1.60 mcg/mL
7-9 months: 0.40-1.70 mcg/mL
10-12 months: 0.80-1.70 mcg/mL
13 months-10 years: 0.80-1.80 mcg/mL
≥11 years: 0.75-1.45 mcg/mL

Day(s) and Time(s) Performed
Monday: 2 p.m.
Tuesday through Friday: 5 p.m.
Saturday: 2 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82525

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUS</td>
<td>Copper, S</td>
<td>5631-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8612</td>
<td>Copper, S</td>
<td>5631-7</td>
</tr>
</tbody>
</table>

CORA Coriander IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
67615

CRN Corn IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days
**CORTBG  Corticosteroid Binding Globulin**  
*LabCorp*

**Collection Container**
Serum gel  
Serum

**Special Handling Instructions**
Separate serum from cells within one hour of collection

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Frozen

**Specimen Stability**
Room temperature: 2 days, Refrigerated: 2 days, Frozen: 300 days

**Methodology**
Radioimmunoassay (RIA)

**CPT Code**
84449

**LOINC Code**
3033-8

**EMR Interface Order Code**
05515

---

**CORTCO  Corticosterone, Serum**  
*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 00730

**Reporting Name**
Corticosterone, S

**Useful For**
Diagnosis of suspected 11-hydroxylase deficiency, including the differential diagnosis of 11 beta-hydroxylase 1 (CYP11B1) versus 11 beta-hydroxylase 2 (CYP11B2) deficiency, and the diagnosis of glucocorticoid-responsive hyperaldosteronism

Evaluating congenital adrenal hyperplasia newborn screen-positive children, when elevations of 17-hydroxyprogesterone are only moderate, thereby suggesting possible 11-hydroxylase deficiency

**Testing Algorithm**
See Steroid Pathways in Special Instructions.

**Specimen Type**
Serum

**Specimen Required**

---

**Preferred:** Red top  
**Acceptable:** Serum gel  
**Specimen Volume:** 0.5 mL  
**Collection Instructions:** Morning (8 a.m.) specimen is preferred.

**Specimen Minimum Volume**
0.4 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**
- Steroid Pathways

**Reference Values**
≤18 years: 18-1,970 ng/dL  
>18 years: 53-1,560 ng/dL

**Day(s) and Time(s) Performed**
Tuesday; 10 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
82528

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CortC</td>
<td>Corticosterone, S</td>
<td>2139-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>88221</td>
<td>Corticosterone, S</td>
<td>2139-4</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: Reject  
- Gross lipemia: OK  
- Gross icterus: OK

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Secondary ID**
88221

---

**CORT  Cortisol**  
*Baystate Reference Laboratories*

**Collection Container**
Serum gel  
Serum

**Other Acceptable Specimen Types**
EDTA and heparinized plasma

**Specimen Volume**
2 mL
**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 24 hours
Refrigerated: 4 days

**Methodology**
Electrochemiluminescence immunoassay (ECLIA)

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**

<table>
<thead>
<tr>
<th>Age</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 - 10 am: 6:00 - 10:00 AM</td>
<td>6.0 - 18.4 ug/dL</td>
</tr>
<tr>
<td>4:00 - 8:00 PM: 4:00 - 8:00 PM</td>
<td>2.7 - 10.5 ug/dL</td>
</tr>
</tbody>
</table>

**Females:**
- 1 - 6 days: 2 - 11 ug/dL
- 7 days - 1 year: 28 - 33 ug/dL
- 1 - 15 years: 3 - 21 ug/dL
- 15 years+: 3 - 21 ug/dL

**Males:**
- 1 - 6 days: 2 - 11 ug/dL
- 7 days - 1 year: 28 - 33 ug/dL
- 1 - 15 years: 3 - 21 ug/dL
- 15 years+: 3 - 21 ug/dL

**Units of Measure**
ug/dL

**CPT Code**
82533

**LOINC Code**
2143-6

**EMR Interface Order Code**
26275

---

**CORT30  Cortisol 30 Min Post Cortrosyn Injection**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
EDTA and heparinized plasma

**Special Handling Instructions**
Drawn 30 minutes post injection of cortrosyn

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 7 days, Refrigerated: 7 days

**Methodology**
Electrochemiluminescence immunoassay (ECLIA)

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**

<table>
<thead>
<tr>
<th>Age</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM - 10:00 AM</td>
<td>6.2 - 19.4 ug/dL</td>
</tr>
<tr>
<td>4:00 PM - 8:00 PM</td>
<td>2.3 - 11.9 ug/dL</td>
</tr>
</tbody>
</table>

**Units of Measure**
ug/dL

---

**CORT60  Cortisol 60 Min Post Cortrosyn Injection**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
EDTA and heparinized plasma

**Special Handling Instructions**
Drawn 60 minutes post injection of cortrosyn

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 7 days, Refrigerated: 7 days

**Methodology**
Electrochemiluminescence immunoassay (ECLIA)

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**

<table>
<thead>
<tr>
<th>Age</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM - 10:00 AM</td>
<td>6.2 - 19.4 ug/dL</td>
</tr>
<tr>
<td>4:00 PM - 8:00 PM</td>
<td>2.3 - 11.9 ug/dL</td>
</tr>
</tbody>
</table>

**Units of Measure**
ug/dL
CPT Code
82533

LOINC Code
2143-6

EMR Interface Order Code
28000

CORTSA  Cortisol, Saliva

Collection Container
Obtain kit from BRL lab service
Call lab for instructions

Special Handling Instructions
Must be collected in salivette collection tube obtained from the Chemistry Department

Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated 3 days
Room Temp 3 days
Frozen 5 months
Freeze thaw cycle 3x

CORTSQ  Cortisol/Cortisone, Free, 24 Hour, Urine

Collection Container
Mayo Clinic Laboratories in Rochester

Supplies: Urine Tubes, 10-mL (T068)
Submission Container/Tube: Plastic, urine tube (T068)
Specimen Volume: 5 mL

Collection Instructions:
1. Collect urine for 24 hours.
2. Add 10 g of boric acid as preservative at start of collection.

Special Instructions

• Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens

Reference Values

CORTISOL
0-2 years: not established
3-8 years: 1.4-20 mcg/24 hours
9-12 years: 2.6-37 mcg/24 hours
13-17 years: 4.0-56 mcg/24 hours
≥18 years: 3.5-45 mcg/24 hours

CORTISONE
0-2 years: not established
3-8 years: 5.5-41 mcg/24 hours
9-12 years: 9.9-73 mcg/24 hours
13-17 years: 15-108 mcg/24 hours
≥18 years: 17-129 mcg/24 hours

Use the factors below to convert each analyte from mcg/24 hours to nmol/24 hours:

Conversion factors
Cortisol: mcg/24 hours x 2.76=nmol/24 hours (molecular weight=362.5)
Cortisone: mcg/24 hours x 2.78=nmol/24 hours (molecular weight=360)

For SI unit Reference Values, see https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html

Day(s) and Time(s) Performed
Monday through Saturday; 4 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82530-Cortisol; free
82542
LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>COCOU</td>
<td>Cortisol/Cortisone, Free, U</td>
<td>In Process</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8546</td>
<td>Cortisol, U</td>
<td>14158-0</td>
</tr>
<tr>
<td>10327</td>
<td>Cortisone, U</td>
<td>14044-2</td>
</tr>
<tr>
<td>TM93</td>
<td>Collection Duration</td>
<td>13362-9</td>
</tr>
<tr>
<td>VL47</td>
<td>Urine Volume</td>
<td>3167-4</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Secondary ID
82948

Urine Preservative Collection Options

<table>
<thead>
<tr>
<th>Preservative</th>
<th>Acceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient</td>
<td>No</td>
</tr>
<tr>
<td>Refrigerate</td>
<td>OK</td>
</tr>
<tr>
<td>Frozen</td>
<td>OK</td>
</tr>
<tr>
<td>50% Acetic Acid</td>
<td>OK</td>
</tr>
<tr>
<td>Boric Acid</td>
<td>Preferred</td>
</tr>
<tr>
<td>Diazolidinyl Urea</td>
<td>No</td>
</tr>
<tr>
<td>6M Hydrochloric Acid</td>
<td>No</td>
</tr>
<tr>
<td>6M Nitric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Sodium Carbonate</td>
<td>No</td>
</tr>
<tr>
<td>Thymol</td>
<td>No</td>
</tr>
<tr>
<td>Toluene</td>
<td>No</td>
</tr>
</tbody>
</table>

COTTCH  Cottage Cheese IgE

Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum

Other Acceptable Specimen Types
Red top

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

COTNWD  Cottonwood Tree IgE

Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003
<table>
<thead>
<tr>
<th><strong>COWDN  Cow Dander IgE</strong></th>
<th><strong>CK  CPK, with Reflex to CKMB Confirmation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contracted Reference Lab</strong></td>
<td><strong>Baystate Reference Laboratories</strong></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td><strong>Additional Information</strong></td>
</tr>
<tr>
<td>Serum gel or red top tube</td>
<td>At an additional charge, a CK-MB immunoassay test will automatically be performed if the total CK is &gt;90 units/L and the patient is &gt;17 years old</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td><strong>Reflex Tests</strong></td>
</tr>
<tr>
<td>For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL</td>
<td>CKICFM</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td>Serum</td>
</tr>
<tr>
<td>0.1 mL</td>
<td><strong>Specimen Volume</strong></td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>1 mL</td>
</tr>
<tr>
<td>Refrigerated</td>
<td><strong>Minimum Specimen Volume</strong></td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>0.1mL</td>
</tr>
<tr>
<td>Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days</td>
<td><strong>Transport Temperature</strong></td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>Refrigerate</td>
</tr>
<tr>
<td>ImmunoCAP</td>
<td><strong>Specimen Stability</strong></td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
<td>Room temperature: 2 days, Refrigerated: 6 days, Frozen: 4 weeks</td>
</tr>
<tr>
<td>3-5 days</td>
<td><strong>Methodology</strong></td>
</tr>
<tr>
<td><strong>CPT Code</strong></td>
<td>CK: Kinetic, UV, NAC-activated</td>
</tr>
<tr>
<td>86003</td>
<td>Confirmation: Electrochemiluminescence immunoassay (ECI)</td>
</tr>
<tr>
<td><strong>EMR Interface Order Code</strong></td>
<td><strong>Days and Times Performed</strong></td>
</tr>
<tr>
<td>48700</td>
<td>Test performed daily</td>
</tr>
<tr>
<td><strong>TCK  CPK, Total Only</strong></td>
<td><strong>Turnaround Time</strong></td>
</tr>
<tr>
<td><strong>Baystate Reference Laboratories</strong></td>
<td>24 hours for routine, 1 hour for stats</td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td><strong>Reference Ranges</strong></td>
</tr>
<tr>
<td>Serum gel</td>
<td>Female: 0-190 U/L</td>
</tr>
<tr>
<td>Serum</td>
<td>Male: 0-310 U/L</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td><strong>Units of Measure</strong></td>
</tr>
<tr>
<td>2 mL</td>
<td>U/L</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td><strong>CPT Code</strong></td>
</tr>
<tr>
<td>0.1 mL</td>
<td>82550</td>
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<tr>
<td><strong>Transport Temperature</strong></td>
<td><strong>LOINC Code</strong></td>
</tr>
<tr>
<td>Refrigerate</td>
<td>2157-6</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td><strong>EMR Interface Order Code</strong></td>
</tr>
<tr>
<td>Room temperature: 2 days, Refrigerated: 7 days, Frozen: 4 weeks</td>
<td>04950</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td><strong>CRAB  Crab IgE</strong></td>
</tr>
<tr>
<td>Kinetic, UV, NAC-activated</td>
<td><strong>Contracted Reference Lab</strong></td>
</tr>
<tr>
<td><strong>Days and Times Performed</strong></td>
<td><strong>Collection Container</strong></td>
</tr>
<tr>
<td>Test performed daily</td>
<td>Serum gel or red top tube</td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
<td><strong>Reference Ranges</strong></td>
</tr>
<tr>
<td>24 hours for routine, 1 hour for stats</td>
<td>Female: 0-190 U/L</td>
</tr>
<tr>
<td><strong>Reference Ranges</strong></td>
<td>Male: 0-310 U/L</td>
</tr>
<tr>
<td>Female: 0-190 U/L</td>
<td><strong>Units of Measure</strong></td>
</tr>
<tr>
<td>Male: 0-310 U/L</td>
<td>U/L</td>
</tr>
</tbody>
</table>
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48705

Container
Serum gel or red top tube

CRANB Cranberry IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48705

Container
Serum gel or red top tube

CREATN Creatine

LabCorp

Important Note
This is not a serum creatinine

Collection Container
Red

Serum

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Frozen

Specimen Stability
Frozen

Reasons for Rejection
Hemolysis or not frozen

Methodology
Enzymatic

Turnaround Time
3-7 days

Reference Ranges
Critical: >12 mg/dL, dialysis patients: > 20 mg/dL

Critical Results
>12 mg/dL, dialysis patients: > 20 mg/dL

CPT Code
82540

LOINC Code
2148-5

EMR Interface Order Code
05150

CRDPU Creatine Disorders Panel Urine (Guandinoacetate)

LabCorp to MNG Labs

Important Note
For testing on plasma, use code GUANID

Collection Container
Urine container

Urine

Special Handling Instructions
Freeze immediately

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Frozen

Specimen Stability
Frozen

CPT Code
82017, 82570
**UCRTNQ Creatine, Urine, Quantitative**

*LabCorp*

**Important Note**
Note: This test is different from a Quantitative creatinine.

**Collection Container**
Jug

24 Hour urine

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Frozen

**Specimen Stability**
Frozen

**Reasons for Rejection**
Preservative added to urine

**Methodology**
Enzymatic

**Days and Times Performed**
Test performed daily

**Turnaround Time**
5-8 days

**CPT Code**
82540

**LOINC Code**
2150-1

**EMR Interface Order Code**
70146

---

**UCRCL Creatinine Clearance, Urine**

*Baystate Reference Laboratories*

**Collection Container**
Jug

24 Hour urine

**Special Handling Instructions**
A timed urine (preferably 24 hrs) and serum (preferably drawn immediately before, during or after urine collection) are required.

**Specimen Volume**
50 mL

**Minimum Specimen Volume**
10 mL urine and 0.1 mL serum

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerate: 6 days

**Methodology**
Enzymatic

**Days and Times Performed**
Test performed daily

**Turnaround Time**
1 - 2 days

**Reference Ranges**
Clearance: 66 - 143 mL/min

**Units of Measure**
mg/dL

**CPT Code**
82575

**LOINC Code**
34555-3

**EMR Interface Order Code**
11450

---

**CRE Creatinine, Blood**

*Baystate Reference Laboratories*

**Additional Information**
In very rare cases, gammopathy, in particular type IgM (Waldenstrom’s macroglobulinemia), may cause unreliable results

**Collection Container**
Serum gel

Serum

**Other Acceptable Specimen Types**
Heparinized plasma, EDTA plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 6 days

**Methodology**
Enzymatic

**Days and Times Performed**
Test performed daily

**Turnaround Time**
3 hrs for routine, 1hr for STAT

**Reference Ranges**
<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 30 days</td>
<td>0.3 - 0.9</td>
<td>0.3 - 0.9</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 month - 2 years</td>
<td>0.2 - 0.4</td>
<td>0.2 - 0.4</td>
<td>mg/dL</td>
</tr>
<tr>
<td>3 - 4 years</td>
<td>0.3 - 0.4</td>
<td>0.3 - 0.4</td>
<td>mg/dL</td>
</tr>
<tr>
<td>5 - 8 years</td>
<td>0.3 - 0.5</td>
<td>0.3 - 0.5</td>
<td>mg/dL</td>
</tr>
<tr>
<td>9 - 10 years</td>
<td>0.3 - 0.6</td>
<td>0.3 - 0.6</td>
<td>mg/dL</td>
</tr>
<tr>
<td>11 - 12 years</td>
<td>0.4 - 0.7</td>
<td>0.4 - 0.7</td>
<td>mg/dL</td>
</tr>
<tr>
<td>13 - 14 years</td>
<td>0.5 - 0.8</td>
<td>0.5 - 0.8</td>
<td>mg/dL</td>
</tr>
<tr>
<td>15 years+</td>
<td>0.7 - 1.2</td>
<td>0.7 - 1.2</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

**Critical Results**

Critical range: > 12.0 mg/dL

**CPT Code**

82565

**LOINC Code**

2160-0

**EMR Interface Order Code**

05200

**FCR Creatinine, Fluid**

*Baystate Reference Laboratories*

**Collection Container**

Fluid

Identify source of body fluid

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.5 mL

**Transport Temperature**

Refrigerate

**Specimen Stability**

Refrigerate: 7 days

**Methodology**

Enzymatic rate reflectance spectrophotometry

**Days and Times Performed**

Test performed daily

**Turnaround Time**

24 hours

**Units of Measure**

mg/dL

**CPT Code**

82570

**LOINC Code**

2161-8

**EMR Interface Order Code**

05220

**UCRQ Creatinine, Urine, Quant**

*Baystate Reference Laboratories*

**Collection Container**

Jug

24 Hour urine

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

1 mL

**Transport Temperature**

Refrigerate

**Specimen Stability**

Refrigerate: 7 days

**Methodology**

Enzymatic rate reflectance spectrophotometry

**Days and Times Performed**

Test performed daily

**Turnaround Time**

24 hours

**Reference Ranges**

Female: 0.72-1.5 g/24 hour
Male: 0.98-2.2 g/24 hour

**Units of Measure**

gm/24Hr
CPT Code 82570
LOINC Code 2161-8
EMR Interface Order Code 05210

**CROPNL  Crohn’s Disease Prognostic Profile**

*LabCorp*

**Important Note**
TEST INCLUDES: Anti-Chitobioside Carbohydrate Antibodies (ACCA), Anti-Laminarilioside Carbohydrate Antibodies (ALCA), Anti-Mannobioside Carbohydrate Antibodies (AMCA), Anti-Saccharomyces cerevisiae Antibodies (ASCA)

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
7 days

**Reasons for Rejection**
Hemolysis, lipemia, heat-treated, gross contamination

**CPT Code**
83516 x3, 86671

**EMR Interface Order Code**
69246

**XM  Crossmatch (Blood Bank)**

*Baystate Reference Laboratories*

**Additional Information**
A crossmatch includes the set up of red cell products for preadmission surgical patients or other patients for whom red cell transfusion has been ordered or is anticipated, or red cell requested on hold; compatibility determination between donor red cells and recipient plasma by appropriate technique, antigen screen of donor units when recipient has a clinically significant antibody. When appropriate, an electronic compatibility test may be performed to detect ABO incompatibility instead of a serologic crossmatch.

**Special Handling Instructions**
Positive identification of the patient. When applicable, compare the hospital wristband with the patient information on the request form. Label the tubes with the patients' full name, unique identification number (eg: medical record number, typenex number), date, time, and initials of collector (two sets of initials for patients to be transfused)

**Specimen Volume**
4 mL

**Minimum Specimen Volume**
4 mL

**Reasons for Rejection**
Specimen improperly labeled; specimen grossly hemolyzed

**Days and Times Performed**
Daily, 24 hours

**Reference Ranges**
Report includes interpretation as appropriate

**CPT Code**
86920 (compatibility test immediate spin); 86922 (compatibility test antiglobulin test); 86923 (compatibility test electronic); 86921 (compatibility testing incubation)

**HSCR P  CRP, High Sensitivity**

*Baystate Reference Laboratories*

**Important Note**
Individuals with evidence of active infection, systemic inflammatory processes or trauma should not be tested for 2 to 4 weeks until these conditions have abated.

**Additional Information**
Individuals with evidence of active infection, systemic inflammatory processes or trauma should not be tested for 2 to 4 weeks until these conditions have abated.

**Collection Container**
Serum gel

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerate: 7 days

**Methodology**
Immunoturbidimetric

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
Relative risk for cardiac disease:
Low: <1.0 mg/L
Average: 1.0-3.0 mg/L
High: >3.0 mg/L

**Units of Measure**
mg/L

**CPT Code**
86141

**LOINC Code**
30522-7

**EMR Interface Order Code**
13820
**CRYOG  Cryoglobulin**

*Baystate Reference Laboratories*

**Additional Information**

Cryoglobulins are abnormal proteins, usually immunoglobulins and other proteins that precipitate at temperatures less than 37° C and redissolve when warmed to above 37° C. This condition is most commonly found in immunoproliferative, proliferative, and autoimmune disorders. The conditions associated with cryoglobulinemia include the following: myeloma, macroglobulinemia, CLL, lupus erythematosus, rheumatoid arthritis, and Sjögren’s Syndrome.

**Reflex Tests**

Immunofixation Electrophoresis

**Collection Container**

Call Lab

Blood

**Special Handling Instructions**

It is preferred that the patient be fasting.

**Hospital Collection:** Obtain a warming block from centralized phlebotomy (pager 44701), MOB lab or Wesson Women’s Lab and prewarm two 5mL red top tubes (non-gel barrier). Follow the written protocol attached to the warming block.

**Off Site Collection:** Prewarm two 5mL red top tubes (non-gel barrier) in a 37° C until clotted (approximately 2 hours). Centrifuge quickly and separate serum into plastic transport tubes. Send serum to Flow Cytometry department (pager 44701) at room temperature by courier.

**Specimen Volume**

10 mL

**Minimum Specimen Volume**

4 mL

**Transport Temperature**

Room Temperature.

**Specimen Stability**

Transport specimen to the Flow Cytometry at BMC Laboratory as soon as possible.

**Reasons for Rejection**

Mis handling of specimen during collection and processing, such as letting it cool down to below 37° C as a control. Blood collected in a gel barrier tube. Frozen, grossly hemolyzed, and grossly lipemic specimen.

**Methodology**

An aliquot of serum is stored at 4° C and observed for formation of a white precipitate or gel. Serum is then warmed to confirm the reversibility of the precipitate formation. An additional aliquot is stored at 37° C as a control.

**Days and Times Performed**

Monday - Friday, 7:30 am - 3:00 pm; Not available on weekends or holidays

**Turnaround Time**

8 days, up to an additional 7 days for cryoprotein identification. The cryoprotein identification will be performed at an additional charge to the patient (see Immunofixation Electrophoresis).

**Reference Ranges**

None detected

**CPT Code**

86352

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**BCRYP  Cryptococcal Antigen, Blood**

*Baystate Reference Laboratories*

**Important Note**

Specimens positive by this test screening method will be titered at an additional charge.

**Collection Container**

Gel

Gel serum

**Other Acceptable Specimen Types**

Red top serum

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.5 mL

**Transport Temperature**

Refrigerate

**Specimen Stability**

7 days refrigerated

**Methodology**

Lateral flow

**LOINC Code**

31790-9

**EMR Interface Order Code**

51520

---

**CRYP  Cryptococcal Antigen, CSF**

*Baystate Reference Laboratories*

**Important Note**

Positive results are considered a critical value and will be phoned to the ordering provider. Specimens positive by this screening method will be titered at an additional charge.

**Additional Information**

False negative results may occur if too few organisms are present in the CSF, as might be seen early in the course of the disease. A culture for Fungus should also be performed on patients who are suspected of having cryptococcosis.

**Collection Container**

Other

CSF

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.5 mL

**Transport Temperature**

Refrigerate

**LOINC Code**

12207-7

**EMR Interface Order Code**

46325

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**LOINC Code**

12207-7

**EMR Interface Order Code**

46325

---

**LOINC Code**

12207-7

**EMR Interface Order Code**

46325
**CRYPS**  *Cryptosporidium Antigen, Feces*

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Cryptosporidium Ag, F

**Useful For**
Establishing the diagnosis of intestinal cryptosporidiosis

**Testing Algorithm**
For other diagnostic tests that may be of value in evaluating patients with diarrhea; the following algorithms are available in Special Instructions:
- Parasitic Investigation of Stool Specimens Algorithm
- Laboratory Testing for Infectious Causes of Diarrhea

**Specimen Type**
Fecal

**Specimen Required**
Submit only 1 of the following specimens:

- **Preserved feces**
  - **Supplies:** Formalin 10% Buffered Neutral (T466); Stool Collection Kit, Random (T635)
  - **Container/Tube:** Preferred: Stool container with 10% buffered formalin preservative
    Acceptable: SAF (sodium acetate formalin)
  - **Specimen Volume:** 5 g
  - **Specimen Stability Information:** Ambient (preferred) 60 days

- **Unpreserved feces**
  - **Supplies:** Stool container, Small (Random), 4 oz (T288); Stool Collection Kit, Random (T635)
  - **Container/Tube:** Stool container
  - **Specimen Volume:** 5 g
  - **Specimen Stability Information:** Frozen 60 days

**Specimen Minimum Volume**
1 g

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal</td>
<td>Varies</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**
- Parasitic Investigation of Stool Specimens Algorithm
- Laboratory Testing for Infectious Causes of Diarrhea

**Reference Values**
Negative

**Day(s) and Time(s) Performed**
Monday through Saturday; 1 p.m.
**CUIX  CU Index**

**Viracor Eurofins**

**Method Name**
Ex Vivo Challenge, Cell Culture and Histamine Analysis

**Reporting Name**
CU Index

**Specimen Type**
Serum

**Specimen Required**

**Patient Preparation:** Patients taking calcineurin inhibitors should stop medication 72 hours prior to draw. Patients taking prednisone should be off their medication for 2 weeks prior to draw.

**Specimen Type:** Serum

**Container/Tube:** Red or SST

**Specimen Volume:** 2 mL

**Collection Instructions:** Draw 5 mL blood in a serum separator tube (SST) (plain, red-top tube is acceptable). Separate from cells within 2 hours of draw. Send 2 mL of serum ambient in a plastic vial.

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Ambient (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: NA
- Thawing: Warm OK; Cold OK
- Lipemia: NA
- Icterus: NA
- Other: NA

**Reference Values**

< 10.0

The CU Index test is the second generation Functional Anti-FceR test. Patient with a CU Index greater than or equal to 10 have basophil reactive factors in their serum which supports an autoimmune basis for disease.

**Day(s) and Time(s) Performed**
Monday and Thursday

**Test Classification**
This test was developed and its performance characteristics determined by Viracor Eurofins. It has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
86343

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**CUCMBR  Cucumber IgE**

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
00555

---

**NRAFCC  Culture, AFB, Non-Respiratory**

**Baystate Reference Laboratories**

**Additional Information**
Direct smears performed in house. Culture performed by Mass Department of Public Health. Sensitivities will be performed automatically on Mycobacterium tuberculosis only. Other susceptibilities will be performed by request. Contact Mycology at 413-322-4158.

**Collection Container**
Sterile sealed container

Tissue, CSF, Aspirates, Urine, Stool

**Other Acceptable Specimen Types**
Call Mycology lab at 413-322-4158 for acceptibility of other specimen types.

**Specimen Volume**
For urine specimens: 50 mL. A first morning specimen collected over 3 consecutive days is recommended.
For other specimen types: 1 mL
Minimum Specimen Volume
For urine specimens: 10 mL. For other specimens: 1 mL.

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated 3-5 days depending on specimen type

Reasons for Rejection
Greater than 3 days in refrigerator, specimens received on swabs.

Days and Times Performed
7 days/week

Turnaround Time
Direct smears will be reported within 24 hours of collection; 60 days for a negative culture result; less than 60 days for a positive result.

Reference Ranges
No growth after 60 days.

LOINC Code
543-9

EMR Interface Order Code
51000

RAFCC Culture, AFB, Respiratory

Baystate Reference Laboratories

Additional Information
Direct smears performed in house. Culture performed by Mass Department of Public Health. Sensitivities will be performed automatically on Mycobacterium tuberculosis only. Other susceptibility will be performed by request. Contact Mycology at 413-322-4158.

Collection Container
Sterile sealed container

Specimen Volume
5 mL

Minimum Specimen Volume
5 mL preferred, lower volumes may still be processed.

Transport Temperature
Refrigerate

Specimen Stability
3-5 days depending on specimen type

Reasons for Rejection
Greater than 3 days old, specimens received on swabs.

Days and Times Performed
7 days/week

Reference Ranges
No growth after 60 days.

LOINC Code
543-9

EMR Interface Order Code
51011

ANAC Culture, Anaerobic

Baystate Reference Laboratories

Reflex Tests
This test cannot be ordered directly, it is reflexed from an order for a Deep Wound (DEEPC), Sterile Body Fluid (SBFC), or Tissue Culture (TISSC)

Collection Container
Eswab, sterile sealed container, Amies swab, Port-a-cul, syringe with needle removed.

Aspirates, abscess, deep wound, tissue, sterile body fluid, lung aspirate. Shielded bronchial brush, sulfur granules from patients with suspected Actinomycosis.

Special Handling Instructions
An anaerobic culture cannot be ordered as a stand alone test. An order for a deep wound culture, sterile body fluid culture or tissue culture must accompany this test.

Specimen Volume
5 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
Swab specimens submitted in an Eswab are stable for 48 hours at room temp or refrigerated. Other specimen types stable for 24 hours refrigerated.

Days and Times Performed
7 days/week

Turnaround Time
5 - 14 days

NOTE: Joint fluid and other orthopedic specimens will be cultured for 14 days before a negative result is reported.

Reference Ranges
No anaerobes isolated

LOINC Code
635-3

EMR Interface Order Code
55100

BLDC Culture, Blood

Baystate Reference Laboratories

Reflex Tests
Susceptibility testing performed on isolates at an additional charge.

Collection Container
Aerobic Plus/F, Lytic Anaerobic /F, Peds Plus
Whole Blood

Special Handling Instructions
Bring to laboratory immediately

Minimum Specimen Volume
Aerobic: 8 - 10mL, Anaerobic Lytic 8 - 10mL, Ped Plus 0.5 - 5mL

Transport Temperature
Room Temperature
Methodology
Automated continuous monitoring instrument for isolation of both aerobic and anaerobic organisms.

Days and Times Performed
7 days/week

Turnaround Time
5 - 8 days

Reference Ranges
No growth after 5 days.

LOINC Code
600-7

EMR Interface Order Code
51175

**AFBBC**  *Culture, Blood, AFB*

*Baystate Reference Laboratories*

Additional Information
Specimens sent to Massachusetts Department of Public Health. No smear performed on this specimen type. Sensitivities will be performed automatically on Mycobacterium tuberculosis only. Other susceptibilities will be performed by request. Contact Mycology at 413-322-4158 with questions.

Collection Container
Lavender (EDTA)
Whole Blood

Special Handling Instructions
Bring immediately to lab.

Specimen Volume
5 mL

Transport Temperature
Room Temperature

Specimen Stability
16 Hours at room temperature

Reasons for Rejection
Insufficient Specimen

Sensitivities will be performed automatically on Mycobacterium tuberculosis only. Other susceptibilities will be performed by request. Contact Mycology at 413-322-4158 with questions.

**CMVBC**  *Culture, Blood, CMV, Shell Vial*

*LabCorp*

Reflex Tests
This culture is for the isolation of cytomegalovirus; other viral agents will not be routinely detected. If a virus other than the one specified for this virus-specific culture is recovered, identification will be made and an additional charge will apply.

Collection Container
Green top (sodium heparin)
Whole blood

Special Handling Instructions
Transport at room temperature as soon as possible. Do not freeze.

Specimen Volume
10 to 14 mL

Transport Temperature
Ambient

Reasons for Rejection
Inappropriate specimen transport conditions

**FUNGBC**  *Culture, Blood, Fungi*

*Baystate Reference Laboratories*

Collection Container
Isolator Tube
Whole Blood

Special Handling Instructions
Bring to laboratory immediately

Specimen Volume
Adults, infants: 10 mL; children less than 5 years of age: 1.5 mL

Minimum Specimen Volume
1 mL Isolator tube

Transport Temperature
Room Temperature

Days and Times Performed
7 days/week

Turnaround Time
28 days for a negative result, less than 28 days for a positive result.

Reference Ranges
No growth after 28 days

LOINC Code
533-0

EMR Interface Order Code
56750
CHLAMC  Culture, Chlamydia  

LabCorp

Collection Container  
M4 Transport Medium with Rayon or Dacron plastic shafted swab  
Swab in M4 Medium  

Special Handling Instructions  
Refrigerate after collection  

Specimen Volume  
1 mL  

Transport Temperature  
Refrigerate  

Specimen Stability  
Transport as soon as possible  

Reasons for Rejection  
Wooden shafted swab, Dry specimen, Excessive delay in transport, Not in M4  

Methodology  
Cell culture and fluorescent antibody detection  

CPT Code  
87110, 87140  

LOINC Code  
560-3  

EMR Interface Order Code  
51300  

CMVC  Culture, CMV, Shell Vial  

LabCorp

Additional Information  
For Blood see CMVBC  

Reflex Tests  
FA confirmation. This culture is for the isolation of cytomegalovirus; other viral agents will not be routinely detected. If a virus other than the one specified for this virus-specific culture is recovered, identification will be made and an additional charge will apply.  

Collection Container  
Other  

Urine  

Other Acceptable Specimen Types  
Blood, urine, buffy coat, throat, bronchoalveolar lavage (BAL), bronchial washings, cervical, semen, biopsy sources, or bone marrow  

Special Handling Instructions  
Bronchoalveolar lavage: Submit 10 to 50 mL fluid in sterile leakproof container and refrigerate.  
Urine: A first morning clean catch urine should be submitted in a sterile screw-cap container. Refrigerate immediately and ship at 4°C. Do not freeze.  
Blood/buffy coat/bone marrow: Collect two green-top (heparin) tubes. Transport at room temperature as soon as possible. Do not freeze.  
Other: Collect a viral transport for throat, cervical, semen, and biopsy sources. Refrigerate immediately and ship at 4°C. Do not freeze.  

Specimen Volume  
4 mL of urine/10 to 14 mL blood  

Minimum Specimen Volume  
1mL of urine  

Transport Temperature  
Do not freeze. Maintain blood at room temperature; other specimen sources should be refrigerated.  

Specimen Stability  
Transport as soon as possible  

Reasons for Rejection  
Bacterial swab specimen; specimen received in grossly leaking transport container; dry specimen; specimens submitted in fixative or additive; specimen received in expired transport media or incorrect transport device; inappropriate specimen transport conditions; specimen received after prolonged delay in transport (usually more than 72 hours); specimen stored or transported at room temperature; specimen received frozen; wooden shaft swab in transport device; unlabeled specimen or name discrepancy between specimen and request label  

Methodology  
Conventional tissue culture and shell vial cell cultures  

CPT Code  
87252, 87254  

LOINC Code  
43701-2  

EMR Interface Order Code  
56760  

GAC  Culture, Gastric Aspirate  

Baystate Reference Laboratories

Additional Information  
Gram stain included  

Reflex Tests  
Susceptibility testing performed on isolates considered clinically significant  

Collection Container  
Sterile Sealed Container, Collection trap  

Neonatal Gastric Aspirate  

Specimen Volume  
3 mL  

Minimum Specimen Volume  
1 mL  

Transport Temperature  
Refrigerate  

Specimen Stability  
24 hours refrigerated  

Reasons for Rejection  
Inappropriate source of specimen, leaking specimen.  

Days and Times Performed  
7 days/week  

Turnaround Time  
2 - 3 days  

Reference Ranges  
No growth after 48 hours or normal flora isolated
GCC  Culture, GC (Neisseria gonorrhoeae)

Baystate Reference Laboratories

Additional Information
No gram stain performed. If extended transport time is likely, an amplified probe method is recommended.

Collection Container
Eswab, charcoal swab
Typical sites are genitourinary, rectum, oropharyngeal and conjunctival.

Transport Temperature
Room Temperature

Specimen Stability
24 hours at room temp for Eswab, 12 hours for charcoal swab

Reasons for Rejection
Specimen not received in appropriate transport media, transport in excess of 24 hours, specimen refrigerated.

Days and Times Performed
7 days/week

Turnaround Time
3 days

Reference Ranges
No Neisseria gonorrhoeae isolated

LOINC Code
698-1

EMR Interface Order Code
51750

THRC  Culture, Group A Strep

Baystate Reference Laboratories

Additional Information
Screening by culture for Beta hemolytic Group A

Collection Container
Eswab, Amies Swab
Throat Swab

Transport Temperature
Refrigerate

Specimen Stability
For specimens submitted on Eswab: 48 hours refrigerated or room temperature.
For other swab types: 24 hours refrigerated.

Days and Times Performed
7 days/week

Turnaround Time
1 - 2 days

Reference Ranges
No Group A Beta hemolytic streptococci isolated

LOINC Code
546-2

EMR Interface Order Code
54650

BSCRS  Culture, Group B Strep

Baystate Reference Laboratories

Additional Information
Culture will screen for Group B Beta hemolytic streptococci only. Susceptibility testing will be performed by special request, using order code BSCRS (Culture, Group B Strep with Sensitivity).

Collection Container
Eswab, Amies swab
Vaginal/Rectal Swab

Transport Temperature
Refrigerate

Specimen Stability
For specimens submitted on Eswab: 48 hours refrigerated or room temperature.
For other swab types: 24 hours refrigerated.

Reasons for Rejection
Excessive transport time.

Days and Times Performed
7 days/week

Turnaround Time
2 - 4 days

Reference Ranges
No Group B Beta hemolytic streptococci isolated.

CPT Code
87081

LOINC Code
72607-5

EMR Interface Order Code
55375

BSCRS  Culture, Group B Strep with Sensitivity

Baystate Reference Laboratories

Additional Information
Group B Strep remain universally susceptible to penicillin at this time therefore susceptibility testing to penicillin is not routinely performed. Alternative antibiotics are indicated for patients who have potentially serious allergy to penicillin. Susceptibility testing will be performed by special request of the clinician at the time of ordering.

Collection Container
Eswab, Amies swab
Vaginal/Rectal swab

Transport Temperature
Refrigerate

Specimen Stability
For specimens submitted on Eswab: 48 hours refrigerated or room temperature.
For other swab types: 24 hours refrigerated.
Reasons for Rejection
Excessive transport time.

Days and Times Performed
7 days/week

Turnaround Time
2 - 4 days

Reference Ranges
No Group B Beta hemolytic streptococci isolated.

EMR Interface Order Code
55390

LEGY    Culture, Legionella

Baystate Reference Laboratories

Additional Information
DFA smears will not be performed on expectorated sputum

Collection Container
Sealed sterile container

Bronchial washings, aspirates, brushings, trans tracheal aspirates, all respiratory system biopsies, pleural fluid, fine needle aspirates, purulent sputum.

Specimen Volume
1 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
24 hours refrigerated

Reasons for Rejection
Excessive transport time, leaking specimens, expectorated sputums are not desirable but will be processed.

Days and Times Performed
7 days/week

Turnaround Time
2 - 3 days

Reference Ranges
No Legionella isolated

LOINC Code
593-4

EMR Interface Order Code
52150

LOWRC    Culture, Lower Respiratory Tract

Baystate Reference Laboratories

Additional Information
Gram stain included

Reflex Tests
Susceptibility testing only performed on isolates considered clinically significant.

Bronchial washing/brushing, endotracheal aspirates

Specimen Volume
5 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
24 hours refrigerated

Reasons for Rejection
Excessive transport time, leaking specimens

Methodology
Semi-quantitative cultures performed for bronchial washings and bronchial brushes

Days and Times Performed
7 days/week

Turnaround Time
2 - 3 days

Reference Ranges
No growth after 48 hours or normal flora isolated

LOINC Code
624-7

EMR Interface Order Code
56100

MOUC    Culture, Mouth

Baystate Reference Laboratories

Additional Information
Usually used to rule out yeast unless otherwise specified

Collection Container
Amies swab or Eswab

Swab of mouth

Transport Temperature
Refrigerate

Specimen Stability
For specimens submitted on Eswab: 48 hours refrigerated or room temperature

For other swab types: 24 hours refrigerated

Days and Times Performed
7 days/week

Turnaround Time
2 - 3 days

Reference Ranges
Normal flora isolated

LOINC Code
73960-7

EMR Interface Order Code
55975
<table>
<thead>
<tr>
<th>MRSASC</th>
<th>Culture, MRSA Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baystate Reference Laboratories</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>E-swab, Amies swab</td>
</tr>
<tr>
<td>Anterior nares, hairline, axilla, hand, perineal</td>
<td></td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerated</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>For specimens submitted on Eswab: 48 hours refrigerated or room temperature</td>
</tr>
<tr>
<td>For other swab types: 24 hours refrigerated</td>
<td></td>
</tr>
<tr>
<td><strong>Reasons for Rejection</strong></td>
<td>Specimen not received in appropriate container, inappropriate source of specimen</td>
</tr>
<tr>
<td><strong>Days and Times Performed</strong></td>
<td>7 days/week</td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
<td>2 - 3 days</td>
</tr>
<tr>
<td><strong>Reference Ranges</strong></td>
<td>No MRSA isolated</td>
</tr>
<tr>
<td><strong>LOINC Code</strong></td>
<td>13317-3</td>
</tr>
<tr>
<td><strong>EMR Interface Order Code</strong></td>
<td>56875</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOSEC</th>
<th>Culture, Nose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baystate Reference Laboratories</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Eswab, Amies Swab</td>
</tr>
<tr>
<td>Nasal Swab</td>
<td></td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerated</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>For specimens submitted on Eswab: 48 hours refrigerated or room temperature</td>
</tr>
<tr>
<td>For other swab types: 24 hours refrigerated</td>
<td></td>
</tr>
<tr>
<td><strong>Reasons for Rejection</strong></td>
<td>Inappropriate source of specimen</td>
</tr>
<tr>
<td><strong>Days and Times Performed</strong></td>
<td>7 days/week</td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
<td>2 - 3 days</td>
</tr>
<tr>
<td><strong>Reference Ranges</strong></td>
<td>No growth after 48 hours or normal flora isolated</td>
</tr>
<tr>
<td><strong>LOINC Code</strong></td>
<td>10353-1</td>
</tr>
<tr>
<td><strong>EMR Interface Order Code</strong></td>
<td>56075</td>
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<table>
<thead>
<tr>
<th>PERTC</th>
<th>Culture, Pertussis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mass. Department of Public Health</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Additional Information</strong></td>
<td>Testing referred to State Lab</td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>State Laboratory-provided container</td>
</tr>
<tr>
<td>Nasopharyngeal swab</td>
<td></td>
</tr>
<tr>
<td><strong>Special Handling Instructions</strong></td>
<td>State submission form must accompany specimen in State provided container</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerate</td>
</tr>
<tr>
<td><strong>Reasons for Rejection</strong></td>
<td>Specimen received in expired transport media, unlabeled specimen or name discrepancy between specimen and request label. No State submission form included or form not filled out.</td>
</tr>
<tr>
<td><strong>LOINC Code</strong></td>
<td>48741-3</td>
</tr>
<tr>
<td><strong>EMR Interface Order Code</strong></td>
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<table>
<thead>
<tr>
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<th>Culture, Placenta</th>
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<tbody>
<tr>
<td><strong>Baystate Reference Laboratories</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Additional Information</strong></td>
<td>Gram stain included</td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Eswab, Amies Swab</td>
</tr>
<tr>
<td>Swab of placenta</td>
<td></td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerate</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>For specimens submitted on Eswab: 48 hours refrigerated or room temperature</td>
</tr>
<tr>
<td>For other swab types: 24 hours refrigerated</td>
<td></td>
</tr>
<tr>
<td><strong>Reasons for Rejection</strong></td>
<td>Inappropriate specimen source</td>
</tr>
<tr>
<td><strong>Days and Times Performed</strong></td>
<td>7 days/week</td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
<td>2 - 3 days</td>
</tr>
<tr>
<td><strong>Reference Ranges</strong></td>
<td>No growth after 48 hours or normal flora isolated</td>
</tr>
<tr>
<td><strong>LOINC Code</strong></td>
<td>617-1</td>
</tr>
<tr>
<td><strong>EMR Interface Order Code</strong></td>
<td>55900</td>
</tr>
</tbody>
</table>
**SMBOWC  Culture, Small Bowel Contents**

*Baystate Reference Laboratories*

**Additional Information**
Gram stain not performed

**Collection Container**
Sterile Container
Small bowel aspirate, duodenal aspirate

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
24 hours refrigerated

**Reasons for Rejection**
Inappropriate source of specimen, excessive delay in transport

**Methodology**
Semi-quantitation of aerobic and anaerobic isolates

**Days and Times Performed**
7 days/week

**Turnaround Time**
2 - 3 days

**Reference Ranges**
No growth after 48 hours

**LOINC Code**
39018-7

**EMR Interface Order Code**
56350

---

**CSFC  Culture, Spinal Fluid**

*Baystate Reference Laboratories*

**Additional Information**
Gram stain included and performed within one hour of receipt in laboratory. Positive results of smear and culture will be phoned as a critical value.

**Collection Container**
Sterile sealed container
Cerebrospinal fluid or ventricular shunt fluid

**Transport Temperature**
Room Temperature

**Specimen Stability**
6 hours at room temperature

**Days and Times Performed**
7 days/week

**Turnaround Time**
3 days

**Reference Ranges**
No growth after 3 days

**LOINC Code**
606-4

**EMR Interface Order Code**
55925

---

**SUTC  Culture, Sputum**

*Baystate Reference Laboratories*

**Additional Information**
Gram stain included

**Reflex Tests**
Susceptibility testing only performed on isolates considered clinically significant

**Collection Container**
Sterile sealed container
Sputum (expectorated or induced), endotracheal aspirate

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
Greater than 1.0 mL preferred, however any amount of specimen will be processed

**Transport Temperature**
Refrigerate

**Specimen Stability**
24 hours refrigerated

**Reasons for Rejection**
If the specimen is microscopically consistent with saliva it is unacceptable for culture. The submitting location will be notified, charge for culture will be cancelled and charge issued for gram stain only.

**Days and Times Performed**
7 days/week

**Turnaround Time**
2 - 3 days

**Reference Ranges**
Normal flora isolated

**LOINC Code**
624-7

**EMR Interface Order Code**
56025

---

**CFSPUT  Culture, Sputum, Cystic Fibrosis**

*Baystate Reference Laboratories*

**Additional Information**
Gram stain included. For cystic fibrosis patients only. Additional media will be added for better isolation of fastidious organisms.

**Reflex Tests**
Susceptibility testing only performed on isolates considered clinically significant.

**Collection Container**
Sterile sealed container
Sputum (expectorated or induced), endotracheal aspirate
Specimen Volume
5 mL
Minimum Specimen Volume
1 mL
Transport Temperature
Refrigerate
Specimen Stability
24 hours refrigerated
Reasons for Rejection
NOT a cystic fibrosis patient. Specimen will be processed as a non-cystic fibrosis culture
Days and Times Performed
7 days/week
Turnaround Time
3 - 4 days
Reference Ranges
No growth after 48 hours
LOINC Code
623-9
EMR Interface Order Code
55776

SBFC  Culture, Sterile Fluid

Baystate Reference Laboratories

Additional Information
Gram stain included
Reflex Tests
Susceptibility testing only performed on isolates considered clinically significant. An anaerobic culture order will be reflexed.
Collection Container
Sterile sealed container, Port-A-Cul, syringe with needle removed
Sterile body fluid such as ascitic fluid, joint fluid, pleural fluid, pericardial fluid
Other Acceptable Specimen Types
Swabs may be accepted but are not recommended. The following comment will be added when a fluid specimen is received on a swab: Specimen received on swab, result may be compromised, specimen of choice is aspirate.
Special Handling Instructions
Specimen must have anatomic source, multiple specimens must have separate and distinct descriptions.
Specimen Volume
5 mL
Minimum Specimen Volume
1 mL but any volume of specimen will be processed
Transport Temperature
Refrigerated
Specimen Stability
24 hours refrigerated
Reasons for Rejection
Fluids received in an Eswab are not desirable.
SUPC  Culture, Superficial Wound

Baystate Reference Laboratories

Additional Information
Gram stain included

Reflex Tests
Susceptibility testing only performed on isolates considered clinically significant

Collection Container
E-swab, Amies swab
Lesions, ulcers and other non-invasive sites

Transport Temperature
Refrigerate

Specimen Stability
For specimens submitted on Eswab: 48 hours refrigerated or room temperature
For other swab types: 24 hours refrigerated

Days and Times Performed
7 days/week

Turnaround Time
2 - 3 days

Reference Ranges
No growth after 48 hours or normal skin flora isolated

LOINC Code
623-9

EMR Interface Order Code
55779

THRCO  Culture, Throat, Non-Strep

Baystate Reference Laboratories

Additional Information
Gram stain not performed

Collection Container
E-swab, Amies swab
Throat swab

Transport Temperature
Refrigerate

Specimen Stability
For specimens submitted on Eswab: 48 hours refrigerated or room temperature
For other swab types: 24 hours refrigerated

Days and Times Performed
7 days/week

Turnaround Time
2 - 3 days

Reference Ranges
Normal flora isolated

LOINC Code
6462-6

EMR Interface Order Code
56200

TISSC  Culture, Tissue

Baystate Reference Laboratories

Reflex Tests
Susceptibility testing only performed on isolates considered clinically significant. Anaerobic culture will be reflexed if not initially ordered.

Collection Container
Sterile sealed container
Sterile-acquired tissue or biopsy, fine needle aspirate

Specimen Volume
1 gram

Minimum Specimen Volume
1 gram but any amount will be processed

Transport Temperature
Refrigerated

Specimen Stability
24 hours refrigerated

Reasons for Rejection
Specimen received in preservative
Days and Times Performed
7 days/week

Turnaround Time
2 - 3 days

Reference Ranges
No growth after 48 hours

LOINC Code
20474-3

EMR Interface Order Code
55950

URNC  Culture, Urine

Baystate Reference Laboratories

Reflex Tests
Susceptibility testing only performed on isolates considered clinically significant.

Collection Container
Gray BD Tube, sterile sealed container, syringe with needle removed.
Midstream, clean catch, foley catheter, straight catheter, kidney, suprapubic urine.

Specimen Volume
3 mL

Minimum Specimen Volume
Preserved (BD Vacutainer gray top): 3 mL, Unpreserved (sterile container): 0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
Unrefrigerated unpreserved urine specimen up to 2 hr, 24 hours if refrigerated. Urine received in BD tube up to 24 hr refrigerated or room temperature.

Reasons for Rejection
Specimen not received in appropriate sterile container, unrefrigerated specimen more than 2 hours old, spillage or leakage, refrigerated specimen more than 24 hours old.

Days and Times Performed
7 days/week

Turnaround Time
2 - 3 days

Reference Ranges
Normal flora isolated

LOINC Code
11261-5

EMR Interface Order Code
55875

VAGC  Culture, Vaginal

Baystate Reference Laboratories

Additional Information
Gram stain and screening for yeast. Identification of Staph aureus only if toxic shock syndrome is suspected and indicated on the requisition.

Collection Container
E-swab, Amies swab
Vaginal swab, aspirate or discharge

Transport Temperature
Refrigerated

Specimen Stability
For specimens submitted on Eswab: 48 hours refrigerated or room temperature
For other swab types: 24 hours refrigerated

Days and Times Performed
7 days/week

Turnaround Time
2 - 3 days

Reference Ranges
No VRE isolated

LOINC Code
13316-5

EMR Interface Order Code
56900
**VIRNR Culture, Viral, Non-Respiratory**

*LabCorp*

**Additional Information**
Specimen should be collected during the acute phase of the disease.

**Collection Container**
Other/ M4 transport media/ sterile container
Dermal, ocular, genital, mucosal, oral, rectal, stool, tissue, or biopsy

**Special Handling Instructions**
Submit one specimen per test requested. Specify the exact specimen source/origin.

**Specimen Volume**
1 mL fluid or one swab in transport media

**Transport Temperature**
Refrigerate specimen at 2 to 8°C

**Reasons for Rejection**
- Bacterial swab specimen; specimen received in grossly leaking transport container; dry specimen; specimen submitted in fixative or additive; specimen received in expired transport media or incorrect transport device; inappropriate specimen transport conditions; specimen received after prolonged delay in transport (usually more than 72 hours); specimen stored or transported at room temperature; wooden shaft swab in transport device; unlabeled specimen or name discrepancy between specimen and request label.

**Methodology**
Inoculation of specimen into cell cultures, incubation of cultures, observation for characteristic cytopathic effect, and identification by DFA or other methods

**Turnaround Time**
16 - 21 days

**Reference Ranges**
No virus isolated

**CPT Code**
87252

**LOINC Code**
6584-7

**EMR Interface Order Code**
70804

---

**UAMP Cyclic AMP**

*LabCorp*

**Additional Information**
PTH or ADH may be administered as a provocative test. No isotopes administered 48 hours prior to and during collection.

**Collection Container**
Urine
Random Urine

**Specimen Volume**
10 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Frozen

**Specimen Stability**
Frozen: 14 days

**Methodology**
Radioimmunoassay

**Turnaround Time**
5 - 10 days

**CPT Code**
82030

**LOINC Code**
22712-4

**EMR Interface Order Code**
26325

---

**CITPAB Cyclic Citrullinated Peptide Antibodies, IgG, Serum**

*Mayo Clinic Laboratories in Rochester*

**Specimen Required**

**Container/Tube:**
- Preferred: Serum gel
- Acceptable: Red top

**Specimen Volume**: 0.5 mL

**Forms**
If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.
Useful For
Evaluating patients suspected of having rheumatoid arthritis (RA)
Differentiating RA from other connective tissue diseases that may present with arthritis

Testing Algorithm
See Connective Tissue Disease Cascade (CTDC) in Special Instructions.

Special Instructions
• Connective Tissue Disease Cascade (CTDC)

Method Name
Enzyme-Linked Immunosorbent Assay (ELISA)

Reporting Name
Cyclic Citrullinated Peptide Ab, S

Specimen Type
Serum

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis Reject
Gross lipemia Reject
Gross icterus OK

Reference Values
<20.0 U (negative)
20.0-39.9 U (weak positive)
40.0-59.9 U (positive)
≥60.0 U (strong positive)
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday; 4 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer’s instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86200

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>CCP</td>
<td>Cyclic Citrullinated Peptide Ab, S</td>
<td>33935-8</td>
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</table>

Result ID | Test Result Name     | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>CCP</td>
<td>Cyclic Citrullinated Peptide Ab, S</td>
<td>33935-8</td>
</tr>
</tbody>
</table>

CYBEN  Cyclobenzaprine (Flexeril)

Medtox Laboratories, Inc.

Reporting Name
Cyclobenzaprine (Flexeril)

Specimen Type
Varies

Specimen Required
Submit only 1 of the following specimens:

Plasma
Specimen Type: Plasma
Container/Tube: Green Top
Specimen Volume: 2 mL
Collection Instructions: Draw blood in a green-top (sodium heparin) tube, plasma gel tube is not acceptable. Spin down and send 2 mL of sodium heparin plasma refrigerated in a plastic vial.

Serum
Specimen Type: Serum
Container/Tube: Red
Specimen Volume: 2 mL
Collection Instructions: Draw blood in a plain, red-top tube, serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
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<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
Hemolysis NA
Lipemia NA
Icteric NA
Other NA

Reference Values
Reference Range: 10 - 30 ng/mL

Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information
80369

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FFLEX</td>
<td>Cyclobenzaprine (Flexeril)</td>
<td>6797-5</td>
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</tbody>
</table>

Result ID | Test Result Name     | Result LOINC Value |
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<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Z1130</td>
<td>Cyclobenzaprine (Flexeril)</td>
<td>6797-5</td>
</tr>
</tbody>
</table>

Method Name
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
**CYCLCYCLOsporin Stool Stain**

**Contracted Reference Lab**

**Collection Container**
Container with 10% formalin

**Stool in formalin**

**Specimen Volume**
5 g

**Transport Temperature**
Ambient or Refrigerated

**Reasons for Rejection**
Unpreserved stool

**CPT Code**
87206, 87015

**EMR Interface Order Code**
67632

---

**CYCLSPCyclosporine**

**Baystate Reference Laboratories**

**Collection Container**
Lavender (EDTA)

**Whole Blood**

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
0.6 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 14 days, Refrigerated: 14 days, Frozen: 14 days

**Reasons for Rejection**
Serum

**Methodology**
LCMS/MS

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**ReferenceRanges**
Literature guidelines: 100-350 (trough)

**Critical Results**
>400 ng/mL

**Units of Measure**
ng/mL

**CPT Code**
80158

**LOINC Code**
3520-4

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**EMR Interface Order Code**
05325

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**3A5V CYP3A5 Genotype, Varies**

**Mayo Clinic Laboratories in Rochester**

**Advisory Information**

Testing is available as the single gene assay (this test) or as a part of a focused pharmacogenomics panel, which includes testing for the following genes: CYPs 1A2, 2C9, 2C19, 2D6, 3A4, 3A5, 4F2, SLC01B1, and VKORC1. Order PGXFP / Focused Pharmacogenomics Panel if multiple pharmacogenomic genotype testing is desired.

**Additional Testing Requirements**

In general, most drugs metabolized by CYP3A5 are also metabolized by CYP3A4 and usually to a greater degree than CYP3A5. For this reason, substrates of these 2 enzymes are sometimes listed together in publications and genotyping of both genes might be needed to fully understand the metabolism of these drugs and predict phenotype. If CYP3A4 genotyping is needed, order 3A4V / Cytochrome P450 3A4 Genotype.

**Specimen Required**

Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together.

Submit only 1 of the following specimens:

**Specimen Type**: Whole blood  
**Container/Tube**: Lavender top (EDTA)  
**Specimen Volume**: 3 mL  
**Collection Instructions**: 1. Invert several times to mix blood.  
2. Send specimen in original tube.

**Specimen Stability Information**: Ambient (preferred)/Refrigerated

**Specimen Type**: Saliva  
**Patient Preparation**: Patient should not eat, drink, smoke, or chew gum 30 minutes prior to collection.

**Supplies**: Saliva Swab Collection Kit (T786)

**Specimen Volume**: One swab  
**Collection Instructions**: Collect and send specimen per kit instructions.

**Specimen Stability Information**: Ambient

**Specimen Type**: DNA  
**Container/Tube**: 2 mL screw top tube  
**Specimen Volume**: 100 mcL (microliters)  
**Collection Instructions**: 1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL.  
2. Include concentration and volume on tube.

**Forms**

1. **New York Clients-Informed consent is required.** Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:  
   - Informed Consent for Genetic Testing (T576)  
   - Informed Consent for Genetic Testing-Spanish (T826)  
2. If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- Neurology Specialty Testing Client Test Request (T732)
- Pharmacogenomics Test Request (T797)
- Renal Diagnostics Test Request (T830)
- Therapeutics Test Request (T831)

Secondary ID
97394

Useful For
Aids in optimizing treatment with tacrolimus and other drugs metabolized by CYP3A5

Special Instructions
- Informed Consent for Genetic Testing
- Pharmacogenomic Associations Tables
- Multiple Genotype Test List
- Informed Consent for Genetic Testing (Spanish)

Method Name
Polymerase Chain Reaction (PCR) With Allelic Discrimination Analysis

Reporting Name
CYP3A5 Genotype

Specimen Type
Varies

Specimen Minimum Volume
Blood: 0.4 mL
Saliva: 1 swab

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Varies</td>
<td>Varies</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Reference Values
An interpretive report will be provided.

Day(s) and Time(s) Performed
Monday through Friday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
81231-CYP3A5

LOINC Code Information
<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
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<td>3A5V</td>
<td>CYP3A5 Genotype</td>
<td>81140-6</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>BA0123</td>
<td>CYP3A5 Genotype</td>
<td>81140-6</td>
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<tr>
<td>BA0124</td>
<td>CYP3A5 Phenotype</td>
<td>79177-5</td>
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<td>BA0126</td>
<td>Additional Information</td>
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<td>49549-9</td>
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<td>BA0127</td>
<td>Reviewed by</td>
<td>18771-6</td>
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</tbody>
</table>

$2D6\quad CYP450\ 2D6\ Genotyping$

LabCorp

Collection Container
Lavender top (EDTA)
Whole blood

Other Acceptable Specimen Types
Yellow top (ACD)

Specimen Volume
7 mL

Minimum Specimen Volume
3 mL

Transport Temperature
Ambient

CPT Code
81226

EMR Interface Order Code
68096

$CYSTC\quad Cystatin\ C\ with\ Estimated\ GFR,\ Serum$

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 00735

Reporting Name
Cystatin C with Estimated GFR, S

Useful For
Cystatin C:
An index of glomerular filtration rate, especially in patients where serum creatinine may be misleading (eg, very obese, elderly, or malnourished patients)

Assessing renal function in patients suspected of having kidney disease

Estimated Glomerular Filtration Rate (eGFR):
An index of GFR, especially in patients where serum creatinine may be misleading (eg, very obese, elderly, or malnourished patients); for such patients, use of CKD-EPI cystatin C equation is recommended to estimate GFR

Assessing renal function in patients suspected of having kidney disease

Monitoring treatment response in patients with kidney disease

Specimen Type
Serum

Specimen Required

<table>
<thead>
<tr>
<th>Container/Tube:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred: Red top</td>
</tr>
<tr>
<td>Acceptable: Serum gel</td>
</tr>
<tr>
<td>Specimen Volume: 1 mL</td>
</tr>
</tbody>
</table>
Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambirent</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

CYSTATIN C
Males:
- 0 days-22 years: no reference values established
- 23-29 years: 0.60-1.03 mg/L
- 30-39 years: 0.64-1.12 mg/L
- 40-49 years: 0.68-1.22 mg/L
- 50-59 years: 0.72-1.32 mg/L
- 60-69 years: 0.77-1.42 mg/L
- 70-79 years: 0.82-1.52 mg/L
- >79 years: no reference values established

Females:
- 0 days-22 years: no reference values established
- 23-29 years: 0.57-0.90 mg/L
- 30-39 years: 0.59-0.98 mg/L
- 40-49 years: 0.62-1.07 mg/L
- 50-59 years: 0.64-1.17 mg/L
- 60-69 years: 0.66-1.26 mg/L
- 70-80 years: 0.68-1.36 mg/L
- 81-86 years: 0.70-1.45 mg/L
- >86 years: no reference values established

eGFR
- >60 mL/min/BSA
- eGFR will not be calculated for patients under 18 years.

Day(s) and Time(s) Performed
24 hours per day, 7 days per week

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
82610

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYSTC</td>
<td>Cystatin C with Estimated GFR, S</td>
<td>87430-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGFRC</td>
<td>eGFR by Cystatin C</td>
<td>50210-4</td>
</tr>
<tr>
<td>CYSC</td>
<td>Cystatin C, S</td>
<td>33863-2</td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: OK

Method Name
Immunoturbidimetric

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- Cardiovascular Test Request Form (T724)
- Renal Diagnostics Test Request (T830)
**CPT Code**  
82131

**LOINC Code**  
2179-0

**EMR Interface Order Code**  
05400

---

**2C19V  Cytochrome P450 2C19 Genotype, Varies**

*Mayo Clinic Laboratories in Rochester*

---

**Advisory Information**

Testing is available as the single gene assay (this test) or as a part of a focused pharmacogenomics panel, which includes testing for the following genes: CYPs 1A2, 2C9, 2C19, 2D6, 3A4, 3A5, 4F2, SLCO1B1, and VKORC1. Order PGXFP / Focused Pharmacogenomics Panel if multiple pharmacogenomic genotype testing is desired.

---

**Specimen Required**

Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together.

**Submit only 1 of the following specimens:**

- **Specimen Type:** Whole blood  
  **Container/Tube:** Lavender top (EDTA)  
  **Specimen Volume:** 3 mL  
  **Collection Instructions:**
  1. Invert several times to mix blood.  
  2. Send specimen in original tube.
  **Specimen Stability Information:** Ambient (preferred) 9 days/Refrigerated 30 days

- **Specimen Type:** Saliva  
  **Patient Preparation:** Patient should not eat, drink smoke, or chew gum 30 minutes prior to collection.  
  **Supplies:** Saliva Swab Collection Kit (T786)  
  **Specimen Volume:** 1 swab  
  **Collection Instructions:** Collect and send specimen per kit instructions.
  **Specimen Stability Information:** Ambient 30 days

- **Specimen Type:** DNA  
  **Container/Tube:** 2 mL screw top tube  
  **Specimen Volume:** 100 mcL (microliters)  
  **Collection Instructions:**
  1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL.  
  2. Include concentration and volume on tube.
  **Specimen Stability Information:** Frozen (preferred)/Ambient/Refrigerated

---

**Forms**

1. **New York Clients-Informed consent is required.** Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:  
   - Informed Consent for Genetic Testing (T576)  
   - Informed Consent for Genetic Testing-Spanish (T826)  
   2. If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:  
      - Pharmacogenomics Test Request (T797)  
      - Cardiovascular Test Request (T724)

---

**Useful For**

Identifying patients who may be at risk for altered metabolism of drugs that are modified by CYP2C19

Predicting anticoagulation response to clopidogrel

---

**Special Instructions**

- Informed Consent for Genetic Testing  
- Pharmacogenomic Associations Tables  
- Multiple Genotype Test List  
- Informed Consent for Genetic Testing (Spanish)

---

**Method Name**

Real-Time Polymerase Chain Reaction (PCR) with Allelic Discrimination Analysis

---

**Reporting Name**

CYP2C19 Genotype

---

**Specimen Type**

Varies

---

**Specimen Minimum Volume**

- Blood: 0.4 mL  
- Saliva: 1 swab

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Varies</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

---

**Reference Values**

An interpretive report will be provided.

**Day(s) and Time(s) Performed**

Monday through Friday; 8 a.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

---

**CPT Code Information**

81225

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2C19V</td>
<td>CYP2C19 Genotype</td>
<td>57132-3</td>
</tr>
</tbody>
</table>

---

**Result ID**

| BA0103 | CYP2C19 Genotype | 57132-3 |
| BA0104 | CYP2C19 Phenotype | 79714-2 |
| BA0105 | Interpretation   | 69047-9  |
| BA0106 | Additional Information | 48767-8 |
| BA0191 | Method           | 49549-9  |
| BA0192 | Disclaimer       | 62364-5  |
| BA0107 | Reviewed by      | 18771-6  |
Advisory Information

If patient is or will be using warfarin, the preferred test is WARSV / Warfarin Response Genotype, which includes testing of CYP2C9, VKORC1, CYP4A2, and rs17777823. Testing is available as the single gene assay (this test) or as a part of a focused pharmacogenomics panel, which includes testing for the following genes: CYPs 1A2, 2C9, 2C19, 2D6, 3A4, 3A5, 4F2, SLC01B1, and VKORC1. Order PGXFP / Focused Pharmacogenomics Panel if multiple pharmacogenomic genotype testing is desired.

Specimen Required

Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together.

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Volume</th>
<th>Stability Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>0.4 mL</td>
<td>Ambient (preferred) 9 days/Refrigerated 30 days</td>
</tr>
<tr>
<td>DNA</td>
<td>100 mcL</td>
<td>Frozen (preferred)/Ambient/Refrigerated</td>
</tr>
<tr>
<td>Saliva</td>
<td>1 swab</td>
<td>Ambient 30 days</td>
</tr>
<tr>
<td>Blood</td>
<td>3 mL</td>
<td>Ambient (preferred) 9 days/Refrigerated 30 days</td>
</tr>
</tbody>
</table>

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Reference Values

An interpretive report will be provided.

Day(s) and Time(s) Performed

Monday through Friday; 8 a.m.

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

81227

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2C9GV</td>
<td>CYP2C9 Genotyping Test</td>
<td>46724-1</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BA0108</td>
<td>CYP2C9 Genotype</td>
<td>46724-1</td>
</tr>
<tr>
<td>BA0109</td>
<td>CYP2C9 Phenotype</td>
<td>79716-7</td>
</tr>
<tr>
<td>BA0110</td>
<td>Interpretation</td>
<td>69047-9</td>
</tr>
<tr>
<td>BA0111</td>
<td>Additional Information</td>
<td>48767-8</td>
</tr>
<tr>
<td>BA0193</td>
<td>Method</td>
<td>49549-9</td>
</tr>
<tr>
<td>BA0194</td>
<td>Disclaimer</td>
<td>62364-5</td>
</tr>
<tr>
<td>BA0112</td>
<td>Reviewed by</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

Secondary ID

97391

Useful For

Identifying individuals who may be at risk for altered metabolism of drugs that are modified by CYP2C9

Special Instructions

- Informed Consent for Genetic Testing
- Pharmacogenomic Associations Tables
- Multiple Genotype Test List
- Informed Consent for Genetic Testing (Spanish)

Method Name

Real-Time Polymerase Chain Reaction (PCR) with Allelic Discrimination Analysis

Reporting Name

CYP2C9 Genotyping Test
Advisory Information

Testing is available as the single gene assay (this test) or as a part of a focused pharmacogenomics panel, which includes testing for the following genes: CYPs 1A2, 2C9, 2C19, 2D6, 3A4, 3A5, 4F2, SLC01B1, and VKORC1. Order PGXFP / Focused Pharmacogenomics Panel if multiple pharmacogenomic genotype testing is desired.

Specimen Required

Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together.

Submit only 1 of the following specimens:

- **Specimen Type:** Whole blood
  - **Container/Tube:** Lavender top (EDTA)
  - **Specimen Volume:** 3 mL
  - **Collection Instructions:**
    1. Invert several times to mix blood.
    2. Send specimen in original tube.
  - **Specimen Stability Information:** Ambient (preferred)/Refrigerated

- **Specimen Type:** Saliva
  - **Patient Preparation:** Patient should not eat, drink, smoke, or chew gum 30 minutes prior to collection.
  - **Supplies:** Saliva Swab Collection Kit (T786)
  - **Specimen Volume:** One swab
  - **Collection Instructions:** Collect and send specimen per kit instructions.
  - **Specimen Stability Information:** Ambient

- **Specimen Type:** DNA
  - **Container/Tube:** 2 mL screw top tube
  - **Specimen Volume:** 100 mcL (microliters)
  - **Collection Instructions:**
    1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL.
    2. Include concentration and volume on tube.
  - **Specimen Stability Information:** Frozen (preferred)/Ambient/Refrigerated

Specimen Required

Multiple genotype tests can be performed on a single specimen after a single extraction. See Multiple Genotype Test List in Special Instructions for a list of tests that can be ordered together.

Submit only 1 of the following specimens:

- **Specimen Type:** Whole blood
  - **Container/Tube:** Lavender top (EDTA)
  - **Specimen Volume:** 3 mL
  - **Collection Instructions:**
    1. Invert several times to mix blood.
    2. Send specimen in original tube.
  - **Specimen Stability Information:** Ambient (preferred)/Refrigerated

- **Specimen Type:** Saliva
  - **Patient Preparation:** Patient should not eat, drink, smoke, or chew gum 30 minutes prior to collection.
  - **Supplies:** Saliva Swab Collection Kit (T786)
  - **Specimen Volume:** One swab
  - **Collection Instructions:** Collect and send specimen per kit instructions.
  - **Specimen Stability Information:** Ambient

- **Specimen Type:** DNA
  - **Container/Tube:** 2 mL screw top tube
  - **Specimen Volume:** 100 mcL (microliters)
  - **Collection Instructions:**
    1. The preferred volume is 100 mcL at a concentration of 50 ng/mcL.
    2. Include concentration and volume on tube.
  - **Specimen Stability Information:** Frozen (preferred)/Ambient/Refrigerated

Forms

1. **New York Clients-Informed consent is required.** Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
   - Pharmacogenomics Test Request (T797)
   - Cardiovascular Test Request (T724)
   - Neurology Specialty Testing Client Test Request (T732)

Secondary ID

97393

Useful For

Aids in determining therapeutic strategies for drugs that are metabolized by CYP34A, including atorvastatin, simvastatin, and lovastatin

Special Instructions

- Informed Consent for Genetic Testing
- Pharmacogenomic Associations Tables
- Multiple Genotype Test List
- Informed Consent for Genetic Testing (Spanish)

Method Name

Polymerase Chain Reaction (PCR) With Allelic Discrimination Analysis

---

### Cytomegalovirus (CMV) Antibodies, IgG, Serum

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**

Cytomegalovirus Ab, IgG, S

**Useful For**

Determining whether a patient (especially transplant recipients, organ and blood donors) has had a recent infection or previous exposure to cytomegalovirus

**Specimen Type**

Serum

**Specimen Required**

**Container/Tube:**
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Negative (reported as positive, negative, or equivocal)

Day(s) and Time(s) Performed
Monday through Saturday; 9 a.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86644

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMVG</td>
<td>Cytomegalovirus Ab, IgG, S</td>
<td>13949-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMVG</td>
<td>Cytomegalovirus Ab, IgG, S</td>
<td>13949-3</td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
<tr>
<td>Other</td>
<td>Heat-inactivated specimen</td>
</tr>
</tbody>
</table>

Method Name
Multiplex Flow Immunoassay (MFI)

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

CMVAB Cytomegalovirus (CMV) Antibodies, IgM and IgG, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Cytomegalovirus Ab, IgM and IgG, S

Useful For
Aiding in the diagnosis of acute or past infection with cytomegalovirus (CMV)

Determination of prior exposure to CMV

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMVM</td>
<td>Cytomegalovirus Ab, IgM, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>CMVG</td>
<td>Cytomegalovirus Ab, IgG, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Specimen Type
Serum

Specimen Required

Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Submission Container/Tube: Aliquot tube
Specimen Volume: 1 mL

Specimen Minimum Volume
0.8 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
CMV IgM: Negative
CMV IgG: Negative

Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday; Varies

CPT Code Information
86644-CMV, IgG
86645-CMV, IgM

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMVP</td>
<td>Cytomegalovirus Ab, IgM and IgG, S</td>
<td>87424-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMVG</td>
<td>Cytomegalovirus Ab, IgG, S</td>
<td>13949-3</td>
</tr>
<tr>
<td>CMVM</td>
<td>Cytomegalovirus Ab, IgM, S</td>
<td>24119-0</td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
<tr>
<td>Other</td>
<td>Heat-inactivated specimen</td>
</tr>
</tbody>
</table>

Method Name
Multiplex Flow Immunoassay (MFI)

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.
CMVM  Cytomegalovirus (CMV) Antibodies, IgM, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Cytomegalovirus Ab, IgM, S

Useful For
Aiding in the diagnosis of acute infection with cytomegalovirus (CMV)

Specimen Type
Serum

Specimen Required

Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Submission Container/Tube: Aliquot tube
Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Negative
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday; 9 a.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86645

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMVM</td>
<td>Cytomegalovirus Ab, IgM, S</td>
<td>24119-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMVM</td>
<td>Cytomegalovirus Ab, IgM, S</td>
<td>24119-0</td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
<tr>
<td>Other</td>
<td>Heat-inactivated specimen</td>
</tr>
</tbody>
</table>

Method Name
Multiplex Flow Immunoassay (MFI)

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

LCMV  Cytomegalovirus (CMV), Molecular Detection, PCR, Varies

Mayo Clinic Laboratories in Rochester

Reporting Name
Cytomegalovirus PCR

Useful For
Rapid qualitative detection of cytomegalovirus (CMV) DNA

This test is not intended for the monitoring of cytomegalovirus (CMV) disease progression.

Specimen Type
Varies

Advisory Information
For plasma specimens order CMVQN / Cytomegalovirus (CMV) DNA Detection and Quantification by Real-Time PCR, Plasma.

Necessary Information
Specimen source is required.

Specimen Required

Submit only 1 of the following specimens:

Supplies: Aliquot Tube, 5 mL (T465)
Specimen Type: Fluid
Sources: Spinal, pleural, peritoneal, ascites, pericardial, amniotic, or ocular
Container/Tube:
Preferred: Sterile screw-cap 5-mL aliquot tube
Acceptable: Sterile Container
Specimen Volume: 0.5 mL
Collection Instructions: Do not centrifuge.

Supplies: Aliquot Tube, 5 mL (T465)
Specimen Type: Fluid
Sources: Respiratory; bronchial washing, bronchoalveolar lavage, nasopharyngeal aspirate or washing, sputum, or tracheal aspirate
Container/Tube:
Preferred: Sterile screw-cap 5-mL aliquot tube
Acceptable: Sterile container
Specimen Volume: 1.5 mL

Supplies:
Culturette (BBL Culture Swab) (T092)
M4-RT (T605)
Specimen Type: Swab
Sources: Genital; cervix, vagina, urethra, anal/rectal, or other genital sources
Container/Tube: multimicrobe media (M4-RT) (T605) and ESwabs
Collection Instructions: Place swab back into multimicrobe media (M4-RT, M4, or M5)

Supplies:
Culturette (BBL Culture Swab) (T092)
M4-RT Media (T605)

Specimen Type: Swab
Sources: Miscellaneous; dermal, eye, nasal, saliva, or throat
Container/Tube: multimicrobe media (M4-RT) (T605) and ESwabs
Collection Instructions: Place swab back into multimicrobe media (M4-RT, M4, or M5)

Supplies: M4-RT (T605)

Specimen Type: Tissue
Sources: Brain, colon, kidney, liver, lung, etc.
Container/Tube: Sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT [T605], M4, or M5)
Specimen Volume: Entire collection
Collection Instructions: Submit only fresh tissue in multimicrobe media (M4-RT) (T605) or a sterile container with 1 to 2 mL sterile saline

Specimen Type: Urine
Container/Tube: Sterile container
Collection Instructions: Collect a random urine specimen.

Specimen Type: Bone marrow
Container/Tube: Lavender top (EDTA)
Specimen Volume: 0.5 mL

Specimen Minimum Volume
Body Fluid, Ocular Fluid, Spinal Fluid, or Urine: 0.3 mL
Respiratory Specimens: 1 mL
Tissue: 2 x 2-mm biopsy

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Negative

Day(s) and Time(s) Performed
Monday through Saturday; 6 p.m.; Sunday: 1 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
87496

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCMV</td>
<td>Cytomegalovirus PCR</td>
<td>5000-5</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRC66</td>
<td>Specimen Source</td>
<td>31208-2</td>
</tr>
<tr>
<td>81240</td>
<td>Cytomegalovirus PCR</td>
<td>5000-5</td>
</tr>
</tbody>
</table>

Reject Due To
Hemolysis
Calcium alginate-tipped swab, wood swab, or transport swab containing gel Blood Serum Feces Paraffin blocks Breast milk

Method Name
Real-Time Polymerase Chain Reaction (PCR)/DNA Probe Hybridization

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.
**CMVQNT Cytomegalovirus (CMV), PCR, Quantitative**

*Baystate Reference Laboratories*

**Collection Container**
Lavender top (EDTA)

**Plasma**

**Special Handling Instructions**
Whole blood must be spun and the plasma removed from red cells within 24 hours of collection

**Specimen Volume**
4 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
4°C up to 3 days; -20°C: 6 weeks

**Reasons for Rejection**
Excessive delay in transport, specimen not processed in time, shared specimen; wrong tube, mislabeled specimens, insufficient quantity.

**Methodology**
COBAS 6800

**Days and Times Performed**
Monday, Thursday

**Turnaround Time**
5 days

**Units of Measure**
IU/mL and Log10 IU/mL

**CPT Code**
87497

**LOINC Code**
30247-1

**EMR Interface Order Code**
59555

---

**FCYTG Cytomegalovirus IgG Avidity**

*Quest Diagnostics Infectious Disease*

**Specimen Required**
Draw blood in a plain, red-top tube(s). Serum gel tube is acceptable. Spin down and send 1 mL of serum refrigerated in plastic vial.

**Secondary ID**
75445

**Method Name**
Immunoadsays

**Reporting Name**
Cytomegalovirus IgG Avidity

---

**ANCA Cytoplasmic Neutrophil Antibodies, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Cytoplasmic Neutrophilic Ab, S

**Useful For**
Antineutrophil cytoplasmic antibodies (cANCA and pANCA):
- Evaluating patients suspected of having autoimmune vasculitis (both Wegener granulomatosis [WG] and microscopic polyangiitis)

- cANCA titer:
  - May be useful for monitoring treatment response in patients with WG (systemic or organ-limited disease); increasing titer suggests relapse of disease, while a decreasing titer suggests successful treatment

**Specimen Type**
 Serum

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Serum</td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td>Serum</td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: Mild OK; Gross reject
- Lipemia: NA
- Icterus: NA
- Other: NA

**Reference Values**

> 0.70

**Day(s) and Time(s) Performed**
Sunday, Tuesday through Friday

**Test Classification**
This test was developed and its performance characteristics have been determined by Quest Diagnostics Infectious Disease. It has not been cleared or approved by FDA. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.

**CPT Code Information**
86644

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>FCYTG</td>
<td>Cytomegalovirus IgG Avidity</td>
<td>52984-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z5329</td>
<td>CMV IgG Avidity Index</td>
<td>52984-2</td>
</tr>
</tbody>
</table>

---

**Additional Testing Requirements**

When used for diagnosis, it is recommended that specific tests for proteinase 3 (PR3) ANCA and myeloperoxidase (MPO) ANCA be
performed in addition to testing for cANCA and pANCA. This panel of tests is available by ordering the VASC / Antineutrophil Cytoplasmic Antibodies Vasculitis Panel, Serum.

**Specimen Required**

**Container/Tube:**
- Preferred: Serum gel
- Acceptable: Red top

**Specimen Volume:** 0.8 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

Negative

If positive for antineutrophil cytoplasmic antibodies, results are titered.

**Day(s) and Time(s) Performed**

Monday through Saturday; 11 a.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

86255
86256 (if appropriate)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>ANCA</td>
<td>Cytoplasmic Neutrophilic Ab, S</td>
<td>87427-1</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>3114</td>
<td>c-ANCA</td>
<td>35279-9</td>
</tr>
<tr>
<td>3119</td>
<td>p-ANCA</td>
<td>17357-5</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: OK

**Method Name**

Indirect Immunofluorescence

**Forms**

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:

- General Request (T239)
- Renal Diagnostics Test Request (T830)

**Secondary ID**

9441

---

**DDIMER  D-Dimer**

*Baystate Reference Laboratories*

**Collection Container**

Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Special Handling Instructions**

Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**

Platelet poor plasma: 1 mL aliquot, Whole blood: 2.7 mL

**Minimum Specimen Volume**

Platelet poor plasma: 0.5 mL aliquot, Whole blood: 2.7 mL

**Transport Temperature**

Platelet poor plasma: frozen, Whole blood: ambient temperature

**Specimen Stability**

Whole blood: 4 hours

**Reasons for Rejection**

Hemolyzed, clotted, Whole blood >4 hours old

**Methodology**

Immunoturbidimetric

**Days and Times Performed**

24 hours a day, 7 days a week

**Turnaround Time**

Stat: 1 hour, Routine: 4 hours

**Reference Ranges**

0.19 - 1.00 mg/L FEU, Cutoff for negative predictor of DVT/PE: <0.5

**CPT Code**

85379

**LOINC Code**

48065-7

**EMR Interface Order Code**

33850

---

**DLACT  D-Lactate, Plasma**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**

EMR Interface Order Code: 07025

**Reporting Name**

D-Lactate, P

**Useful For**

An adjunct to urine D-lactate (preferred), in the diagnosis of D-lactate acidosis

**Specimen Type**

Plasma NaFl-KOx

**Necessary Information**

For L-lactate (lactic acid), order LAA / Lactate, Plasma
Specimen Required

Collection Container/Tube: Grey top (potassium oxalate/sodium fluoride) (T275)
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL
Collection Instructions: Spin down and immediately freeze specimen.
Additional Information: For L-lactate (lactic acid), order LLA / Lactate, Plasma.

Specimen Minimum Volume
0.55 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma NaFl-KOx</td>
<td>Frozen (preferred)</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
0.0-0.25 mmol/L

Day(s) and Time(s) Performed
Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83605

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLAC</td>
<td>D-Lactate, P</td>
<td>14045-9</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
-----------|------------------|--------------------|
8878       | D-Lactate, P     | 14045-9            |

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Enzymatic

Testing Algorithm
DLAU / D-Lactate, Urine is the preferred specimen for D-lactate determinations.

Special Instructions
- Biochemical Genetics Patient Information

UDLACQ  D-Lactate, Urine

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 07030

---

Reporting Name
D-Lactate, U

Useful For
Preferred test for diagnosing D-lactate acidosis, especially in patients with jejunoileal bypass and short-bowel syndrome

Specimen Type
Urine

Specimen Required

Container/Tube: Plastic, 10-mL urine tube (T068)
Specimen Volume: 2.5 mL
Collection Instructions:
1. Collect a timed or random urine specimen.
2. No preservative.
3. Immediately freeze specimen.

Specimen Minimum Volume
0.65 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen (preferred)</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
0.0-0.25 mmol/L

Day(s) and Time(s) Performed
Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83605

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLAU</td>
<td>D-Lactate, U</td>
<td>14046-7</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
-----------|------------------|--------------------|
8873       | D-Lactate, U     | 14046-7            |

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Enzymatic

Forms
Biochemical Genetics Patient Information (T602) in Special Instructions

Special Instructions
- Biochemical Genetics Patient Information
RASTDG  Dairy/Grain IgE Panel

Contracted Reference Lab

Important Note
TEST INCLUDES: Egg White, Milk, Soybean, Wheat, Oat

Collection Container
Serum gel or red top tube

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003 x5

EMR Interface Order Code
49355

DANDEL  Dandelion IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48710

DANTRL  Dantrolene, Serum/Plasma

NMS Labs

Reporting Name
Dantrolene

Specimen Type
Varies

Specimen Required
Submit only 1 of the following specimens:

Serum
Collection Container/Tube: Red-top tube
Submission Container/Tube: (T192) Amber plastic transport tube
Specimen Volume: 1 mL
Collection Instructions: Draw blood in a plain, red-top tube(s).
(Serum gel tube is not acceptable.) Spin down and send 1 mL of serum frozen in an amber (T192) plastic transport tube to protect from light.

Note: Label specimen appropriately (serum).

Plasma
Collection Container/Tube: Lavender-top (EDTA)
Submission Container/Tube: (T192) Amber plastic transport tube
Specimen Volume: 1 mL
Collection Instructions: Draw blood in a lavender-top (EDTA) tube(s).
(Plasma gel tube is not acceptable.) Spin down and send 1 mL of EDTA plasma frozen in an amber (T192) plastic transport tube to protect from light.

Note: Label specimen appropriately (plasma).

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Frozen</td>
<td>7 days</td>
<td>LIGHT PROTECTED</td>
</tr>
</tbody>
</table>

Reference Values
Reporting limit determined each analysis

Synonym(s): Dantrium

Usual therapeutic range: 0.2 - 3.5 mcg/mL

Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information
80369

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>FDANT</td>
<td>Dantrolene</td>
<td>9746-9</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1449</td>
<td>Dantrolene</td>
<td>9746-9</td>
</tr>
<tr>
<td>Z1859</td>
<td>Reporting Limit</td>
<td>19147-8</td>
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</table>
Reject Due To

<table>
<thead>
<tr>
<th>Specimens other than</th>
<th>Serum, plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>NA</td>
</tr>
<tr>
<td>Lipemia</td>
<td>NA</td>
</tr>
<tr>
<td>Icteric</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>Not light protected; room temperature, refrigerated temperature, Polymer gel separation tubes (SST or PST)</td>
</tr>
</tbody>
</table>

Method Name
Spectrofluorometry (SF)

DATEF  Date, Fruit, IgE

Contracted Reference Lab
Baystate Reference Laboratories

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
68648

DEEOH  Dehydroepiandrosterone (DHEA), Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Dehydroepiandrosterone, S

Useful For
Diagnosing and differential diagnosis of hyperandrogenism (in conjunction with measurements of other sex steroids)

An initial screen in adults might include dehydroepiandrosterone (DHEA)/dehydroepiandrosterone sulfate (DHEAS) and bioavailable testosterone measurement. Depending on results, this may be supplemented with measurements of sex hormone-binding globulin and occasionally other androgenic steroids (eg, 17-hydroxyprogesterone).

An adjunct in the diagnosis of congenital adrenal hyperplasia (CAH); DHEA/DHEAS measurements play a secondary role to the measurements of cortisol/cortisone, 17 alpha-hydroxyprogesterone, and androsterone.

Diagnosing and differential diagnosis of premature adrenarche

Specimen Type
Serum Red

Necessary Information
Patient's age and sex are required.

Specimen Required

Collection Container/Tube: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL

Specimen Minimum Volume
0.50 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Frozen (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>6 hours</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions

- Steroid Pathways

Reference Values

Premature: <40 ng/mL*
0-1 day: <11 ng/mL*
2-6 days: <8.7 ng/mL*
7 days-1 month: <6.8 ng/mL*
>1-23 months: <2.9 ng/mL*
2-5 years: <2.3 ng/mL
6-10 years: <3.4 ng/mL
11-14 years: <5.0 ng/mL
15-18 years: <6.6 ng/mL
19-30 years: <13 ng/mL
31-40 years: <10 ng/mL
41-50 years: <8.0 ng/mL
51-60 years: <6.0 ng/mL
≥61 years: <5.0 ng/mL


For SI unit Reference Values, see https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html

Day(s) and Time(s) Performed

Monday, Wednesday, Thursday, Friday; 9 a.m.

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

82626

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHEA</td>
<td>Dehydroepiandrosterone, S</td>
<td>2193-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>81405</td>
<td>Dehydroepiandrosterone, S</td>
<td>2193-1</td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: OK
- Other: Serum gel tube

Method Name

Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Portions of this test are covered by patent(s) held by Quest Diagnostics

Secondary ID

81405

Testing Algorithm

See Steroid Pathways in Special Instructions.
**FMITE**  
*Dermatophagoides farinae IgE*

Contracted Reference Lab  
**Collection Container**  
Serum gel or red top tube  
Serum  
**Specimen Volume**  
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL  
**Minimum Specimen Volume**  
0.1 mL  
**Transport Temperature**  
Refrigerated  
**Specimen Stability**  
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days  
**Methodology**  
ImmunoCAP  
**Turnaround Time**  
3-5 days  
**CPT Code**  
82523 and 82570  
**EMR Interface Order Code**  
15100  

**EMR Interface Order Code**  
48720

---

**PMITE**  
*Dermatophagoides pteronyssinus IgE*

Contracted Reference Lab  
**Collection Container**  
Serum gel or red top tube  
Serum  
**Specimen Volume**  
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL  
**Minimum Specimen Volume**  
0.1 mL  
**Transport Temperature**  
Refrigerated  
**Specimen Stability**  
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days  
**Methodology**  
ImmunoCAP  
**Turnaround Time**  
3-5 days  
**CPT Code**  
86003  
**EMR Interface Order Code**  
48715

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**DESIP**  
*Desipramine, Serum*

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**  
EMR Interface Order Code: 05500  
**Useful For**  
Monitoring serum concentration during therapy  
Evaluating potential toxicity  
The test may also be useful to evaluate patient compliance  
**Method Name**  
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)  
**Reporting Name**  
Desipramine, S  
**Specimen Type**  
Serum Red  
**Specimen Required**  
Container/Tube: Red top  
**Specimen Volume**  
1 mL  
**Collection Instructions:**  
1. Draw specimen immediately before next scheduled dose (minimum 12 hours after last dose).  
2. Serum must be separated from cells within 2 hours of draw.  
**Specimen Minimum Volume**  
0.25 mL  
**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
</tbody>
</table>

**Reference Values**  
Therapeutic concentration: 100-300 ng/mL  
**Note:** Therapeutic ranges are for specimens drawn at trough (ie, immediately before next scheduled dose). Levels may be elevated in non-trough specimens.  
**Day(s) and Time(s) Performed**  
Monday through Friday; Varies  
**Test Classification**  
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.  
**CPT Code Information**  
80335
DESPR
Desipramine, S
3531-1

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

DEX  Dexamethasone

Esoterix Endocrinology

Reporting Name
Dexamethasone

Specimen Type
Serum

Specimen Required
Draw blood in a plain, red-top tube(s). Separate serum within an hour. Spin down and send 3 mL of serum frozen in a plastic vial.

Note: Serum gel tube is acceptable, but must pour off into a plastic vial.

Specimen Minimum Volume
Pediatric minimum: 1 mL
Note: Does not allow for repeat analysis.

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>6 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Units = ng/dL

Adults baseline:
<30
8:00 AM following 1 mg dexamethasone
previous evening: 140 - 295
8:00 AM following 8 mg dexamethasone
(4 x 2 mg doses) previous day: 1600 - 2850

Day(s) and Time(s) Performed
Monday

CPT Code Information
80375

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>FDXM</td>
<td>Dexamethasone</td>
<td>14062-4</td>
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</table>

Reject Due To

<p>| | |</p>
<table>
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<tr>
<th></th>
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<tbody>
<tr>
<td>Hemolysis</td>
<td>NA</td>
</tr>
<tr>
<td>Lipemia</td>
<td>NA</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
</tr>
</tbody>
</table>

Method Name
High-pressure liquid chromatography/tandem mass spectrometry (HPLC/MS-MS)

Secondary ID
91956

DHEAS  DHEA Sulfate

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Specimen Volume
1 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerate: 2 days, Frozen: 2 months

Methodology
Electrochemiluminescence immunoassay (ECLIA)

Days and Times Performed
Testing performed daily.

Turnaround Time
2 - 7 days

Reference Ranges

Female:
1 - 5 years: <58 ug/dL
5 - 7 years: <73 ug/dL
8 - 14 years: <116 ug/dL
15 years +: 60 - 230 ug/dL

Males:
1 - 5 years: <58 ug/dL
6 - 7 years: <73 ug/dL
8 - 14 years: <116 ug/dL
15 years +: 100 - 400 ug/dL

CPT Code
28627

EMR Interface Order Code
26375

DIAB  Diabinese

LabCorp

Collection Container
Red
Serum
**Other Acceptable Specimen Types**

EDTA plasma

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.3 mL

**Transport Temperature**

Room temperature

**Reasons for Rejection**

Collected in gel barrier

**Methodology**

LCMS

**CPT Code**

80375/G0480

**LOINC Code**

3474-4

**EMR Interface Order Code**

05525

---

**VALIUM  Diazepam and Nordiazepam, Serum**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**

EMR Interface Order Code: 10225

**Reporting Name**

Diazepam and Nordiazepam, S

**Useful For**

Assessing compliance

Monitoring for appropriate therapeutic level

Assessing toxicity

**Specimen Type**

Serum Red

**Specimen Required**

Container/Tube: Red top

Specimen Volume: 0.5 mL

**Specimen Minimum Volume**

0.3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

Therapeutic concentrations

Diazepam and Nordiazepam: 200-2,500 ng/mL

**Day(s) and Time(s) Performed**

Tuesday

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

80346

G0480 (if appropriate)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>DIA</td>
<td>Diazepam and Nordiazepam, S</td>
<td>49044-1</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>8629</td>
<td>Diazepam</td>
<td>3548-5</td>
</tr>
<tr>
<td>2475</td>
<td>Nordiazepam</td>
<td>3537-8</td>
</tr>
<tr>
<td>2459</td>
<td>Diazepam and Nordiazepam</td>
<td>16757-7</td>
</tr>
</tbody>
</table>

**Reject Due To**

Gross hemolysis  OK

Gross lipemia  OK

Gross icterus  OK

**Method Name**

Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Forms**

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:

- Neurology Specialty Testing Client Test Request (T732)
- Therapeutics Test Request (T831)

---

**DICUM  Dicumarol**

*LabCorp*

**Collection Container**

Lavender (EDTA)

Serum

**Other Acceptable Specimen Types**

Serum

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.3 mL

**Transport Temperature**

Room temperature

**Specimen Stability**

Room Temperature: 14 days, Refrigerated: 14 days, Frozen (-20 C): 14 days

**Reasons for Rejection**

Collected in gel barrier

**CPT Code**

80375/G0480

**EMR Interface Order Code**

05550
**DIETH  Diethylpropion**

*LabCorp*

**Collection Container**
- Red

**Other Acceptable Specimen Types**
- EDTA plasma or random urine

**Specimen Volume**
- 4 mL

**Minimum Specimen Volume**
- 0.8 mL

**Transport Temperature**
- Room temperature

**Specimen Stability**
- Room Temperature: undetermined; Refrigerated: undetermined; Frozen: undetermined

**Reasons for Rejection**
- Collected in gel barrier

**CPT Code**
- 80375/G0480

**EMR Interface Order Code**
- 13250

---

**CBDIF  Differential**

*Baystate Reference Laboratories*

**Collection Container**
- Lavender (EDTA)

**Specimen Volume**
- EDTA whole blood
  - Lavender tube: 4 mL, BD Microtainer: 500 microliters

**Minimum Specimen Volume**
- Lavender tube: 1 mL, BD Microtainer: 500 mL

**Transport Temperature**
- Refrigerate

**Specimen Stability**
- 24 hours refrigerated

**Reasons for Rejection**
- Specimen clotted, <1.0 mL, greater than 24 hours old, specimen frozen

**Methodology**
- XN9000

**Days and Times Performed**
- 24 hours a day, 7 days a week

**Turnaround Time**
- Stat: 1 hour, Routine: 8 hours

**CPT Code**
- 85027

**EMR Interface Order Code**
- 33975

**Critical Values**

<table>
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<tr>
<th>BLAST%</th>
<th>Age</th>
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<tbody>
<tr>
<td></td>
<td>&lt;180 Days</td>
</tr>
<tr>
<td></td>
<td>&gt;180 Days</td>
</tr>
<tr>
<td>Age</td>
<td>NEUTROPHIL ABSOLUTE NUMBER</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>1 - 3 Days</td>
<td>1.7 - 4.7</td>
</tr>
<tr>
<td>4 - 7 Days</td>
<td>1.9 - 4.1</td>
</tr>
<tr>
<td>8 - 14 Days</td>
<td>1.9 - 5.2</td>
</tr>
<tr>
<td>15 - 30 Days</td>
<td>1.5 - 3.6</td>
</tr>
<tr>
<td>31 - 60 Days</td>
<td>1.2 - 4.4</td>
</tr>
<tr>
<td>61 - 180 Days</td>
<td>1.4 - 6.4</td>
</tr>
<tr>
<td>0.5 to &lt;2 Years</td>
<td>1.6 - 8.3</td>
</tr>
<tr>
<td>2 to &lt;6 Years</td>
<td>1.8 - 7.4</td>
</tr>
<tr>
<td>6 to &lt;12 Years</td>
<td>1.8 - 6.6</td>
</tr>
<tr>
<td>=&gt;12 Years</td>
<td>1.3 - 7.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>LYMPHOCYTES ABSOLUTE NUMBER</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 3 days</td>
<td>2.2 - 5.4</td>
<td>2.8 - 5.3</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>4 - 7 days</td>
<td>4.3 - 7.7</td>
<td>4.9 - 7.0</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>8 - 14 Days</td>
<td>4.2 - 7.4</td>
<td>4.4 - 8.3</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>15 - 30 Days</td>
<td>3.9 - 8.5</td>
<td>4.1 - 8.9</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>31 - 60 Days</td>
<td>3.3 - 8.3</td>
<td>3.2 - 9.1</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>61 - 180 Days</td>
<td>2.8 - 8.3</td>
<td>2.8 - 8.4</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>0.5 to &lt;2 Years</td>
<td>1.9 - 6.8</td>
<td>1.2 - 7.0</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>2 to &lt;6 Years</td>
<td>1.3 - 4.7</td>
<td>1.4 - 4.7</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>6 to &lt;12 Years</td>
<td>1.1 - 3.4</td>
<td>1.1 - 3.5</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>=&gt;12 Years</td>
<td>0.8 - 3.1</td>
<td>0.8 - 3.1</td>
<td>K/mm3</td>
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</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>MONOCYTE ABSOLUTE NUMBER</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 3 Days</td>
<td>0.2 - 1.8</td>
<td>0.2 - 2.2</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>4 - 7 Days</td>
<td>0.2 - 2.2</td>
<td>0.2 - 2.2</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>8 - 14 Days</td>
<td>0.3 - 3.0</td>
<td>0.1 - 2.9</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>15 - 30 Days</td>
<td>0.2 - 3.5</td>
<td>0.2 - 5.0</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>31 - 60 Days</td>
<td>0.3 - 2.7</td>
<td>0.2 - 2.1</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>61 - 180 Days</td>
<td>0.5 - 1.9</td>
<td>0.6 - 1.9</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>0.5 to &lt;2 Years</td>
<td>0.4 - 2.0</td>
<td>0.3 - 1.5</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>2 to &lt;6 Years</td>
<td>0.3 - 1.2</td>
<td>0.5 - 1.1</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>6 to &lt;12 Years</td>
<td>0.3 - 0.9</td>
<td>0.4 - 0.9</td>
<td>K/mm3</td>
<td></td>
</tr>
<tr>
<td>=&gt;12 Years</td>
<td>0.4 - 1.3</td>
<td>0.4 - 0.9</td>
<td>K/mm3</td>
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<table>
<thead>
<tr>
<th>Age</th>
<th>EOSINOPHIL ABSOLUTE NUMBER</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>=&gt;12 Years</td>
<td>0.0 - 0.4</td>
<td>0.0 - 0.4</td>
<td>K/mm3</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Age</th>
<th>BASOPHIL ABSOLUTE NUMBER</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>=&gt;12 Years</td>
<td>0.0 - 0.1</td>
<td>0.0 - 0.1</td>
<td>K/mm3</td>
<td></td>
</tr>
</tbody>
</table>
**CFDIFF  Differential, CSF**

Baystate Reference Laboratories

**Additional Information**
All CSF cytospins on pediatric Medical Oncology patients are sent for pathology review regardless of counts.

**Collection Container**
CSF

**Spinal fluid**

**Special Handling Instructions**
Specimen should be transported to the laboratory ASAP after collection

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Reasons for Rejection**
Grossly clotted specimen, quantity not sufficient

**Methodology**
Differential on Wright stain cytospin prep

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Test performed upon receipt in laboratory

**Units of Measure**
%

**LOINC Code**
29584-0

**EMR Interface Order Code**
32475

---

**FLDIFF  Differential, Fluid**

Baystate Reference Laboratories

**Collection Container**
Lavender (EDTA) or cup

**Spinal fluid**

**Special Handling Instructions**
Specimen should be transported to the laboratory ASAP after collection

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Reasons for Rejection**
Grossly clotted specimen, quantity not sufficient

**Methodology**
Differential on Wright stain cytospin prep

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Test performed upon receipt in laboratory

**Units of Measure**
%

**LOINC Code**
29580-8

**EMR Interface Order Code**
33425

---

**DGFSH  DiGeorge Syndrome Fish, 22q11.2 Deletion**

Mayo Medical Laboratories

**Additional Information**
Do not refrigerate sample.

**Collection Container**
Green top (sodium heparin)

**Peripheral Blood**

**Special Handling Instructions**
Send to Referral Laboratory with copy of ordering requisition.

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Ambient

**Specimen Stability**
Stable at ambient temperature.

**Reasons for Rejection**
Incorrect tube or insufficient quantity.

**Methodology**
Fluorescent in-situ hybridization (FISH)

**Turnaround Time**
Final report within 7 - 10 days.

**Reference Ranges**
Laboratory to provide interpretive report.

**CPT Code**
88271 x2, 88273

**DIGTX  Digitoxin**

Contracted Reference Lab

**Collection Container**
Red top tube or Lavender (EDTA) top tube NO GEL TUBES

**Serum or plasma**

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL
**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 3 days, Refrigerated: 7 days, Frozen: 60 days

**Reasons for Rejection**
Specimen collected in a gel barrier tube

**CPT Code**
80299

**EMR Interface Order Code**
5635

---

**DIG Digoxin**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Heparinized plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room Temperature: 7 days, Refrigerate: 14 days, Frozen: 6 months

**Methodology**
Electrochemiluminescence immunoassay ECLIA

**Days and Times Performed**
Test performed daily

**Turnaround Time**
3 hours routine, 1 hr STAT

**Reference Ranges**
0.8 - 2.0 ng/mL

**Critical Results**
Inpatients: >3 ng/mL Outpatients: >2 ng/mL

**Units of Measure**
ng/mL

**CPT Code**
80162

**LOINC Code**
10535-3

**EMR Interface Order Code**
05650

---

**DHR Dihydrorhodamine Flow Cytometric Test, Blood**

*Mayo Clinic Laboratories in Rochester*

**Important Note**
Contact the Referral Lab to coordinate collection and transport of samples at 413-322-4667

**Useful For**
Diagnosis of chronic granulomatous disease (CGD), X-linked and autosomal recessive forms, Rac2 deficiency, complete myeloperoxidase (MPO) deficiency; monitoring chimerism and nicotinamide adenine dinucleotide phosphate (NADPH) oxidase function posthematopoietic cell transplantation

Assessing residual NADPH oxidase activity pretransplant

Identification of carrier females for X-linked CGD; assessment of changes in lyonization with age in carrier females

**Reporting Name**
DHR Flow, B

**Specimen Type**
WB Sodium Heparin

**Shipping Instructions**
Specimens are required to be received in the laboratory weekdays and by 4 p.m. on Friday. Draw and package specimen as close to shipping time as possible. Ship specimen overnight in an Ambient Shipping Box-Critical Specimens Only (T668) following the instructions in the box.

It is recommended that specimens arrive within 24 hours of draw.

Samples arriving on the weekend and observed holidays may be canceled.

**Necessary Information**
Ordering physician name and phone number are required.

**Specimen Required**
Both a whole blood sodium heparin specimen and a whole blood sodium heparin control specimen from an unrelated, healthy donor are required.

**Supplies:**
Ambient Shipping Box-Critical Specimens Only (T668)

**Patient:**
Container/Tube: Green top (sodium heparin)
Specimen Volume: 5 mL
Collection Instructions: Send specimen in original tube. Do not aliquot.

**Normal Control:**
Container/Tube: Green top (sodium heparin)
Specimen Volume: 5 mL
Collection Instructions:
1. Draw a control specimen from a normal (healthy), unrelated person within an hour of the patient.
2. Label clearly on outermost label normal control.
3. Send specimen in original tube. Do not aliquot.
Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB Sodium Heparin</td>
<td>Ambient</td>
<td>48 hours</td>
<td>GREEN TOP/HEP</td>
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</tbody>
</table>

Reject Due To

- Gross hemolysis
- Gross lipemia

Reference Values

<table>
<thead>
<tr>
<th>Result Name</th>
<th>Unit</th>
<th>Cutoff for Defining Normal</th>
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<tbody>
<tr>
<td>% PMA ox-DHR+</td>
<td>%</td>
<td>≥95%</td>
</tr>
<tr>
<td>MFI PMA ox-DHR+</td>
<td>MFI</td>
<td>≥60</td>
</tr>
<tr>
<td>% FMLP ox-DHR+</td>
<td>%</td>
<td>≥10%</td>
</tr>
<tr>
<td>MFI FMLP ox-DHR+</td>
<td>MFI</td>
<td>≥2</td>
</tr>
<tr>
<td>Control % PMA ox-DHR+</td>
<td>%</td>
<td>≥95%</td>
</tr>
<tr>
<td>Control MFI PMA ox-DHR+</td>
<td>MFI</td>
<td>≥60</td>
</tr>
<tr>
<td>Control % FMLP ox-DHR+</td>
<td>%</td>
<td>≥10%</td>
</tr>
<tr>
<td>Control MFI FMLP ox-DHR+</td>
<td>MFI</td>
<td>≥2</td>
</tr>
</tbody>
</table>

The appropriate age-related reference values for Absolute Neutrophil Count will be provided on the report.

Day(s) and Time(s) Performed
Monday through Friday
Specimen must be received by 4 p.m. on Friday.

CPT Code Information
86352 x2

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>DHR</td>
<td>DHR Flow, B</td>
<td>In Process</td>
</tr>
</tbody>
</table>

Method Name
Flow Cytometry

Test Classification
This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

DHT  Dihydrotestosterone

Contracted Reference Lab

Collection Container
Serum gel or red top tube; Plasma from a lavender (EDTA) top or green (Na hep) top tube also acceptable

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 7 days, Refrigerated: 7 days, Frozen: 19 months

CPT Code
82642/G0480

EMR Interface Order Code
26475

DIL  Dilantin

Baystate Reference Laboratories

Collection Container
Serum gel

Other Acceptable Specimen Types
Heparinized plasma

Special Handling Instructions
I.V.: 2 - 4 hours after dose.
Oral (trough): Immediately before next dose, 1 week after start of therapy and again 3-5 weeks later.
Oral (peak): 2 - 6 hours after dose.

Specimen Volume
1 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 4 days, Refrigerated: 4 days, Frozen: 1 month

Methodology
Kinetic interaction of microparticles in a solution (KIMS)

Days and Times Performed
Test performed daily

Turnaround Time
3 hrs for routine, 1hr for STAT

Reference Ranges
10 to 20 mg/L

Critical Results
>25 mg/dL
**Units of Measure**
mg/L

**CPT Code**
80185

**LOINC Code**
3968-5

**EMR Interface Order Code**
11075

---

**DILL  Dill IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
68592

**Container**
Serum gel or red top tube

---

**DIPTAB  Diphtheria Toxoid IgG Antibody, Serum**

*Mayo Clinic Laboratories in Rochester*

**Useful For**
Determining a patient’s immunological response to diphtheria toxoid vaccination

Aids in the evaluation of immunodeficiency

**Method Name**
Enzyme Immunoassay (EIA)

**Reporting Name**
Diphtheria Toxoid IgG Ab, S

**Specimen Type**
Serum

**Specimen Required**
Container/Tube:

**Preferred**: Serum gel
**Acceptable**: Red top

**Specimen Volume**: 0.5 mL

**Specimen Minimum Volume**
0.4 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject
- Other: Heat inactivated specimen

**Reference Values**
Vaccinated: Positive (≥0.01 IU/mL)
Unvaccinated: Negative (<0.01 IU/mL)
Reference values apply to all ages.

**Day(s) and Time(s) Performed**
Monday through Friday; 9 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
86317

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIPGS</td>
<td>Diphtheria Toxoid IgG Ab, S</td>
<td>48654-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIPG</td>
<td>Diphtheria IgG Ab</td>
<td>45166-6</td>
</tr>
<tr>
<td>DEXDP</td>
<td>Diphtheria IgG Value</td>
<td>48654-8</td>
</tr>
</tbody>
</table>

**Forms**
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

**Secondary ID**
36664

---

**HDC  Direct Antiglobulin Test (DAT)**

*Baystate Reference Laboratories*

**Additional Information**
A Direct Antiglobulin Test (DAT) includes testing with a polyspecific antihuman and monospecific reagents (anti-IgG and anti-C3b-C3d) except cord blood which is tested with anti-IgG antihuman serum only. Eluates from positive cells are prepared and antibody identification performed as indicated on recently transfused patients, for investigation of immune hemolytic anemia, transfusion reactions cause by red cell incompatibility, and investigation of hemolytic disease of the newborn.

Agglutination of red blood cells in the presence of antihuman serum is a positive test result which indicates the presence of human IgG and/or
complement (C3b and/or C3d) on the red blood cells. Methods detect IgG immunoglobulins or complement absorbed on red cells for immune hemolytic anemias caused by antibody and/or complement components being bound to patients' red cells, transfusion reactions due to red cell incompatibility and hemolytic disease of the newborn.

**Collection Container**
Lavender (EDTA)

**Special Handling Instructions**
Positive identification of the patient. When applicable, compare the hospital wristband with the patient information on the request form. Label the tubes with the patients' full name, unique identification number (eg: medical record number, typenex number), date, time, and initials of collector (two sets of initials for patients to be transfused)

**Specimen Volume**
4 mL

**Minimum Specimen Volume**
4 mL

**Reasons for Rejection**
Specimen improperly labeled; specimen grossly hemolyzed

**Methodology**
Hemagglutination (HA)

**Days and Times Performed**
Daily, 24 hours

**Reference Ranges**
Report includes interpretation as appropriate

**CPT Code**
86880 (each Direct Antiglobulin Test)

**EMR Interface Order Code**
60060

---

**UDIUR  Diuretic Screen, Urine**

**Medtox Laboratories, Inc.**

**Additional Test Codes**
EMR Interface Order Code: 05700

**Reporting Name**
Diuretic Screen, Urine

**Specimen Type**
Urine

**Specimen Required**
10 mL aliquot of random or spot urine collected without preservative in a plastic container. Send specimen refrigerated.

**Specimen Minimum Volume**
1.2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>NA</td>
</tr>
<tr>
<td>Lipemia</td>
<td>NA</td>
</tr>
<tr>
<td>Icteric</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Reference Values**
Qualitative diuretic screen includes: benzthiazide, bumetanide, chlorothiazide, chlorthalidone, furosemide, hydrochlorothiazide, hydroflumethiazide, and metolazone.

**CPT Code Information**
80377

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z2593</td>
<td>Diuretic Screen</td>
<td>75369-9</td>
</tr>
<tr>
<td>Z2594</td>
<td>Benzthiazide</td>
<td>3399-3</td>
</tr>
<tr>
<td>Z2595</td>
<td>Bumetanide</td>
<td>3409-0</td>
</tr>
<tr>
<td>Z2596</td>
<td>Chlorothiazide</td>
<td>9508-3</td>
</tr>
<tr>
<td>Z2597</td>
<td>Chlorthalidone</td>
<td>3478-5</td>
</tr>
<tr>
<td>Z2598</td>
<td>Furosemide</td>
<td>3660-8</td>
</tr>
<tr>
<td>Z2599</td>
<td>Hydrochlorothiazide</td>
<td>3676-4</td>
</tr>
<tr>
<td>Z2600</td>
<td>Hydroflumethiazide</td>
<td>40469-9</td>
</tr>
<tr>
<td>Z2601</td>
<td>Metolazone</td>
<td>12347-1</td>
</tr>
</tbody>
</table>

**Method Name**
High Performance Liquid Chromatography with Ultraviolet Detection; (HPLC-UV)

---

**CRITH  DNA Crithida w/Reflex to Titer**

**Quest Diagnostics Nichols Institute**

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temperature: 7 days
Refrigerated: 16 days
Frozen: 35 days

**CPT Code**
86255, 86256 (if reflexes to titer)

**LOINC Code**
6457-6

**EMR Interface Order Code**
71132
Reflex: 71181
ADNA  DNA Double-Stranded Antibodies, IgG, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
DNA Double-Stranded Ab, IgG, S

Useful For
Evaluating patients with signs and symptoms consistent with systemic lupus erythematosus (SLE)

Monitoring patients with documented SLE for flares in disease activity

Specimen Type
Serum

Specimen Required
Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.35 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
<30.0 IU/mL (negative)
30.0-75.0 IU/mL (borderline)
>75.0 IU/mL (positive)

Negative is considered normal.
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday; 4 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions.
Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86225

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADNA</td>
<td>DNA Double-Stranded Ab, IgG, S</td>
<td>33799-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADNA</td>
<td>DNA Double-Stranded Ab, IgG, S</td>
<td>33799-8</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Enzyme-Linked Immunosorbent Assay (ELISA)

Forms
If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

Secondary ID
8178

XXXXX  DO NOT USE _ TEMPLATE TEST

Baystate Reference Laboratories

Important Note
This is the Ordering Note field - Ordering Category is the color (Green, Yellow or Red)

Additional Information
This is the Additional Information field

Reflex Tests
This is the Reflex Tests field

Patient Instructions
This is the Patient Instructions field

Collection Container
This is the Collection Container field

TIP: Is this field and Specimen Required redundant? May be better to consolidate to one field

This is the Specimen Required field

TIP: Is this field and Collection Container redundant? May be better to consolidate to one field

Other Acceptable Specimen Types
This is the Other Acceptable Specimen Types field

Special Handling Instructions
This is the Special Handling Instructions field

Specimen Volume
This is the Specimen Volume field

TIP: Suggest indicating the specimen volume followed by (Minimum: nnnn) after it, such as Serum: 3 mL (Minimum 0.5 mL) which will enable you to remove the Minimum Specimen Volume field

Minimum Specimen Volume
This is the Minimum Specimen Volume field

TIP: Suggest indicating the specimen volume followed by (Minimum: nnnn) after it, such as Serum: 3 mL (Minimum 0.5 mL) which will enable you to remove the this field

Transport Temperature
This is the Transport Temperature field

Specimen Stability
This is the Specimen Stability field

Reasons for Rejection
This is the Reasons for Rejection field

Methodology
This is the Methodology field

Days and Times Performed
This is the Days and Times Performed field

TIP: Need to standardize the way this is answered...some put: Daily, Test Performed Daily, Monday - Friday, 24/7, etc.
**Turnaround Time**
This is the Turnaround Time field

**Reference Ranges**
This is the Reference Ranges field

**TIP:** This is the field where data presentation is SO important. I’ll be providing a spreadsheet template to use to add reference ranges to this field.

**Critical Results**
This is the Critical Results field

**TIP:** This field needs to be phased out….put the Critical value info in the Reference Ranges field and remove this field

**Units of Measure**
This is the Units of Measure field

**TIP:** By putting the Units of Measure in the Reference Ranges field, you can remove this redundant UOM field

**CPT Code**
This is the CPT Code field

**TIP:** If the test has multiple CPT codes, put the codes and the test names in a spreadsheet and copy them into this field, instead of just listing a string of numbers

**LOINC Code**
This is the LOINC Code field

**EMR Interface Order Code**
This is the EMR Interface Order Code field

**TIP:** This is the HMA 3A order code. Eventually I would like to include spreadsheet with HMA 3A (order) and HMA 13 (Result Codes) in this field.

---

---

**Reference Ranges**

<table>
<thead>
<tr>
<th>HEMOGLOBIN (HGB)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 - 3 Days</td>
<td>14.7 - 18.6</td>
<td>12.7 - 18.3</td>
<td>g/dL</td>
</tr>
<tr>
<td></td>
<td>4 - 7 Days</td>
<td>13.4 - 17.9</td>
<td>12.2 - 18.7</td>
<td>g/dL</td>
</tr>
<tr>
<td></td>
<td>8 - 14 Days</td>
<td>11.1 - 16.7</td>
<td>11.9 - 16.9</td>
<td>g/dL</td>
</tr>
<tr>
<td></td>
<td>15 - 30 Days</td>
<td>9.9 - 14.9</td>
<td>10.5 - 14.7</td>
<td>g/dL</td>
</tr>
<tr>
<td></td>
<td>31 - 60 Days</td>
<td>8.9 - 11.9</td>
<td>8.9 - 12.3</td>
<td>g/dL</td>
</tr>
<tr>
<td></td>
<td>61 - 180 Days</td>
<td>9.7 - 12.2</td>
<td>9.7 - 12.0</td>
<td>g/dL</td>
</tr>
<tr>
<td></td>
<td>0.5 to &lt;2 Years</td>
<td>10.5 - 13.5</td>
<td>10.5 - 13.5</td>
<td>g/dL</td>
</tr>
<tr>
<td></td>
<td>2 to &lt;6 Years</td>
<td>11.5 - 14.5</td>
<td>11.5 - 14.5</td>
<td>g/dL</td>
</tr>
<tr>
<td></td>
<td>6 to &lt;12 Years</td>
<td>11.5 - 15.5</td>
<td>11.5 - 15.5</td>
<td>g/dL</td>
</tr>
<tr>
<td></td>
<td>12 to &lt;18 Years</td>
<td>13.0 - 16.0</td>
<td>12.0 - 16.0</td>
<td>g/dL</td>
</tr>
<tr>
<td></td>
<td>≥ 18 Years</td>
<td>13.7 - 16.5</td>
<td>11.7 - 15.5</td>
<td>g/dL</td>
</tr>
</tbody>
</table>

**CPT Code**
85018

**LOINC Code**
718-7

**EMR Interface Order Code**
32300

---

**DOGDN Dog Dander IgE**

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48725

---

**DNA Double-Stranded DNA, Antibody (Native)**

**LabCorp**

**Additional Information**
Specific assay for the diagnosis of SLE.
DOX  Doxepin and Nordoxepin, Serum

DOX  Doxepin and Nordoxepin, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 05750

Useful For
Monitoring therapy
Evaluating potential toxicity
Evaluating patient compliance

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Reporting Name
Doxepin and Nordoxepin, S

Specimen Type
Serum Red

Specimen Required
Container/Tube: Red top
Specimen Volume: 1 mL
Collection Instructions:
1. Draw specimen immediately before next scheduled dose (or at a minimum 12 hours after last dose).
2. Serum must be separated from cells within 2 hours of draw.

Specimen Minimum Volume
0.25 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

Reference Values
Therapeutic concentration (doxepin + nordoxepin): 50-150 ng/mL
Note: Therapeutic ranges are for specimens drawn at trough (i.e., immediately before next scheduled dose). Levels may be elevated in non-trough specimens.

Day(s) and Time(s) Performed
Monday through Friday; Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80335
G0480 (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXPIN</td>
<td>Doxepin and Nordoxepin, S</td>
<td>43122-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>63507</td>
<td>Doxepin</td>
<td>3579-0</td>
</tr>
<tr>
<td>37125</td>
<td>Nordoxepin</td>
<td>3862-0</td>
</tr>
<tr>
<td>37126</td>
<td>Doxepin and Nordoxepin</td>
<td>3582-4</td>
</tr>
</tbody>
</table>

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

MEC5D  Drug Screen, Meconium

MEC5D  Drug Screen, Meconium

LabCorp

Collection Container
Other
Meconium

Specimen Volume
5 grams

Minimum Specimen Volume
1 gram

Transport Temperature
Refrigeree

Turnaround Time
1 - 2 weeks
PDSU  Drug Screen, Prescription/OTC, Random, Urine

Mayo Clinic Laboratories in Rochester

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

Reporting Name
Drug Screen, Prescription/OTC, U

Useful For
Qualitative detection and identification of prescription or over-the-counter drugs frequently found in drug overdose or used with a suicidal intent

Providing, when possible, the identification of all drugs present in the specimen

Specimen Type
Urine

Specimen Required

Supplies: Aliquot Tube, 5 mL (T465)
Collection Container/Tube: Plastic urine container
Submission Container/Tube: Plastic, 5-mL tube
Specimen Volume: 5 mL
Collection Instructions:
1. Collect a random urine specimen.
2. No preservative.
   Additional Information:
1. See Prescription and Over-the-Counter (OTC) Drug Screens in Special Instructions.
2. For chain-of-custody testing, order PDSUX / Drug Screen, Prescription/OTC, Chain of Custody, Urine. For situations where chain of custody is required, a Chain-of-Custody Kit (T282) is available.

Specimen Minimum Volume
1.1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>3 hours</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Prescription and Over-the-Counter (OTC) Drug Screens

Reference Values
Drugs detected are presumptive. Additional testing may be required to confirm the presence of any drugs detected.

Day(s) and Time(s) Performed
Monday through Sunday; Varies

---

SADOA  Drug Screen, Salivary (Oral Fluid)

LabCorp

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

Additional Information
Test includes: amphetamines, cocaine, cannabinoid, opiate, PCP

Collection Container
Obtain kit from BRL lab services

Salivary

Specimen Volume
1 mL

Transport Temperature
Refrigerate

Turnaround Time
Up to 2 weeks

CPT Code
80307

EMR Interface Order Code
05785
**DTSU5  Drug Tox Screen 5, Urine, w/ Confirmation**

**Contracted Reference Lab**

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

**Additional Information**
Initial screen of Amphetamines, Benzodiazepines, Buprenorphine, Marijuana Metabolite 20, Cocaine Metabolite, Methadone Metabolite, Heroin Metabolite, Opiates, Oxycodone, Phencyclidine drug classes. Specimen validity consisting of Creatinine, Oxidant, and pH testing. If positive, a confirmation will be performed at an additional charge (CPT code dependent upon drug class)

**Reflex Tests**
If positive, will reflex to confirmation at an additional charge

**Urine**

**Specimen Volume**
30 mL

**Minimum Specimen Volume**
7 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Methodology**
Screen: Immunoassay; Confirmation: Mass Spectrometry

**Days and Times Performed**
Daily

**Turnaround Time**
Screen: 2 days; Confirms: 3 - 5 days

**Units of Measure**
ng/mL

**CPT Code**
80307

**LOINC Code**
3349-8, 19346-6, 3780-4, 3390-2, 19328-4, 12602-9, 3725-9, 15372-6, 3887-7, 12362-8, 60777-2, 28073-5, 21556-6, 3530-3, 3393-6, 3394-4, 41858-2, 50542-0, 3879-4, 3508-9, 3831-5, 3681-4, 9835-0, 10998-3, 11246-6, 19648-5, 3414-0, 3415-7, 49753-7, 10976-9, 10975-1, 3936-2, 3937-0, 42216-2, 3774-7, 59589-2, 61422-2, 61425-5

**EMR Interface Order Code**
70510

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**DBMD  Duchenne/Becker Muscular Dystrophy, DMD Gene, Large Deletion/Duplication Analysis, Varies**

**Mayo Clinic Laboratories in Rochester**

**Useful For**
Confirmation of a clinical diagnosis of Duchenne muscular dystrophy (DMD) or Becker muscular dystrophy (BMD)

Distinguishing DMD from BMD in some cases, based on the type of deletion detected (allows for better prediction of prognosis)

Determination of carrier status in family member at risk for DMD or BMD

Prenatal diagnosis of DMD or BMD in at-risk pregnancies

**Reflex Tests**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULFB</td>
<td>Fibroblast Culture for Genetic Test</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>CULAF</td>
<td>Amniotic Fluid Culture/ Genetic Test</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>MATCC</td>
<td>Maternal Cell Contamination, B</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

**Testing Algorithm**

For prenatal specimens only: If amniotic fluid (nonconfluent cultured cells) is received, amniotic fluid culture/genetic test will be added and charged separately. If chorionic villus specimen (nonconfluent cultured cells) is received, fibroblast culture for genetic test will be added and charged separately. For any prenatal specimen that is received, maternal cell contamination studies will be added.

See Neuromuscular Myopathy Testing Algorithm in Special Instructions.

**Special Instructions**

- Informed Consent for Genetic Testing
- Molecular Genetics: Neurology Patient Information
- Neuromuscular Myopathy Testing Algorithm
- Informed Consent for Genetic Testing (Spanish)

**Method Name**
Dosage Analysis by Polymerase Chain Reaction (PCR)/Multiplex Ligation-Dependent Probe Amplification (MLPA)

**Reporting Name**
DMD/BMD Deletion/Duplication

**Specimen Type**
Varies

**Shipping Instructions**
Specimen preferred to arrive within 96 hours of collection.

**Specimen Required**

Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant.

Submit only 1 of the following specimens:
Preferred:
Specimen Type: Whole blood
Container/Tube: Preferred: Lavender top (EDTA) or yellow top (ACD)
Acceptable: Any anticoagulant
Specimen Volume: 3 mL
Collection Instructions:
1. Invert several times to mix blood.
2. Send specimen in original tube.
Specimen Stability Information: Ambient (preferred)/Refrigerated

Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing. Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately. All prenatal specimens must be accompanied by a maternal blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on the maternal specimen.

Specimen Type: Amniotic fluid
Container/Tube: Amniotic fluid container
Specimen Volume: 20 mL
Specimen Stability Information: Refrigerated (preferred)/Ambient

Specimen Type: Chorionic villi
Container/Tube: 15-mL tube containing 15 mL of transport media
Specimen Volume: 20 mg
Specimen Stability Information: Refrigerated

Acceptable:
Specimen Type: Confluent cultured cells
Container/Tube: T-25 flask
Specimen Volume: 2 flasks
Collection Instructions: Submit confluent cultured cells from another laboratory.
Specimen Stability Information: Ambient (preferred)/Refrigerated

Specimen Minimum Volume
Blood: 1 mL
Amniotic Fluid: 10 mL
Chorionic Villus: 5 mg

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Varies</td>
<td>Varies</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated by Mayo Clinic Laboratories for test suitability.

Reference Values
An interpretive report will be provided.

Day(s) and Time(s) Performed
Batched 1 time per week

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
81161-DMD (dystrophin) (eg, Duchenne/Becker muscular dystrophy) deletion analysis and duplication analysis, if performed
Fibroblast Culture for Genetic Test
88233-Tissue culture, skin or solid tissue biopsy (if appropriate)
88240-Cryopreservation (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBMD</td>
<td>DMD/BMD Deletion/Duplication</td>
<td>75385-5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>55261</td>
<td>Result Summary</td>
<td>50397-9</td>
</tr>
<tr>
<td>55262</td>
<td>Result</td>
<td>75385-5</td>
</tr>
<tr>
<td>55263</td>
<td>Interpretation</td>
<td>69047-9</td>
</tr>
<tr>
<td>55264</td>
<td>Specimen</td>
<td>31208-2</td>
</tr>
<tr>
<td>55265</td>
<td>Source</td>
<td>31208-2</td>
</tr>
<tr>
<td>55266</td>
<td>Released By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

Forms
1. New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing (Spanish) (T826)
2. Molecular Genetics: Neurology Patient Information in Special Instructions
3. If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request (T732) with the specimen.

DCKFTH   Duck Feather IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48735
**Ear Culture**

*Baystate Reference Laboratories*

**Additional Information**
Gram stain included

**Reflex Tests**
Susceptibility testing only performed on isolates considered clinically significant

**Collection Container**
E-swab, Amies swab
Swab of ear canal, discharge or drainage from ear

**Transport Temperature**
Refrigerate

**Specimen Stability**
For specimens submitted on Eswab: 48 hours refrigerated or room temperature
For other swab types: 24 hours refrigerated

**Reasons for Rejection**
Excessive delays in transport, presence of topical ointments or antibiotics at site of collection

**Days and Times Performed**
7 days/week

**Turnaround Time**
2 - 3 days

**Reference Ranges**
No growth after 48 hours or normal flora isolated

**LOINC Code**
608-0

**EMR Interface Order Code**
56175

---

**Eastern Equine Encephalitis Antibodies**

*Mass. Department of Public Health*

**Additional Information**
Testing referred to State Laboratory

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Ambient: 2 days
Refrigerated: 2 days
For storage longer than two days, freeze the specimen

**Reasons for Rejection**
Hemolysis; lipemia; grossly icteric; visible particulate matter; gross bacterial contamination

**CPT Code**
86663

**LOINC Code**
24007-7

**EMR Interface Order Code**
70909

---

**EBV Early Antigen**

*LabCorp*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
For storage longer than two days, freeze the specimen

**Reasons for Rejection**
Hemolysis; lipemia; grossly icteric; visible particulate matter; gross bacterial contamination

**CPT Code**
86663

**LOINC Code**
24007-7

**EMR Interface Order Code**
70909

---

**Echinococcus Antibody**

*MAYO Medical Laboratories Rochester (FEAGR)*

**Reflex Tests**
Western Blot if positive

**Collection Container**
Red top

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**LOINC Code**
25397-1

**EMR Interface Order Code**
59990
**EGFRP EGFR-CFDNA**

*Baystate Reference Laboratories*

**Additional Information**
Pathology report must accompany specimen in order for testing to be performed.

**Collection Container**
Lavender (EDTA)
Plasma

**Special Handling Instructions**
Whole blood must be spun and the plasma removed from the red cells WITHIN 4 HOURS of draw.

**Specimen Volume**
4 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
4°C up to 24 hours; <70°C up to 12 months

**Reasons for Rejection**
Excessive delay in transport, specimen not processed in time, shared specimen; wrong tube, mislabeled specimens, insufficient quantity

**Methodology**
Real-time PCR

**Days and Times Performed**
Tuesday & Thursday

**Turnaround Time**
10 days

**CPT Code**
81235

---

**EGGCP Egg Component Panel**

*Contracted Reference Lab*

**Important Note**
Test includes Ovalbumin IgE and Ovomucoid IgE

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.6 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**CPT Code**
86008 x2

**EMR Interface Order Code**
70606

---

**EGGW Egg White IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48740
**FWEGG  Egg Whole IgE**

*Viracor Eurofins*

**Method Name**
ImmuNoCAP FEIA

**Reporting Name**
Egg Whole IgE

**Specimen Type**
Serum

**Specimen Required**
Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

**Reference Values**
Reference ranges have not been established for food-specific IgG tests. The clinical utility of food-specific IgG tests has not been established. These tests can be used in special clinical situations to select foods for evaluation by diet elimination and challenge in patients who have food-related complaints. It should be recognized that the presence of food-specific IgG alone cannot be taken as evidence of food allergy and only indicates immunologic sensitization by the food allergen in question. This test should only be ordered by physicians who recognize the limitations of the test.

**Day(s) and Time(s) Performed**
Monday through Friday

**Test Classification**
This test was developed and its performance characteristics determined by Viracor Eurofins. It has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
86003

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FWEGG</td>
<td>Egg Whole IgE</td>
<td>7291-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z3998</td>
<td>Egg Whole IgE</td>
<td>7291-8</td>
</tr>
<tr>
<td>Z3999</td>
<td>CLASS</td>
<td>15690-1</td>
</tr>
</tbody>
</table>

**EGGY  Egg Yolk IgE**

*Viracor Eurofins*

**Method Name**
Enzyme Immunoassay (FEIA)

**Specimen Type**
Serum

**Specimen Required**
Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

**Reference Values**
Reference ranges have not been established for food-specific IgG tests. The clinical utility of food-specific IgG tests has not been established. These tests can be used in special clinical situations to select foods for evaluation by diet elimination and challenge in patients who have food-related complaints. It should be recognized that the presence of food-specific IgG alone cannot be taken as evidence of food allergy and only indicates immunologic sensitization by the food allergen in question. This test should only be ordered by physicians who recognize the limitations of the test.

**Day(s) and Time(s) Performed**
Monday through Friday

**Test Classification**
This test was developed and its performance characteristics determined by Viracor Eurofins. It has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
86001

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEWHG</td>
<td>Egg Whole IgG</td>
<td>45201-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z3998</td>
<td>Egg Whole IgG</td>
<td>7291-8</td>
</tr>
<tr>
<td>Z3999</td>
<td>CLASS</td>
<td>15690-1</td>
</tr>
</tbody>
</table>

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48745

EGGP  Eggplant IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48745

EHRLAB  Ehrlichia Antibodies

LabCorp

Collection Container
Serum gel or red top tube

Serum

Other Acceptable Specimen Types
Red top

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
7 days

Reasons for Rejection
Hemolysis; lipemia; gross bacterial contamination

Turnaround Time
3 - 5 days

Reference Ranges
IgG: Negative: <1:64
IgM: Negative: <1:20

Units of Measure
Titer

CPT Code
86666 x 4

LOINC Code
47405-6

EMR Interface Order Code
58825

LYTES  Electrolytes

Baystate Reference Laboratories

Important Note
This Panel includes: Sodium, Potassium, Chloride, Bicarbonate, and Anion Gap (calc)

Additional Information
Sodium heparin samples are ok for sodium analysis if the collected tube is full. If tube is not filled, test is not acceptable for sodium. Process as soon as possible.

Collection Container
Serum gel

Serum

Other Acceptable Specimen Types
Li Heparinized plasma,

Special Handling Instructions
Hemolysis and prolonged contact of serum with cells produces elevation of potassium. Elevated platelet count or very elevated white blood cell count may falsely elevate blood potassium. Plasma potassium may be ordered to eliminate interference.

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate
Specimen Stability
See individual test listings

Methodology
See individual test listings

Days and Times Performed
Daily

Turnaround Time
3 hrs for Routine, 1 hr for STAT

Reference Ranges

<table>
<thead>
<tr>
<th>SODIUM (NA)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>133-145</td>
<td>133-145</td>
<td></td>
<td>mmol/L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POTASSIUM (K)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>3.6-5.2</td>
<td>3.6-5.2</td>
<td></td>
<td>mmol/L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHLORIDE (CL)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 30 days</td>
<td>110-116</td>
<td>110-116</td>
<td></td>
<td>mmol/L</td>
</tr>
<tr>
<td>1 month - Adult</td>
<td>98-107</td>
<td>98-107</td>
<td></td>
<td>mmol/L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BICARBONATE (CO2)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>22 - 29</td>
<td>22 - 29</td>
<td></td>
<td>mmol/L</td>
</tr>
</tbody>
</table>

Units of Measure
mmol/L

CPT Code
80051

LOINC Code
55231-5

EMR Interface Order Code
05800

FLYTE Electrolytes, Fluid

Baystate Reference Laboratories

Collection Container
Fluid

Identify Source of Body Fluid

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerate

Methodology
Ion-selective electrode (ISE)

Days and Times Performed
Test performed daily

Turnaround Time
4 hrs routine, 1 hr stat

Reference Ranges
Not established

Units of Measure
mmol/L

CPT Code
82438

LOINC Code
24328-7

EMR Interface Order Code
10950

FELYTE Electrolytes, Fecal

Baystate Reference Laboratories

Collection Container
Stool

Stool

Special Handling Instructions
Specimen must not be a formed stool

Specimen Volume
5 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerate

Reasons for Rejection
Solid stool

Methodology
Ion-selective electrode (ISE)

Days and Times Performed
Test performed daily

Turnaround Time
4 hrs routine, 1 hr stat

Reference Ranges
Not established

Units of Measure
mmol/L

CPT Code
80051

LOINC Code
24327-9

EMR Interface Order Code
12625

ELEMIC Electron Microscopy

Baystate Reference Laboratories

Collection Container
Glutaraldehyde solution

Varied, call Customer Service
Specimen Volume
Varied, call Customer Service

Transport Temperature
Room Temperature

Specimen Stability
Weeks

Reasons for Rejection
Mishandling of specimen during collection and processing, such as frozen, dried out, and exposed to extreme heat

Days and Times Performed
Monday - Friday, 8 am - 1 pm; not available on weekends or holidays

CPT Code
88348

**SPEL**  Electrophoresis, Blood

Baystate Reference Laboratories

Collection Container
Serum gel

Serum

Special Handling Instructions
Total protein must be ordered

Specimen Volume
5 mL

Minimum Specimen Volume
0.3 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerate

Reasons for Rejection
Plasma

Methodology
Agarose gel

Days and Times Performed
Tues, Wed, Fri

Turnaround Time
1 - 4 days

CPT Code
84165, 84155

EMR Interface Order Code
48750

Container
Serum gel or red top tube

**ENC1**  Encephalopathy, Autoimmune Evaluation, Spinal Fluid

Mayo Clinic Laboratories in Rochester

Necessary Information
Provide the following information:
- Relevant clinical information
- Ordering provider name, phone number, mailing address, and e-mail address

Specimen Required
Container/Tube: Sterile vial

Specimen Volume: 4 mL

Forms
If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request (T732) with the specimen.

Secondary ID
92117

Useful For
Evaluating new onset encephalopathy (noninfectious or metabolic) comprising confusional states, psychosis, delirium, memory loss, hallucinations, movement disorders, sensory or motor complaints, seizures, dyssomnias, ataxias, nausea, vomiting, inappropriate antidiuresis, coma, dysautonomias, or hypoventilation in spinal fluid specimens

The following accompaniments should increase of suspicion for autoimmune encephalopathy:
- Headache
- Autoimmune stigmata (personal or family history or signs of diabetes mellitus, thyroid disorder, vitiligo, poliosis [premature graying], myasthenia gravis, rheumatoid arthritis, systemic lupus erythematosus)
- History of cancer
- Smoking history (20+ pack years) or other cancer risk factors
- Inflammatory cerebrospinal fluid (or isolated protein elevation)
- Neuroimaging signs suggesting inflammation
Evaluating limbic encephalitis (noninfectious)

Directing a focused search for cancer

Investigating encephalopathy appearing in the course or wake of cancer therapy and not explainable by metastasis or drug effect

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>AECCI</td>
<td>Encephalopathy, Interpretation, CSF</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>AMPCC</td>
<td>AMPA-R Ab CBA, CSF</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>AMPHC</td>
<td>Amphiphysin Ab, CSF</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>AGN1C</td>
<td>Anti-Gliarial Nuclear Ab, Type 1</td>
<td>No</td>
<td>Yes</td>
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<td>Anti-Neuronal Nuclear Ab, Type 1</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>ANN2C</td>
<td>Anti-Neuronal Nuclear Ab, Type 2</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>ANN3C</td>
<td>Anti-Neuronal Nuclear Ab, Type 3</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>CS2CC</td>
<td>CASPR2-IgG CBA, CSF</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>CRMC</td>
<td>CRMP-5-IgG, CSF</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>DPPIC</td>
<td>DPPX Ab IFA, CSF</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>GABCC</td>
<td>GABA-B-R Ab CBA, CSF</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>GD65C</td>
<td>GAD65 Ab Assay, CSF</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>GFAIC</td>
<td>GFAP IFA, CSF</td>
<td>No</td>
<td>Yes</td>
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<td>LG1CC</td>
<td>LGI1-IgG CBA, CSF</td>
<td>No</td>
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<td>GL1IC</td>
<td>mGluR1 Ab IFA, CSF</td>
<td>No</td>
<td>Yes</td>
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<td>NMDCC</td>
<td>NMDA-R Ab CBA, CSF</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>PCTRc</td>
<td>Purkinje Cell Cyttoplasm Ab Type Tr</td>
<td>No</td>
<td>Yes</td>
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<td>PCA1C</td>
<td>Purkinje Cell Cyttoplasm Ab Type 1</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>PCA2C</td>
<td>Purkinje Cell Cyttoplasm Ab Type 2</td>
<td>No</td>
<td>Yes</td>
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</table>

**Reflex Tests**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMPIC</td>
<td>AMPA-R Ab IF Titer Assay, CSF</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>ABLTC</td>
<td>Amphiphysin Western Blot, CSF</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>CRMWC</td>
<td>CRMP-5-IgG Western Blot, CSF</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>DPPCC</td>
<td>DPPX Ab CBA, CSF</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>DPPTC</td>
<td>DPPX Ab IFA Titer, CSF</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>GABIC</td>
<td>GABA-B-R Ab IF Titer Assay, CSF</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>GFACC</td>
<td>GFAP CBA, CSF</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>GFATC</td>
<td>GFAP IFA Titer, CSF</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>GL1CC</td>
<td>mGluR1 Ab CBA, CSF</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>GL1TC</td>
<td>mGluR1 Ab IFA Titer, CSF</td>
<td>No</td>
<td>No</td>
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<tr>
<td>NMDIC</td>
<td>NMDA-R Ab IF Titer Assay, CSF</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>WBNC</td>
<td>Paraneoplastic Autoantibody WBlot, CSF</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Testing Algorithm**

If indirect immunofluorescence assay (IFA) (ANNA-1, ANNA-2, ANNA-3, PCA-1, PCA-2, PCA-Tr, amphiphysin, CRMP-5-IgG, AGNA-1) is indeterminate, then paraneoplastic autoantibody Western blot is performed at an additional charge.

If client requests or if IFA patterns suggest CRMP-5-IgG, then CRMP-5-IgG Western blot is performed at an additional charge.

If IFA patterns suggest amphiphysin antibody, then amphiphysin Western blot is performed at an additional charge.

If IFA pattern suggests AMPA-Receptor antibody, and AMPA-Receptor antibody cell-binding assay (CBA) is positive, then AMPA-Receptor antibody IFA titer assay is performed at an additional charge.

If IFA pattern suggests GABA-B-Receptor antibody, and GABA-B-R Receptor antibody CBA is positive, then GABA-B-R Receptor antibody IFA titer assay is performed at an additional charge.

If IFA pattern suggests GFAP antibody, then GFAP IFA titer and GFAP CBA are performed at an additional charge.

If IFA pattern suggests NMDA-receptor antibody, and NMDA-receptor antibody CBA is positive, then NMDA-receptor antibody IFA titer assay is performed at an additional charge.

If IFA pattern suggests DPPX antibody, then DPPX antibody CBA and DPPX titer are performed at an additional charge.

If IFA pattern suggests mGluR1 antibody, then mGluR1 antibody CBA and mGluR1 titer are performed at an additional charge.

Special Instructions

- Encephalopathy Autoimmune Evaluation Algorithm-Spinal Fluid

**Method Name**

- ANN1C, ANN2C, ANN3C, PCA1C, PCA2C, PCTRc, AMPHC, CRMC, AGN1C, DPPIC, DPPTC, GL1IC, GL1TC, GFATC, AMPIC, GABIC, NMDIC: Indirect Immunofluorescence Assay (IFA)
- AMPCC, GABCC, NMDCC, LG1CC, CS2CC, DPPCC, GL1CC, GFACC: Cell Binding Assay (CBA)
- ABLTC, CRMWC, WBNC: Western Blot
- GD65C: Immunoprecipitation Assay (IPA)

**Specimen Type**

- Encephalopathy-Autoimmune Eval, CSF

**Specimen Minimum Volume**

- 2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
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</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
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</table>

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject
## Reference Values

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Methodology</th>
<th>Reference Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMPCC</td>
<td>AMPA-R Ab CBA, CSF</td>
<td>Cell-binding assay (CBA)</td>
<td>Negative</td>
</tr>
<tr>
<td>AMPHC</td>
<td>Amphiphysin Ab, CSF</td>
<td>Immunofluorescence (IFA)</td>
<td>&lt;1:2</td>
</tr>
<tr>
<td>AGN1C</td>
<td>Anti-Glial Nuclear Ab, Type 1</td>
<td>IFA</td>
<td>&lt;1:2</td>
</tr>
<tr>
<td>ANN1C</td>
<td>Anti-Neuronal Nuclear Ab, Type 1</td>
<td>IFA</td>
<td>&lt;1:2</td>
</tr>
<tr>
<td>ANN2C</td>
<td>Anti-Neuronal Nuclear Ab, Type 2</td>
<td>IFA</td>
<td>&lt;1:2</td>
</tr>
<tr>
<td>ANN3C</td>
<td>Anti-Neuronal Nuclear Ab, Type 3</td>
<td>IFA</td>
<td>&lt;1:2</td>
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<tr>
<td>CS2CC</td>
<td>CASPR2-IgG CBA, CSF</td>
<td>CBA</td>
<td>Negative</td>
</tr>
<tr>
<td>CRMC</td>
<td>CRMP-5-IgG, CSF</td>
<td>IFA</td>
<td>&lt;1:2</td>
</tr>
<tr>
<td>DPPIC</td>
<td>DPPX Ab IFA, CSF</td>
<td>IFA</td>
<td>Negative</td>
</tr>
<tr>
<td>GABCC</td>
<td>GABA-B-R Ab CBA, CSF</td>
<td>CBA</td>
<td>Negative</td>
</tr>
<tr>
<td>GD65C</td>
<td>GAD65 Ab Assay, CSF</td>
<td>Immunoprecipitation assay (IPA)</td>
<td>≤0.02 nmol/L</td>
</tr>
<tr>
<td>GFAIC</td>
<td>GFAP IFA, CSF</td>
<td>IFA</td>
<td>Negative</td>
</tr>
<tr>
<td>LG1CC</td>
<td>LG1-IgG CBA, CSF</td>
<td>CBA</td>
<td>Negative</td>
</tr>
<tr>
<td>GL1IC</td>
<td>mGluR1 Ab IFA, CSF</td>
<td>IFA</td>
<td>Negative</td>
</tr>
<tr>
<td>NMDCC</td>
<td>NMDA-R Ab CBA, CSF</td>
<td>CBA</td>
<td>Negative</td>
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<td>PCTRC</td>
<td>Purkinje Cell Cytoplasmic Ab Type Tr</td>
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<td>&lt;1:2</td>
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<tr>
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<td>Purkinje Cell Cytoplasmic Ab Type 1</td>
<td>IFA</td>
<td>&lt;1:2</td>
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<tr>
<td>PCA2C</td>
<td>Purkinje Cell Cytoplasmic Ab Type 2</td>
<td>IFA</td>
<td>&lt;1:2</td>
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## Reflex Information:

<table>
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<th>Methodology</th>
<th>Reference Value</th>
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</thead>
<tbody>
<tr>
<td>AMPIC</td>
<td>AMPA-R Ab IF Titer Assay, CSF</td>
<td>IFA</td>
<td>&lt;1:2</td>
</tr>
<tr>
<td>ABLTC</td>
<td>Amphiphysin Western Blot, CSF</td>
<td>Western blot (WB)</td>
<td>Negative</td>
</tr>
<tr>
<td>CRMWC</td>
<td>CRMP-5-IgG Western Blot, CSF</td>
<td>WB</td>
<td>Negative</td>
</tr>
<tr>
<td>DPPCC</td>
<td>DPPX Ab CBA, CSF</td>
<td>CBA</td>
<td>Negative</td>
</tr>
<tr>
<td>DPPTC</td>
<td>DPPX Ab IFA Titer, CSF</td>
<td>IFA</td>
<td>&lt;1:2</td>
</tr>
<tr>
<td>GABIC</td>
<td>GABA-B-R Ab IF Titer Assay, CSF</td>
<td>IFA</td>
<td>&lt;1:2</td>
</tr>
<tr>
<td>GFACC</td>
<td>GFAP CBA, CSF</td>
<td>CBA</td>
<td>Negative</td>
</tr>
<tr>
<td>GFATC</td>
<td>GFAP IFA Titer, CSF</td>
<td>IFA</td>
<td>&lt;1:2</td>
</tr>
<tr>
<td>GL1CC</td>
<td>mGluR1 Ab CBA, CSF</td>
<td>CBA</td>
<td>Negative</td>
</tr>
<tr>
<td>GL1TC</td>
<td>mGluR1 Ab IFA Titer, CSF</td>
<td>IFA</td>
<td>&lt;1:2</td>
</tr>
<tr>
<td>NMDIC</td>
<td>NMDA-R Ab IF Titer Assay, CSF</td>
<td>IFA</td>
<td>&lt;1:2</td>
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<tr>
<td>WBNCC</td>
<td>Paraneoplas Autoantibody WBlot, CSF</td>
<td>WB</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Neuron-restricted patterns of IgG staining that do not fulfill criteria for ANNA-1, ANNA-2, ANNA-3, CRMP-5-IgG, PCA-1, PCA-2, or PCA-Tr may be reported as "unclassified anti-neuronal IgG." Complex patterns that include nonneuronal elements may be reported as "uninterpretable."

## Day(s) and Time(s) Performed

- **ANN1C, ANN2C, ANN3C, PCA1C, PCA2C, PCTRC, AMPHC, CRMC, AGN1C, DPPIC, DPPTC, GL1IC, GLITC, GFAIC, AMPIC, GABIC, NMDIC:**
  - Monday through Friday: 5 a.m., 7 a.m., 5 p.m.
  - Saturday, Sunday: 6 a.m.
- **AMPCC, GABCC, NMDCC, LG1CC, CS2CC:**
  - Monday through Thursday: 10 p.m.
  - Sunday, 3 p.m.
- **DPPCC, GL1CC**
  - Wednesday: 6 p.m.
- **GFACC:**
  - Tuesday, Thursday: 6 p.m.
- **ABLTC, CRMWC, WBNC:**
  - Monday, Wednesday, Friday: 8 a.m.
- **GD65C:**
  - Monday through Friday: 5 a.m., 2 p.m.
  - Saturday, Sunday: 7 a.m.

## Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

## CPT Code Information

- 86255 x17
- 86341 x1
- 86255 x3 (if appropriate)
- 86256 x6 (if appropriate)
- 84182 x3 (if appropriate)

## LOINC Code Information

<table>
<thead>
<tr>
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<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>ENC2</td>
<td>Encephalopathy-Autoimmune Eval, CSF</td>
<td>In Process</td>
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<tr>
<td>Result ID</td>
<td>Test Result Name</td>
<td>Result LOINC Value</td>
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<tr>
<td>61513</td>
<td>NMDA-R Ab CBA, CSF</td>
<td>93502-3</td>
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<tr>
<td>61514</td>
<td>AMPA-R Ab CBA, CSF</td>
<td>93491-9</td>
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<td>61515</td>
<td>GABA-B-R Ab CBA, CSF</td>
<td>93426-5</td>
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<td>34256</td>
<td>Encephalopathy, Interpretation, CSF</td>
<td>96048-7</td>
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<td>64280</td>
<td>LG11-IgG CBA, CSF</td>
<td>94288-8</td>
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<td>64282</td>
<td>CASPR2-IgG CBA, CSF</td>
<td>94286-2</td>
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<tr>
<td>64929</td>
<td>DPPX Ab IFA, CSF</td>
<td>82989-5</td>
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<td>64927</td>
<td>mGlur1 Ab IFA, CSF</td>
<td>In Process</td>
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<tr>
<td>605156</td>
<td>GFAP IFA, CSF</td>
<td>In Process</td>
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<tr>
<td>89079</td>
<td>AGNA-1, CSF</td>
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<tr>
<td>5906</td>
<td>Amphiphysin Ab, CSF</td>
<td>56531-7</td>
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<tr>
<td>3852</td>
<td>ANNA-1, CSF</td>
<td>In Process</td>
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<tr>
<td>7472</td>
<td>ANNA-2, CSF</td>
<td>24401-2</td>
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<tr>
<td>21633</td>
<td>ANNA-3, CSF</td>
<td>In Process</td>
</tr>
<tr>
<td>21650</td>
<td>CRMP-5-IgG, CSF</td>
<td>35385-4</td>
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<td>3988</td>
<td>PCA-1, CSF</td>
<td>53713-4</td>
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<tr>
<td>21632</td>
<td>PCA-2, CSF</td>
<td>35143-7</td>
</tr>
<tr>
<td>21631</td>
<td>PCA-Tr, CSF</td>
<td>56551-5</td>
</tr>
<tr>
<td>21702</td>
<td>GAD65 Ab Assay, CSF</td>
<td>53708-4</td>
</tr>
<tr>
<td>36429</td>
<td>Reflex Added</td>
<td>77202-0</td>
</tr>
</tbody>
</table>

**ENDMYS  Endomyosal Antibody, IgA**

*LabCorp*

**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
Red top

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**Reasons for Rejection**
Gross hemolysis; Gross lipemia

**Methodology**
Indirect fluorescent antibody (IFA)

**CPT Code**
86255

**LOINC Code**
10362-2

**EMR Interface Order Code**
45225

**AMOEB  Entamoeba histolytica Antibody, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
E. histolytica Ab, S

**Useful For**
As an adjunct in the diagnosis of extraintestinal amebiasis, especially liver abscess

Serology may be particularly useful in supporting the diagnosis of amebic liver abscess in patients without a definite history of intestinal amebiasis and who have not spent substantial periods of time in endemic areas

**Specimen Type**
Serum

**Advisory Information**
Direct detection of *Entamoeba histolytica* in stool specimens is recommended to diagnose intestinal amebiasis. See OAP / Parasitic Examination or OAPNS / Ova and Parasite Exam, Non-Stool.

**Shipping Instructions**

**Specimen Required**

**Container/Tube:**
Preferred: Serum gel
Acceptable: Red top

**Specimen Volume:**
0.5 mL

**Specimen Minimum Volume**
0.15 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Negative
Reference values apply to all ages.

Day(s) and Time(s) Performed
Tuesday, Thursday; 9 a.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86753

LOINC Code Information

<table>
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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>SAM</td>
<td>E. histolytica Ab, S</td>
<td>22285-1</td>
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Result ID | Test Result Name       | Result LOINC Value |
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<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>9049</td>
<td>E. histolytica Ab, S</td>
<td>22285-1</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis | Reject
Gross lipemia  | Reject

Method Name
Enzyme-Linked Immunosorbent Assay (ELISA)

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

Secondary ID
9049

**ENTP**  
Enterovirus, Molecular Detection, PCR, Plasma

Mayo Clinic Laboratories in Rochester

**Reporting Name**
Enterovirus PCR, P

**Useful For**
Aids in diagnosing enterovirus infections

**Specimen Type**
Plasma EDTA

**Specimen Required**
Submit a raw clinical sample (not a culture isolate) for enterovirus PCR. This test will detect enterovirus, but will not differentiate viruses in this family or provide serotyping information.

**Collection Container/Tube:** Lavender top (EDTA)  
**Submission Container/Tube:** Screw-capped, sterile container  
**Specimen Volume:** 1 mL  
**Collection Instructions:** Spin down promptly.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Negative

Day(s) and Time(s) Performed
Monday through Sunday; Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
87498

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>ENTP</td>
<td>Enterovirus PCR, P</td>
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Result ID | Test Result Name       | Result LOINC Value |
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</thead>
<tbody>
<tr>
<td>56068</td>
<td>Enterovirus PCR, P</td>
<td>29591-5</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis | Reject

Method Name
Real-Time Polymerase Chain Reaction (PCR)/RNA Probe Hybridization

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

**LENT**  
Enterovirus, Molecular Detection, PCR, Varies

Mayo Clinic Laboratories in Rochester

**Necessary Information**

1. Specimen source is required.
2. Source information should include main anatomical site of collection.

**Specimen Required**
Submit a raw clinical sample (not a culture isolate) for enterovirus PCR. This test will detect enterovirus, but will not differentiate viruses in this family or provide serotyping information.

Submit only 1 of the following specimens:

**Specimen Type:** Body fluid  
**Sources:** Pericardial, peritoneal, or pleural
**Reference Values**
Negative

**Day(s) and Time(s) Performed**
Monday through Sunday; Varies

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
87498

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Result Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEND</td>
<td>Enteroirus PCR</td>
<td>93856-3</td>
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<thead>
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<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
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<tbody>
<tr>
<td>SRC68</td>
<td>Specimen Source</td>
<td>39111-0</td>
</tr>
<tr>
<td>80066</td>
<td>Enteroirus PCR</td>
<td>93856-3</td>
</tr>
</tbody>
</table>

**EOS Eosinophil Count**

*Baystate Reference Laboratories*

**Collection Container**
Lavender (EDTA)
EDTA whole blood

**Specimen Volume**
Lavender (EDTA) tube: 4 mL, BD Microtainer: 500 microliters

**Minimum Specimen Volume**
Lavender (EDTA) tube: 1 mL, BD Microtainer: 500 microliters

**Transport Temperature**
Refrigerate

**Specimen Stability**
24 hours refrigerated

**Reasons for Rejection**
Specimen clotted, <1.0 mL, greater than 24 hours old, specimen frozen

**Methodology**
XN9000

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Stat: 1 hour, Routine: 4 hours

**Reference Ranges**
150 - 300/mm3

**CPT Code**
85048

**LOINC Code**
711-2

**EMR Interface Order Code**
32525
**NSEOS  Eosinophils, Nasal Smear**

*Baystate Reference Laboratories*

**Collection Container**
Slide
Sputum, nasal secretions

**Specimen Volume**
1.0 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Ambient temperature

**Methodology**
Wright stain

**Days and Times Performed**
7 am - 3 pm, 7 days a week

**Turnaround Time**
1 - 2 Days

**Reference Ranges**
None seen

**CPT Code**
89190

**LOINC Code**
29992-5

**EMR Interface Order Code**
33915

---

**UEOS  Eosinophils, Urine**

*Baystate Reference Laboratories*

**Collection Container**
Cup
Urine

**Specimen Volume**
10 mL

**Minimum Specimen Volume**
1.0 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
24 hours refrigerated

**Reasons for Rejection**
Specimen less than 1.0 mL

**Methodology**
Hansel stain

**Days and Times Performed**
7 am - 3 pm, 7 days a week

**Turnaround Time**
1 - 2 Days

**Reference Ranges**
<1%

**CPT Code**
81015

**LOINC Code**
49839-4

**EMR Interface Order Code**
64475

---

**EPUR  Epicoccum Purpurascens IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
68596

**Container**
Serum gel or red top tube

---

**EBV  Epstein Barr Virus (EBV) Antibodies**

*LabCorp*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Red top

**Specimen Volume**
1.5 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
2 days
Reasons for Rejection
Hemolysis; lipemia; gross bacterial contamination

Methodology
Chemiluminescent immunoassay (CLIA)

Turnaround Time
3 - 5 days

CPT Code
86663, 86664, 86665 x 2

LOINC Code
13238-1

EMR Interface Order Code
51600

LEBV  Epstein-Barr Virus (EBV), Molecular Detection, PCR, Varies

Mayo Clinic Laboratories in Rochester

Important Note
Use this code for all non-blood specimens. For blood, see EBVPCQ.

Reporting Name
Epstein-Barr Virus PCR

Useful For
Rapid qualitative detection of Epstein-Barr virus (EBV) DNA in specimens for laboratory diagnosis of disease due to this virus

Specimen Type
Varies

Necessary Information
Specimen source is required.

Specimen Required

Supplies: Aliquot Tube, 5 mL (T465)
Specimen Type: Fluid
Sources: Spinal fluid, sterile body fluids (peritoneal fluid/ascites, pericardial fluid, pleural fluid/thoracentesis, amniotic, or ocular
Preferred: Sterile screw-cap 5-mL aliquot tube
Acceptable: Sterile container
Specimen Volume: 0.5 mL
Collection Instructions: Do not centrifuge.

Supplies: Aliquot Tube, 5 mL (T465)
Specimen Type: Fluid
Sources: Respiratory; bronchial washing, bronchoalveolar lavage, nasopharyngeal aspirate or washing, sputum, or tracheal aspirate
Container/Tube: Preferred: Sterile screw-cap 5-mL aliquot tube
Acceptable: Sterile container
Specimen Volume: 1.5 mL

Supplies: Culturette (BBL Culture Swab) (T092)
M4-RT (T605)
Specimen Type: Swab
Sources: Eye swabs and upper respiratory swabs (nasal, throat)
Container/Tube: Multimicrobe media (M4-RT) and Eswabs
Collection Instructions: Place swab back into multimicrobe media (M4-RT, M4 or M5)

Specimen Type: Bone marrow
Container/Tube: Lavender top (EDTA) only
Specimen Volume: 0.5 mL
Additional Information: Clotted specimens will be rejected.

Supplies: M4-RT (T605)
Specimen Type: Tissue
Sources: Brain, colon, kidney, liver, lung, etc.
Preferred: Multimicrobe medium (M4-RT)
Acceptable: Sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT, M4 or M5)
Specimen Volume: Entire collection
Collection Instructions: Submit only fresh tissue.

Specimen Minimum Volume
Body Fluid, Ocular Fluid, Spinal Fluid: 0.3 mL
Respiratory Specimens: 1 mL
Tissue: 2 × 2-mm biopsy

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Negative

Day(s) and Time(s) Performed
Monday through Friday; 6 a.m.

Test Classification
This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
87798

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>LEBV</td>
<td>Epstein-Barr Virus PCR</td>
<td>23858-4</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>SRC67</td>
<td>Specimen Source</td>
<td>31208-2</td>
</tr>
<tr>
<td>81239</td>
<td>Epstein-Barr Virus PCR</td>
<td>23858-4</td>
</tr>
</tbody>
</table>

Reject Due To

Tissues/ Swabs | Calcium alginate-tipped swab, wood swab, or transport swab containing gel Formalin-fixed and paraffin-embedded tissues

Method Name
Real-Time Polymerase Chain Reaction (PCR)/DNA Probe Hybridization

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

Secondary ID
81239
EBVPCQ  Epstein-Barr Virus DNA Detection and Quantification, Plasma

Mayo Clinic Laboratories in Rochester

Important Note
Use this test for blood specimens. If testing needed on non-blood specimen, see LEBV.

Shipping Instructions
1. Freeze plasma specimen immediately, and ship specimen frozen on dry ice.
2. If shipment will be delayed for more than 7 days, freeze plasma specimen at -20° C (up to 30 days) until shipment on dry ice.

Specimen Required

Collection Container/Tube: Lavender top (EDTA)
Submission Container/Tube: Plastic vial
Specimen Volume: 1.5 mL
Collection Instructions:
1. Centrifuge blood collection tube per collection tube manufacturer’s instructions.
2. Pour off plasma into aliquot tube.

Secondary ID
65754

Useful For
Diagnosis of EBV-associated infectious mononucleosis in individuals with equivocal or discordant Epstein-Barr virus (EBV) serologic marker test results
Diagnosis of posttransplant lymphoproliferative disorders (PTLD), especially in EBV-seronegative organ transplant recipients receiving antilymphocyte globulin for induction immunosuppression and OKT-3 treatment for early organ rejection
Monitoring progression of EBV-associated PTLD in organ transplant recipients

Method Name
Real-Time Polymerase Chain Reaction (PCR) Followed by Minor Groove-Binding (MGB) Probe Hybridization

Reporting Name
EBV DNA Detect / Quant, P

Specimen Type
Plasma EDTA

Specimen Minimum Volume
0.8 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK

Reference Values
Undetected

Day(s) and Time(s) Performed
Monday through Friday; 7 a.m.-4 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
87799

LOINC Code Information

<table>
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<th>Test ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>EBVQU</td>
<td>EBV DNA Detect / Quant, P</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>65754</td>
<td>EBV DNA Detect / Quant, P</td>
<td>43730-1</td>
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</table>

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Microbiology Test Request (T244)

EROPTN  Erythropoietin, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Erythropoietin (EPO), S

Useful For
An aid in distinguishing between primary and secondary polycythemia
Differentiating between appropriate secondary polycythemia (eg, high-altitude living, pulmonary disease, tobacco use) and inappropriate secondary polycythemia (eg, tumors)
Identifying candidates for erythropoietin (EPO) replacement therapy (eg, chronic renal failure)
Evaluating patients undergoing EPO replacement therapy who demonstrate an inadequate hematopoietic response

Testing Algorithm
The following algorithms are available in Special Instructions:
- Erythrocytosis Evaluation Testing Algorithm
- Myeloproliferative Neoplasm: A Diagnostic Approach to Bone Marrow Evaluation
- Myeloproliferative Neoplasm: A Diagnostic Approach to Peripheral Blood Evaluation

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.6 mL
Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Myeloproliferative Neoplasm: A Diagnostic Approach to Peripheral Blood Evaluation
- Myeloproliferative Neoplasm: A Diagnostic Approach to Bone Marrow Evaluation
- Erythrocytosis Evaluation Testing Algorithm

Reference Values
2.6-18.5 mIU/mL

Day(s) and Time(s) Performed
Monday through Friday: 5 a.m.-12 a.m.
Saturday: 6 a.m.-6 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
82668

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>EPO</td>
<td>Erythropoietin (EPO), S</td>
<td>15061-5</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>EPO</td>
<td>Erythropoietin (EPO), S</td>
<td>15061-5</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: OK

Method Name
Immunoenzymatic Assay

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Benign Hematology Test Request (T755)

Estradiol

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
EDTA and heparinized plasma

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Specimen Stability
Room Temperature: 1 day, Refrigerate: 2 days, Frozen: 6 months, Freeze/Thaw Cycle: 1

Methodology
Electrochemiluminescent

Days and Times Performed
Test performed daily

Turnaround Time
1 day

Reference Ranges
Females:
- 1-10 Years: 6 - 27 pg/mL
- Luteal Phase: 44 - 211 pg/mL
- Ovulation: 86 - 498 pg/mL
- Follicular Phase: 13 - 166 pg/mL
- Postmenopausal: <55 pg/mL

Males:
- 1 - 10 years: 0 - 20 pg/mL
- 11 years+: 8 - 43 pg/mL

Units of Measure
pg/mL

CPT Code
82670

LOINC Code
2243-4

EMR Interface Order Code
26525

UE2 Estradiol, Sensitive

LabCorp

Additional Information
This test is routinely ordered whenever an Estradiol is requested on all pediatric patients less than 16 years old and all male patients regardless of age.

Collection Container
Serum gel
Serum

Specimen Volume
1 mL

Minimum Specimen Volume
0.6 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 14 days, Refrigerated: 14 days, Frozen: 14 days

Reasons for Rejection
Reject if serum is grossly lipemic

Methodology
LCMS
**E3  Estriol**  
*LabCorp*

**Collection Container**  
Serum gel  
Serum

**Specimen Volume**  
1 mL

**Minimum Specimen Volume**  
0.3 mL

**Transport Temperature**  
Refrigerate

**Specimen Stability**  
Room temperature

**Reasons for Rejection**  
Plasma

**Methodology**  
Immunochemiluminometric

**Turnaround Time**  
1 - 4 days

**CPT Code**  
82677

**LOINC Code**  
2251-7

**EMR Interface Order Code**  
26550

---

**ESTRON  Estrone, Serum**  
*Mayo Clinic Laboratories in Rochester*

**Reporting Name**  
Estrone, S

**Useful For**  
As part of the diagnosis and workup of precocious and delayed puberty in females and, to a lesser degree, males  
As part of the diagnosis and workup of suspected disorders of sex steroid metabolism (eg, aromatase deficiency and 17 alpha-hydroxylase deficiency)  
As an adjunct to clinical assessment, imaging studies and bone mineral density measurement in the fracture risk assessment of postmenopausal women, and, to a lesser degree, older men  
Monitoring low-dose female hormone replacement therapy in postmenopausal women  
Monitoring antiestrogen therapy (eg, aromatase inhibitor therapy)

**Testing Algorithm**  
See Steroid Pathways in Special Instructions.

**Specimen Type**  
Serum Red

**Specimen Required**

**Collection Container/Tube:** Red top  
**Submission Container/Tube:** Plastic vial  
**Specimen Volume:** 1.2 mL  
**Collection Instructions:**  
1. Centrifuge and remove serum from red blood cells within 2 hours of draw.  
2. Aliquot serum to submission container.  
**Additional Information:** See Steroid Pathways in Special Instructions.

**Specimen Minimum Volume**  
0.8 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Steroid Pathways

Reference Values
CHILDREN*
1-14 days: Estrone levels in newborns are very elevated at birth but will fall to prepubertal levels within a few days.

### Males

<table>
<thead>
<tr>
<th>Tanner Stages#</th>
<th>Mean Age</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I (&gt;14 days and prepubertal)</td>
<td>7.1 years</td>
<td>Undetectable-16 pg/mL</td>
</tr>
<tr>
<td>Stage II</td>
<td>11.5 years</td>
<td>Undetectable-22 pg/mL</td>
</tr>
<tr>
<td>Stage III</td>
<td>13.6 years</td>
<td>10-25 pg/mL</td>
</tr>
<tr>
<td>Stage IV</td>
<td>15.1 years</td>
<td>10-46 pg/mL</td>
</tr>
<tr>
<td>Stage V</td>
<td>18 years</td>
<td>10-60 pg/mL</td>
</tr>
</tbody>
</table>

#Puberty onset (transition from Tanner stage I to Tanner stage II) occurs for boys at a median age of 11.5 (± 2) years. For boys there is no proven relationship between puberty onset and body weight or ethnic origin. Progression through Tanner stages is variable. Tanner stage V (adult) should be reached by age 18.

### Females

<table>
<thead>
<tr>
<th>Tanner Stages#</th>
<th>Mean Age</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I (&gt;14 days and prepubertal)</td>
<td>7.1 years</td>
<td>Undetectable-29 pg/mL</td>
</tr>
<tr>
<td>Stage II</td>
<td>10.5 years</td>
<td>10-33 pg/mL</td>
</tr>
<tr>
<td>Stage III</td>
<td>11.6 years</td>
<td>15-43 pg/mL</td>
</tr>
<tr>
<td>Stage IV</td>
<td>12.3 years</td>
<td>16-77 pg/mL</td>
</tr>
<tr>
<td>Stage V</td>
<td>14.5 years</td>
<td>17-200 pg/mL</td>
</tr>
</tbody>
</table>

#Puberty onset (transition from Tanner stage I to Tanner stage II) occurs for girls at a median age of 10.5 (± 2) years. There is evidence that it may occur up to 1 year earlier in obese girls and in African American girls. Progression through Tanner stages is variable. Tanner stage V (adult) should be reached by age 18.

*The reference ranges for children are based on the published literature(1,2), cross-correlation of our assay with assays used to generate the literature data and on our data for young adults.

ADULTS
Males: 10-60 pg/mL
Females
Premenopausal: 17-200 pg/mL
Postmenopausal: 7-40 pg/mL

Conversion factor
E1: pg/mL x 3.704=pmol/L (molecular weight=270)

For SI unit Reference Values, see https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html

Day(s) and Time(s) Performed
Monday through Saturday; 1 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82679

LOINC Code Information
<table>
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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>E1</td>
<td>Estrone, S</td>
<td>2258-2</td>
</tr>
</tbody>
</table>

Result ID
81418

Test Result Name
Estrone, S

Result LOINC Value
2258-2

Reject Due To
| Gross hemolysis | OK |
| Gross lipemia   | OK |
| Gross icterus   | OK |
| Other           | Serum gel or SST tube |

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

QEXZ  Eszopiclone, Qnt, Urine

Contracted Reference Lab

Collection Container
Urine cup or tube
Urine

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
30 days

Reasons for Rejection
Preserved samples

Days and Times Performed
Daily

Turnaround Time
1 – 3 days

CPT Code
80299

EMR Interface Order Code
70848

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.
**ETHAMB  Ethambutol**

*LabCorp*

**Important Note**
Must be separated within 45 minutes. Freeze as soon as possible, but within 24 hours.

**Collection Container**
Red top tube
Serum

**Other Acceptable Specimen Types**
EDTA Plasma

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Frozen

**Specimen Stability**
Refrigerated: 24 hours
Must be spun and separated within 45 minutes. Must be frozen within 24 hours.

**CPT Code**
80299

**EMR Interface Order Code**
65310

---

**UALC  Ethanol, Urine**

*Baystate Reference Laboratories*

**Collection Container**
Urine
Random Urine

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Methodology**
Enzymatic

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
None detected

**Units of Measure**
mg/dL

**CPT Code**
80307

**LOINC Code**
5643-2

**EMR Interface Order Code**
03150

---

**PLACID  Ethchlorvynol**

*LabCorp*

**Collection Container**
Red
Serum

**Other Acceptable Specimen Types**
EDTA Plasma

**Specimen Volume**
2 mL

**Reference Ranges**
None detected

**Units of Measure**
mg/dL

**CPT Code**
80301/G0431

**LOINC Code**
5645-7

**EMR Interface Order Code**
03175
**Minimum Specimen Volume**
0.6 mL

**Transport Temperature**
Refrigerate

**Turnaround Time**
2 - 3 days

**CPT Code**
80320/G0480

**EMR Interface Order Code**
11300

**ZARNTN  Ethosuximide (Zarontin)**
*Contracted Reference Lab*

**Collection Container**
Red top tube or Lavender (EDTA) top tube NO GEL TUBES
Serum or plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.6 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 14 days

**Reasons for Rejection**
Gross hemolysis, lipemia, serum from a gel top

**CPT Code**
80168

**EMR Interface Order Code**
5950

---

**ETGL  Ethylene Glycol, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Ethylene Glycol, S

**Useful For**
Confirming and monitoring ethylene glycol toxicity

**Specimen Type**
Serum Red

**Specimen Required**
Container/Tube: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 2 mL
Collection Instructions:
1. Centrifuge and remove serum from red blood cells within 2 hours of draw.
2. Aliquot serum to submission container.

**Specimen Minimum Volume**
0.3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
Toxic concentration: ≥20 mg/dL

**Day(s) and Time(s) Performed**
Monday through Sunday; Varies

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
80320
G0480 (if appropriate)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETGL</td>
<td>Ethylene Glycol, S</td>
<td>5646-5</td>
</tr>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8749</td>
<td>Ethylene Glycol, S</td>
<td>5646-5</td>
</tr>
</tbody>
</table>
Method Name
Gas Chromatography-Flame Ionization Detection (GC-FID)

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

**ETHOX  Ethylene Oxide IgE**

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48765

**EUCA  Eucalyptus Tree IgE**

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48765

**EUGL  Euglobulin Lysis**

**Esoterix Coagulation Laboratory**

**Collection Container**
Light Blue

**Specimen Volume**
Platelet poor plasma: 2.0 mL, Whole blood: 2.7 mL

**Minimum Specimen Volume**
Platelet poor plasma: 1.0 mL, Whole blood: 2.7mL

**Transport Temperature**
Platelet poor plasma: frozen, whole blood: ambient temperature

**Specimen Stability**
Whole blood: 4 hours

**Reasons for Rejection**
Hemolyzed, clotted, Whole blood >4 hours old

**Methodology**
Clot dissolution

**Days and Times Performed**
Test set up on Thursday

**CPT Code**
85360

**LOINC Code**
3244-1

**EMR Interface Order Code**
32750

**EVROL  Everolimus, Blood**

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
Everolimus, B

**Useful For**
Management of everolimus immunosuppression in solid organ transplant

**Specimen Type**
Whole Blood EDTA
Specimen Required

**Container/Tube:** Lavender top (EDTA)
**Specimen Volume:** 3 mL
**Collection Instructions:**
1. Draw blood immediately before next scheduled dose.
2. Do **not** centrifuge.
3. Send specimen in original tube.
**Additional Information:** Therapeutic range applies to trough specimens drawn immediately prior to a.m. dose.

Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood EDTA</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
3-8 ng/mL

Target steady-state trough concentrations vary depending on the type of transplant, concomitant immunosuppression, clinical/institutional protocols, and time post-transplant. Results should be interpreted in conjunction with this clinical information and any physical signs/symptoms of rejection/toxicity.

Day(s) and Time(s) Performed
Monday through Sunday; 1 p.m.

CPT Code Information
80169

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVROL</td>
<td>Everolimus, B</td>
<td>50544-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>35146</td>
<td>Everolimus, B</td>
<td>50544-6</td>
</tr>
</tbody>
</table>

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- Renal Diagnostics Test Request (T830)
- Therapeutics Test Request (T831)

---

**EYEC  Eye Culture**

*Baystate Reference Laboratories*

**Additional Information**
Gram stain included. If Acanthamoeba is suspected, consult with the Microbiology laboratory at 413-322-4122 for appropriate specimen collection.

**Reflex Tests**
Susceptibility testing only performed on isolates considered clinically significant.

**Collection Container**
E-swab, Amies swab

**Transport Temperature**
Refrigerate

**Specimen Stability**
For specimens submitted on Eswab: 48 hours refrigerated or room temperature
For other swab types: 24 hours refrigerated

**Reasons for Rejection**
Excessive delays in transport, presence of topical ointments or antibiotics at site of collection

**Turnaround Time**
2 - 3 days

**Reference Ranges**
No growth after 48 hours

**LOINC Code**
609-8

**EMR Interface Order Code**
56150

---

**F2  Factor II (F2) Assay**

*Baystate Reference Laboratories*

**Collection Container**
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Special Handling Instructions**
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**
Platelet poor plasma: 1 mL aliquot, Whole blood: 2.7 mL

**Minimum Specimen Volume**
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

**Transport Temperature**
Platelet poor plasma: frozen, Whole blood: ambient temperature

**Specimen Stability**
Whole blood: 4 hours

**Reasons for Rejection**
Hemolyzed, clotted, Whole blood >4 hours old
Methodology
Prothrombin clot based assay

Days and Times Performed
7 am - 3 pm, Monday - Friday

Turnaround Time
1 - 3 days, depending on receipt in laboratory

Reference Ranges
50-200%

CPT Code
85210

LOINC Code
3289-6

EMR Interface Order Code
33225

Critical Values
≤ 25%

F2MUTB  Factor II (F2) Mutation

Baystate Reference Laboratories

Collection Container
Lavender top (EDTA)

Whole Blood

Specimen Volume
3 mL

Transport Temperature
Room Temperature or Refrigerated

Specimen Stability
4° C up to 4 days

Reasons for Rejection
Insufficient quantity, wrong tube, mislabeled specimen, specimen shared for other testing

Methodology
Real-time PCR with Thermal Melt analysis

Days and Times Performed
Tuesday

Turnaround Time
10 days

CPT Code
81240

EMR Interface Order Code
33250

F5  Factor V (F5) Assay

Baystate Reference Laboratories

Collection Container
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 1 mL aliquot, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old
**Methodology**
Prothrombin clot based assay

**Days and Times Performed**
7 am - 3 pm, Monday - Friday

**Turnaround Time**
1 - 3 days, depending on receipt in laboratory

**Reference Ranges**
50-200%

**CPT Code**
85220

**LOINC Code**
3193-0

**EMR Interface Order Code**
33175

**Critical Value**
≤ 25%

---

**F5MUTB  Factor V (F5) Mutation**

*Baystate Reference Laboratories*

**Collection Container**
Lavender top (EDTA)
Whole blood

**Specimen Volume**
3 mL

**Transport Temperature**
Room Temperature or Refrigerated

**Specimen Stability**
4°C up to 4 days

**Reasons for Rejection**
Insufficient quantity; wrong tube; mislabeled specimens, specimen shared for other testing

**Methodology**
Real-time PCR with Thermal Melt analysis

**Days and Times Performed**
7 am - 3 pm, Monday - Friday

**Turnaround Time**
1 - 3 days, depending on receipt in laboratory

**Reference Ranges**
50-200%

**CPT Code**
85230

**LOINC Code**
3198-9

**EMR Interface Order Code**
33325

**Critical Values**
≤ 25%

---

**F8  Factor VIII (F8) Activity**

*Baystate Reference Laboratories*

**Collection Container**
Light Blue
Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Transport Temperature**
Platelet poor plasma: frozen, whole blood: ambient temperature

**Specimen Stability**
Whole blood: 4 hours

**Reasons for Rejection**
Hemolyzed, clotted, Whole blood >4 hours old

---

**F7  Factor VII (F7) Assay**

*Baystate Reference Laboratories*

**Collection Container**
Light Blue
Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

---

**Special Handling Instructions**
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**
Platelet poor plasma: 1 mL aliquot, Whole blood: 2.7 mL

**Minimum Specimen Volume**
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

**Transport Temperature**
Platelet poor plasma: frozen, whole blood: ambient temperature

**Specimen Stability**
Whole blood: 4 hours

**Reasons for Rejection**
Hemolyzed, clotted, Whole blood >4 hours old
Methodology
Activated Partial Thromboplastin Clot-Based Assay

Days and Times Performed
7 am - 3 pm, Monday - Friday

Turnaround Time
1 - 3 days, depending on receipt in laboratory

Reference Ranges
50-200%

CPT Code
85240

LOINC Code
3209-4

EMR Interface Order Code
33725

Critical Values
≤ 25%

F8INH  Factor VIII (F8) Inhibition

Baystate Reference Laboratories

Additional Information
Factor VIII will be performed prior to FVIII inhibitor.

Collection Container
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 3.0 mL, Whole blood: 5.4 mL

Minimum Specimen Volume
Platelet poor plasma: 2.0 mL, whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Methodology
Prothrombin clot based assay

Days and Times Performed
7 am - 3 pm, Monday - Friday

Turnaround Time
1 - 3 days, depending on receipt in laboratory

Reference Ranges
50-200%

CPT Code
85260

LOINC Code
3218-5

EMR Interface Order Code
33275

Critical Values
≤ 25%

F10  Factor X (F10) Assay

Baystate Reference Laboratories

Collection Container
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 1 mL aliquot, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Methodology
Activated Partial Thromboplastin Clot-Based Assay

Days and Times Performed
7 am - 3 pm, Monday - Friday

Turnaround Time
1 - 3 days, depending on receipt in laboratory

Reference Ranges
<1 Bethesda Units

CPT Code
85335

LOINC Code
3204-5

EMR Interface Order Code
34225

F11  Factor XI (F11) Assay

Baystate Reference Laboratories

Collection Container
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection
**Special Handling Instructions**
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**
- Platelet poor plasma: 1 mL aliquot, Whole blood: 2.7 mL

**Minimum Specimen Volume**
- Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

**Transport Temperature**
- Platelet poor plasma: frozen, Whole blood: ambient temperature

**Specimen Stability**
- Whole blood: 4 hours

**Reasons for Rejection**
- Hemolyzed, clotted, Whole blood >4 hours old

**Methodology**
Activated Partial Thromboplastin Clot-Based Assay

**Days and Times Performed**
- 7 am - 3 pm, Monday - Friday

**Turnaround Time**
- 1 - 3 days, depending on receipt in laboratory

**Reference Ranges**
- 50-200%

**CPT Code**
- 85270

**LOINC Code**
- 3226-8

**EMR Interface Order Code**
- 33200

**Critical Values**
- ≤ 25%

---

**F12 Factor XII (F12) Assay**

*Baystate Reference Laboratories*

**Collection Container**
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Special Handling Instructions**
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**
- Platelet poor plasma: 1 mL aliquot, Whole blood: 2.7 mL

**Minimum Specimen Volume**
- Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

**Transport Temperature**
- Platelet poor plasma: frozen, Whole blood: ambient temperature

**Specimen Stability**
- Whole blood: 4 hours

**Reasons for Rejection**
- Hemolyzed, clotted, Whole blood >4 hours old

**Methodology**
Solubility

**Days and Times Performed**
- 7 am - 3 pm, Monday - Friday

**Turnaround Time**
- 1 - 3 days, depending on receipt in laboratory

**Reference Ranges**
Fibrin clot insoluble at 34 hours in 5M urea

**CPT Code**
- 85291

**LOINC Code**
- 3241-7

---

**F13 Factor XIII (F13) Screen**

*Baystate Reference Laboratories*

**Collection Container**
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Special Handling Instructions**
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**
- Platelet poor plasma: 1 mL aliquot, Whole blood: 2.7 mL

**Minimum Specimen Volume**
- Platelet poor plasma: 1.0 mL, Whole blood: 2.7 mL

**Transport Temperature**
- Platelet poor plasma: frozen, Whole blood: ambient temperature

**Specimen Stability**
- Whole blood: 4 hours

**Reasons for Rejection**
- Hemolyzed, clotted, Whole blood >4 hours old

**Methodology**
Solubility

**Days and Times Performed**
- 7 am - 3 pm, Monday - Friday

**Turnaround Time**
- 1 - 3 days, depending on receipt in laboratory

**Reference Ranges**
Fibrin clot insoluble at 34 hours in 5M urea

**CPT Code**
- 85280

**LOINC Code**
- 3232-6

**EMR Interface Order Code**
- 33300

**Critical Values**
- ≤ 25%
**QFEFAT  Fat, Feces**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 06090

**Reporting Name**
Fat, F

**Useful For**
Diagnosing fat malabsorption due to pancreatic or intestinal disorders

Monitoring effectiveness of enzyme supplementation in certain malabsorption disorders

**Specimen Type**
Fecal

**Necessary Information**
Length of collection period is required.

**Specimen Required**

**Patient Preparation:**
1. For 3 days prior to and during the collection period:
   a. Patient should be on a fat-controlled diet (100-150 g fat per day).
   b. No laxatives (particularly mineral oil and castor oil).
   c. No synthetic fat substitutes (eg, Olestra) or fat-blocking nutritional supplements.
2. The use of diaper rash ointments will falsely elevate test results.
   Discontinue use during collection period.
3. Barium interferes with test procedure; a waiting period of 48 hours before stool collection analysis is recommended.

**Supplies:** Stool Containers - 24, 48, 72 Hours Kit (T291)
**Container/Tube:** Stool container (T291); complies with shipping requirements, do not use other containers.

**Specimen Volume:**

**Preferred:** Entire 48-, or 72-hour collection

**Acceptable:** Entire 24-hour or random collection

**Collection Instructions:**
1. All containers must be sent together.
2. The entire collection must contain at least 5 g of feces.
3. For a random collection, a minimum of 5 g (do not send entire collection) is required.
4. The number of containers sent should be indicated on the labels (1 of 4, for example).

**Additional Information:**
1. Patient can store sample at refrigerate temperature during collection period.
2. A separate order and collection should take place if stool bicarbonate, calcium, chloride, magnesium, osmolality, pH, potassium, sodium, or any microbiology testing is desired.

**Specimen Minimum Volume**
5 g

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal</td>
<td>Frozen (preferred)</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>180 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

**TIMED COLLECTION**
≥18 years: 2-7 g fat/24 hours
Reference values have not been established for patients who are <18 years of age.

**RANDOM COLLECTION**
All ages: 0-19% fat

**Day(s) and Time(s) Performed**
Monday through Saturday

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
82710

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>FATF</td>
<td>Fat, F</td>
<td>16142-2</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>STWT</td>
<td>Total Weight</td>
<td>30078-0</td>
</tr>
<tr>
<td>DUR2</td>
<td>Duration</td>
<td>13363-7</td>
</tr>
<tr>
<td>PFAT</td>
<td>% Fat</td>
<td>35745-9</td>
</tr>
<tr>
<td>TFAT</td>
<td>Total Fat/24 Hr</td>
<td>16142-2</td>
</tr>
</tbody>
</table>

**Reject Due To**
Other | Preservative, media, or charcoal

**Method Name**
Nuclear Magnetic Resonance (NMR) Spectroscopy

**Secondary ID**
8310

**Forms**
If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Client Test Request (T728) with the specimen.

**STLFAT  Fat, Stool, Qualitative**

*Baystate Reference Laboratories*

**Collection Container**
Cup
Stool

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Up to 72 hours when refrigerated

**Reasons for Rejection**
Scant, inadequate specimens of barium loaded stool, specimens contaminated with urine
Methodology
Sudan III stain

Days and Times Performed
7 am - 3 pm, Monday - Friday

Turnaround Time
1 Day

Reference Ranges
Normal

CPT Code
82705

LOINC Code
43118-9

EMR Interface Order Code
64625

VLCFAP  Fatty Acid Profile (C22-C26)
Contracted Reference Lab

Collection Container
Lavender (EDTA) or green (Na hep) top tube

Plasma

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.15 mL

Transport Temperature
Frozen

Specimen Stability
Room temp: 24 hours, Refrigerated: 2 hours, Frozen: 1 month

Reasons for Rejection
Lipemic

CPT Code
82726

EMR Interface Order Code
70160

FAPCP  Fatty Acid Profile, Comprehensive (C8-C26), Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Fatty Acid Profile, Comprehensive, S

Useful For
This serum test is a comprehensive profile that provides information regarding mitochondrial and peroxisomal fatty acid metabolism, and the patient's nutritional status

Monitoring patients undergoing diet therapy for mitochondrial or peroxisomal disorders (possibly inducing essential fatty acid deficiency in response to restricted fat intake)

Monitoring treatment of essential fatty acid deficiency

Monitoring the response to provocative tests (fasting tests, loading tests)

Specimen Type
Serum

Necessary Information
1. Patient's age is required.
2. Include information regarding treatment, family history, and tentative diagnosis.

Specimen Required

Patient Preparation:
1. Patient should fast overnight (12-14 hours).
2. Patient must not consume any alcohol for 24 hours before the specimen is drawn.

Collection Container/Tube:
Preferred: Red top
Acceptable: Serum gel

Submission Container/Tube: Plastic vial
Specimen Volume: 0.5 mL

Collection Instructions:
Spin down within 45 minutes of draw.

Specimen Minimum Volume
0.15 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>92 days</td>
<td>Special Container</td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>72 hours</td>
<td>Special Container</td>
</tr>
</tbody>
</table>

Reference Values

Octanoic Acid, C8:0
<1 year: 7-63 nmol/mL
1-17 years: 9-41 nmol/mL
≥18 years: 8-47 nmol/mL

Decenoic Acid, C10:1
<1 year: 0.8-4.8 nmol/mL
1-17 years: 1.6-6.6 nmol/mL
≥18 years: 1.8-5.0 nmol/mL

Decanoic Acid, C10:0
<1 year: 2-62 nmol/mL
1-17 years: 3-25 nmol/mL
≥18 years: 2-18 nmol/mL

Lauroleic Acid, C12:1
<1 year: 0.6-4.8 nmol/mL
1-17 years: 1.3-5.8 nmol/mL
≥18 years: 1.4-6.6 nmol/mL

Lauric Acid, C12:0
<1 year: 6-190 nmol/mL
1-17 years: 5-80 nmol/mL
≥18 years: 6-90 nmol/mL

Tetradecadienoic Acid, C14:2
<1 year: 0.3-6.5 nmol/mL
1-17 years: 0.2-5.8 nmol/mL
≥18 years: 0.8-5.0 nmol/mL

Myristoleic Acid, C14:1
<1 year: 1-46 nmol/mL
1-17 years: 1-31 nmol/mL
≥18 years: 3-64 nmol/mL

Myristic Acid, C14:0

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<table>
<thead>
<tr>
<th>Fatty Acid</th>
<th>&lt;1 year</th>
<th>1-17 years</th>
<th>≥18 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexadecadienoic Acid, C16:2</td>
<td>30-320 nmol/mL</td>
<td>40-290 nmol/mL</td>
<td>30-450 nmol/mL</td>
</tr>
<tr>
<td>&lt;1 year</td>
<td>4-27 nmol/mL</td>
<td>3-29 nmol/mL</td>
<td>10-48 nmol/mL</td>
</tr>
<tr>
<td>Hexadecenoic Acid, C16:1w9</td>
<td>21-69 nmol/mL</td>
<td>24-82 nmol/mL</td>
<td>25-105 nmol/mL</td>
</tr>
<tr>
<td>Palmitoleic Acid, C16:1w7</td>
<td>4-27 nmol/mL</td>
<td>100-670 nmol/mL</td>
<td>110-1,130 nmol/mL</td>
</tr>
<tr>
<td>&lt;1 year</td>
<td>20-1,020 nmol/mL</td>
<td>960-3,460 nmol/mL</td>
<td>1,480-3,730 nmol/mL</td>
</tr>
<tr>
<td>Palmitic Acid, C16:0</td>
<td>720-3,120 nmol/mL</td>
<td>960-3,460 nmol/mL</td>
<td>1,480-3,730 nmol/mL</td>
</tr>
<tr>
<td>&lt;1 year</td>
<td>720-3,120 nmol/mL</td>
<td>960-3,460 nmol/mL</td>
<td>1,480-3,730 nmol/mL</td>
</tr>
<tr>
<td>Gamma-Linolenic Acid, C18:3w6</td>
<td>6-110 nmol/mL</td>
<td>9-130 nmol/mL</td>
<td>16-150 nmol/mL</td>
</tr>
<tr>
<td>&lt;1 year</td>
<td>21-69 nmol/mL</td>
<td>24-82 nmol/mL</td>
<td>25-105 nmol/mL</td>
</tr>
<tr>
<td>Alpha-Linolenic Acid, C18:3w3</td>
<td>20-120 nmol/mL</td>
<td>20-120 nmol/mL</td>
<td>20-120 nmol/mL</td>
</tr>
<tr>
<td>Linoleic Acid, C18:2w6</td>
<td>270-1,120 nmol/mL</td>
<td>960-3,460 nmol/mL</td>
<td>1,480-3,730 nmol/mL</td>
</tr>
<tr>
<td>≤31 days</td>
<td>350-2,660 nmol/mL</td>
<td>1,600-3,500 nmol/mL</td>
<td>2,270-3,850 nmol/mL</td>
</tr>
<tr>
<td>32 days-11 months</td>
<td>1,000-3,300 nmol/mL</td>
<td>500-1,500 nmol/mL</td>
<td>2,270-3,850 nmol/mL</td>
</tr>
<tr>
<td>≥18 years</td>
<td>320-900 nmol/mL</td>
<td>1,600-3,500 nmol/mL</td>
<td>2,270-3,850 nmol/mL</td>
</tr>
<tr>
<td>Oleic Acid, C18:1w9</td>
<td>270-1,140 nmol/mL</td>
<td>280-1,170 nmol/mL</td>
<td>590-1,170 nmol/mL</td>
</tr>
<tr>
<td>&lt;1 year</td>
<td>250-3,500 nmol/mL</td>
<td>280-1,170 nmol/mL</td>
<td>590-1,170 nmol/mL</td>
</tr>
<tr>
<td>Stearic Acid, C18:0</td>
<td>140-720 nmol/mL</td>
<td>320-900 nmol/mL</td>
<td>280-740 nmol/mL</td>
</tr>
<tr>
<td>&lt;1 year</td>
<td>270-1,140 nmol/mL</td>
<td>280-1,170 nmol/mL</td>
<td>590-1,170 nmol/mL</td>
</tr>
<tr>
<td>Vaccenic Acid, C18:1w7</td>
<td>270-1,140 nmol/mL</td>
<td>280-1,170 nmol/mL</td>
<td>590-1,170 nmol/mL</td>
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<tr>
<td>&lt;1 year</td>
<td>280-740 nmol/mL</td>
<td>280-740 nmol/mL</td>
<td>280-740 nmol/mL</td>
</tr>
<tr>
<td>EPA, C20:5w3</td>
<td>270-1,140 nmol/mL</td>
<td>280-1,170 nmol/mL</td>
<td>590-1,170 nmol/mL</td>
</tr>
<tr>
<td>&lt;1 year</td>
<td>280-740 nmol/mL</td>
<td>280-740 nmol/mL</td>
<td>280-740 nmol/mL</td>
</tr>
<tr>
<td>Arachidonic Acid, C20:4w6</td>
<td>110-1,110 nmol/mL</td>
<td>350-1,030 nmol/mL</td>
<td>520-1,490 nmol/mL</td>
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<tr>
<td>&lt;1 year</td>
<td>110-1,110 nmol/mL</td>
<td>350-1,030 nmol/mL</td>
<td>520-1,490 nmol/mL</td>
</tr>
<tr>
<td>Mead Acid, C20:3w9</td>
<td>80-660 nmol/mL</td>
<td>8-90 nmol/mL</td>
<td>14-100 nmol/mL</td>
</tr>
<tr>
<td>≤31 days</td>
<td>80-660 nmol/mL</td>
<td>8-90 nmol/mL</td>
<td>14-100 nmol/mL</td>
</tr>
<tr>
<td>Homo-Gamma-Linolenic Acid, C20:3w6</td>
<td>30-170 nmol/mL</td>
<td>60-220 nmol/mL</td>
<td>30-170 nmol/mL</td>
</tr>
<tr>
<td>&lt;1 year</td>
<td>30-170 nmol/mL</td>
<td>60-220 nmol/mL</td>
<td>30-170 nmol/mL</td>
</tr>
<tr>
<td>Phytanic Acid, C15:0(CH3)4</td>
<td>0.00-0.60 nmol/mL</td>
<td>0.00-0.84 nmol/mL</td>
<td>0.00-1.47 nmol/mL</td>
</tr>
<tr>
<td>≤4 months</td>
<td>0.00-0.60 nmol/mL</td>
<td>0.00-0.84 nmol/mL</td>
<td>0.00-1.47 nmol/mL</td>
</tr>
<tr>
<td>5-8 months</td>
<td>0.00-0.84 nmol/mL</td>
<td>0.00-0.77 nmol/mL</td>
<td>0.00-2.98 nmol/mL</td>
</tr>
<tr>
<td>9-12 months</td>
<td>0.00-0.77 nmol/mL</td>
<td>0.00-1.47 nmol/mL</td>
<td>0.00-2.98 nmol/mL</td>
</tr>
<tr>
<td>≥2 years</td>
<td>0.00-1.47 nmol/mL</td>
<td>0.00-2.98 nmol/mL</td>
<td>0.00-9.88 nmol/mL</td>
</tr>
<tr>
<td>Phytic Acid, C16:0(CH3)4</td>
<td>0.00-5.28 nmol/mL</td>
<td>0.00-5.70 nmol/mL</td>
<td>0.00-8.62 nmol/mL</td>
</tr>
<tr>
<td>≤4 months</td>
<td>0.00-5.28 nmol/mL</td>
<td>0.00-5.70 nmol/mL</td>
<td>0.00-8.62 nmol/mL</td>
</tr>
<tr>
<td>5-8 months</td>
<td>0.00-5.70 nmol/mL</td>
<td>0.00-4.40 nmol/mL</td>
<td>0.00-9.88 nmol/mL</td>
</tr>
<tr>
<td>9-12 months</td>
<td>0.00-4.40 nmol/mL</td>
<td>0.00-8.62 nmol/mL</td>
<td>0.00-9.88 nmol/mL</td>
</tr>
<tr>
<td>≥2 years</td>
<td>0.00-8.62 nmol/mL</td>
<td>0.00-9.88 nmol/mL</td>
<td>0.00-9.88 nmol/mL</td>
</tr>
<tr>
<td>Triene/Tetraene Ratio</td>
<td>0.017-0.083</td>
<td>0.013-0.050</td>
<td>0.010-0.038</td>
</tr>
<tr>
<td>≤31 days</td>
<td>0.017-0.083</td>
<td>0.013-0.050</td>
<td>0.010-0.038</td>
</tr>
<tr>
<td>32 days-17 years</td>
<td>0.013-0.050</td>
<td>0.010-0.038</td>
<td>0.010-0.038</td>
</tr>
<tr>
<td>≥18 years</td>
<td>0.013-0.050</td>
<td>0.010-0.038</td>
<td>0.010-0.038</td>
</tr>
<tr>
<td>Total Saturated Acid</td>
<td>1.2-4.6 nmol/L</td>
<td>1.4-4.9 nmol/L</td>
<td>2.5-5.5 nmol/L</td>
</tr>
<tr>
<td>&lt;1 year</td>
<td>1.2-4.6 nmol/L</td>
<td>1.4-4.9 nmol/L</td>
<td>2.5-5.5 nmol/L</td>
</tr>
<tr>
<td>1-17 years</td>
<td>1.2-4.6 nmol/L</td>
<td>1.4-4.9 nmol/L</td>
<td>2.5-5.5 nmol/L</td>
</tr>
<tr>
<td>≥18 years</td>
<td>1.2-4.6 nmol/L</td>
<td>1.4-4.9 nmol/L</td>
<td>2.5-5.5 nmol/L</td>
</tr>
</tbody>
</table>

Note: The above table lists the normal ranges for various fatty acids in different age groups. The values are given in nmol/mL.
Total Monounsaturated Acid
<1 year: 0.3-4.6 mmol/L
1-17 years: 0.5-4.4 mmol/L
≥18 years: 1.3-5.8 mmol/L

Total Polyunsaturated Acid
<1 year: 1.1-4.9 mmol/L
1-17 years: 1.7-5.3 mmol/L
≥18 years: 3.2-5.8 mmol/L

Total w3
<1 year: 0.0-0.4 mmol/L
1-17 years: 0.1-0.5 mmol/L
≥18 years: 0.2-0.5 mmol/L

Total w6
<1 year: 0.9-4.4 mmol/L
1-17 years: 1.6-4.7 mmol/L
≥18 years: 3.0-5.4 mmol/L

Total Fatty Acids
<1 year: 3.3-14.0 mmol/L
1-17 years: 4.4-14.3 mmol/L
≥18 years: 7.3-16.8 mmol/L

Day(s) and Time(s) Performed
Monday through Friday; 7 a.m.

Test Classification
This test was developed and its performance characteristics determined by Laboratory Medicine and Pathology, Mayo Clinic. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82542

LOINC Code Information
<table>
<thead>
<tr>
<th>Test ID</th>
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<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>FAPCP</td>
<td>Fatty Acid Profile, Comprehensive,S</td>
<td>43674-1</td>
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Result ID | Test Result Name | Result LOINC Value |
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<tbody>
<tr>
<td>16965</td>
<td>Octanoic Acid, C8:0</td>
<td>35145-2</td>
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<tr>
<td>16966</td>
<td>Decenoic Acid, C10:1</td>
<td>35147-8</td>
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<tr>
<td>16967</td>
<td>Decanoic Acid, C10:0</td>
<td>35146-0</td>
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<tr>
<td>16968</td>
<td>Lauroleic Acid, C12:1</td>
<td>35151-0</td>
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<tr>
<td>16969</td>
<td>Lauric Acid, C12:0</td>
<td>35150-2</td>
</tr>
<tr>
<td>16970</td>
<td>Tetradecadienoic Acid, C14:2</td>
<td>35148-6</td>
</tr>
<tr>
<td>16971</td>
<td>Myristoleic Acid, C14:1</td>
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<tr>
<td>16972</td>
<td>Myristic Acid, C14:0</td>
<td>35157-7</td>
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<td>16973</td>
<td>Hexadecadienoic Acid, C16:2</td>
<td>35154-4</td>
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<td>16974</td>
<td>Hexadecenoic Acid, C16:1w9</td>
<td>35155-1</td>
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<td>16975</td>
<td>Palmitoleic Acid, C16:1w7</td>
<td>35162-7</td>
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<td>16976</td>
<td>Palmitic Acid, C16:0</td>
<td>35161-9</td>
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<tr>
<td>16977</td>
<td>g-Linolenic Acid, C18:3w6</td>
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<td>16978</td>
<td>a-Linolenic Acid, C18:3w3</td>
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<td>Linoleic Acid, C18:2w6</td>
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<td>Oleic Acid, C18:1w9</td>
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<td>Vaccenic Acid, C18:1w7</td>
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<td>Stearic Acid, C18:0</td>
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<td>16983</td>
<td>EPA, C20:5w3</td>
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<td>Arachidonic Acid, C20:4w6</td>
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<td>Mead Acid, C20:3w9</td>
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<td>16986</td>
<td>h-g-Linolenic Acid, C20:3w6</td>
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<td>16987</td>
<td>Arachidic Acid, C20:0</td>
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<td>16988</td>
<td>DHA, C22:6w3</td>
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<td>DPA, C22:5w6</td>
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<td>DTA, C22:4w6</td>
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<td>16992</td>
<td>Docosenoic Acid, C22:1</td>
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<td>Docosanoic Acid, C22:0</td>
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<td>16994</td>
<td>Nervonic Acid, C24:1w9</td>
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<td>16995</td>
<td>Tetracosanoic Acid, C24:0</td>
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<td>Hexacosanoic Acid, C26:1</td>
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<td>16998</td>
<td>Pristanic Acid, C15:0(CH3)4</td>
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<tr>
<td>16999</td>
<td>Phytanic Acid, C16:0(CH3)4</td>
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</tr>
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<td>Triene Tetraene Ratio</td>
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<tr>
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<td>Total Saturated</td>
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<td>Total Monounsaturated</td>
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<td>Total Polyunsaturated</td>
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<td>17004</td>
<td>Total w3</td>
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<td>17005</td>
<td>Total w6</td>
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<td>17006</td>
<td>Total Fatty Acids</td>
<td>24461-6</td>
</tr>
<tr>
<td>17056</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis | OK
- Gross lipemia | Reject
- Gross icterus | OK

Method Name
Gas Chromatography-Mass Spectrometry (GC-MS) Stable Isotope Dilution Analysis

Secondary ID
82042

Forms
If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.
**FIOBT  Fecal Occult Blood, Immunochemical**

*Baystate Reference Laboratories*

**Collection Container**
OC Sample bottle

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Specimen Stability**
Sample bottle stable for 15 days at ambient temperature, 30 days refrigerated

**Reasons for Rejection**
Exceeded stability

**Methodology**
Immunoassay

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Daily

**Reference Ranges**
Negative

**CPT Code**
83986

**EMR Interface Order Code**
08510

---

**FELBAM  Felbamate**

*Contracted Reference Lab*

**Collection Container**
Red top tube, Green top (Na hep) tube or Lavender (EDTA) top tube

NO GEL TUBES

Serum or plasma

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
0.6 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 14 days

**Reasons for Rejection**
Specimen collected in a gel barrier tube

**CPT Code**
80339

**EMR Interface Order Code**
13850

---

**PHOTHR  Feces Ph**

*Baystate Reference Laboratories*

**Collection Container**
Stool

**Specimen Volume**
1 gram

**Minimum Specimen Volume**
.1 gram

**Transport Temperature**
Refrigerate

**Reasons for Rejection**
Not refrigerated

**Methodology**
pH indicator strips

**Days and Times Performed**
Test performed daily

**Turnaround Time**
3 hours

**Reference Ranges**
7.0 - 7.5

---

**QFEN TC  Fentanyl Screen with reflex to Confirmation, Urine**

*Contracted Reference Lab*

**Reflex Tests**
If positive, will reflex to confirmations at an additional charge

**Collection Container**
Urine cup or tube

**Specimen Volume**
30 mL

**Minimum Specimen Volume**
7 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Days and Times Performed**
Daily

**Turnaround Time**
1 – 3 days
**CPT Code**
80307

**EMR Interface Order Code**
70881

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

---

**QFENT  Fentanyl Screen, Urine**

**Contracted Reference Lab**

**Collection Container**
Urine cup or tube
Urine

**Specimen Volume**
30 mL

**Minimum Specimen Volume**
7 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Days and Times Performed**
Daily

**Turnaround Time**
1 – 3 days

**CPT Code**
80307

**EMR Interface Order Code**
70879

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

---

**QFEN  Fentanyl, Quant, Urine**

**Contracted Reference Lab**

**Specimen Volume**
20 mL

---

**Minimum Specimen Volume**
7 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Methodology**
Mass spectrometry

**Days and Times Performed**
Daily

**Turnaround Time**
2 days

**Reference Ranges**
< 0.5 ng/mL

**CPT Code**
80354 (G0480)

**LOINC Code**
3637-6, 11075-9

**EMR Interface Order Code**
70240

**FENT  Fentanyl, Serum**

**Mayo Clinic Laboratories in Rochester**

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

**Reporting Name**
Fentanyl and Metabolites, S

**Useful For**
Monitoring fentanyl therapy

**Specimen Type**
Serum Red

**Specimen Minimum Volume**
1.25 mL

**Container/Tube**: Red top

**Submission Container/Tube**: Plastic vial

**Specimen Volume**: 2.3 mL

**Collection Instructions**:
1. Spin down and remove serum from red blood cells within 2 hours of draw.
2. Aliquot serum to submission container.
### Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Frozen (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

### Reference Values
Not applicable

### Day(s) and Time(s) Performed
Thursday

### Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

### CPT Code Information
80354
G0480 (if appropriate)

### LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FENTS</td>
<td>Fentanyl and Metabolites, S</td>
<td>In Process</td>
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</table>

### Result ID | Test Result Name | Result LOINC Value
---|------------------|-------------------|
31829 | Norfentanyl | 11074-2 |
31830 | Fentanyl | 3636-8 |
31832 | Chain of Custody | 77202-0 |

### Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

### Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

### Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

### Secondary ID
89654

---

**FERTN**  **Ferritin**

*Baystate Reference Laboratories*

### Collection Container
Serum gel

### Other Acceptable Specimen Types
Heparinized plasma or EDTA

### Specimen Volume
- 0.5 mL

### Minimum Specimen Volume
- 0.2 mL

### Transport Temperature
Refrigerate
**Days and Times Performed**
Daily, 24 hours

**Reference Ranges**
Report includes interpretation as appropriate

**CPT Code**
85460 (Kleihauer Betke); 86901 (Rh(D) type)

---

**FFN  Fetal Fibronectin**

Baystate Reference Laboratories

**Collection Container**
Fluid
Cervicovaginal Specimen

**Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 8 hrs, Refrigerated: 3 days

**Methodology**
Solid-phase immunosorbent

**Days and Times Performed**
Test performed daily

**Turnaround Time**
3 hours

**CPT Code**
82731

**EMR Interface Order Code**
07300

---

**FIB  Fibrinogen**

Baystate Reference Laboratories

**Collection Container**
Light Blue
Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Special Handling Instructions**
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**
Platelet poor plasma: 1 ml aliquot, Whole blood: 2.7 mL

**Minimum Specimen Volume**
Platelet poor plasma: 0.5 mL aliquot, Whole blood: 2.7 mL

**Transport Temperature**
Platelet poor plasma: frozen, Whole blood: ambient temperature

**Specimen Stability**
Whole blood: 4 hours

**Reasons for Rejection**
Hemolyzed, clotted, Whole blood >4 hours old

---

**Methodology**
Clot based assay

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Stat: 1 hour, Routine: 4 hours

**Reference Ranges**
150 - 450 mg/dL

**CPT Code**
85384

**LOINC Code**
3255-7

**EMR Interface Order Code**
32450

**Critical Values**
0-2 Months: <150.0 mg/dL
>2 Months: <100.0 mg/dL

---

**FGF23  Fibroblast Growth Factor 23 (FGF23), Plasma**

Mayo Clinic Laboratories in Rochester

**Important Note**
Plasma must be separated within 4 hours of collection.

**Reporting Name**
Fibroblast Growth Factor 23, P

**Useful For**
Diagnosing and monitoring oncogenic osteomalacia

Possible localization of occult neoplasms causing oncogenic osteomalacia

Diagnosing X-linked hypophosphatemia or autosomal dominant hypophosphatemic rickets

Diagnosing familial tumoral calcinosis with hyperphosphatemia

Predicting treatment response to calcitriol or vitamin D analogs in patients with renal failure

**Specimen Type**
Plasma EDTA

**Specimen Required**

**Patient Preparation:** Fasting preferred; nonfasting acceptable

**Collection Container/Tube:** Lavender top (EDTA)

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 1.5 mL

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen (preferred)</td>
<td>90 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>
Reference Values
Results may be significantly elevated (ie, >900 RU/mL) in normal infants <3 months of age.
3 months-17 years: ≤230 RU/mL
≥18 years: ≤180 RU/mL

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83520

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FGF23</td>
<td>Fibroblast Growth Factor 23, P</td>
<td>46699-5</td>
</tr>
</tbody>
</table>

Result ID Test Result Name Result LOINC Value
88662 Fibroblast Growth Factor 23, P 46699-5

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Immunometric Enzyme Assay

Day(s) and Time(s) Performed
Tuesday, Thursday; 10 a.m.

Forms
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.
**FNA - Cytology  Fine Needle Aspiration**  
*Cytology, Intraoperative and Under Radiologic Guidance (Rapid Diagnosis)*

Baystate Reference Laboratories

**Additional Information**

**Collection:** Specimen collected by surgeon using technique described. If local anesthetics are used, do not inject the anesthetic into the mass to be aspirated. We suggest use of a 10mL syringe, a 1 1/2" 22-to 25-gauge needle (most aspirates), and a light weight pistol grip syringe adaptor to facilitate optimal control over needle placement and motion during sampling.

Before placing the needle, draw approximately 2 mL of air into the syringe. This will allow immediate expression of specimen following aspiration. Introduce the needle into the mass at right angle being sure to create 2 mL of negative pressure as you move the needle back and forth in the lesion in short, rapid, vibration-like motions. Be sure to change the direction of the aspiration within the mass so as to sample the lesion well. Each movement of the needle should be approximately 5 mm, sufficient to dislodge many cells into the aspirate.

Discontinue negative pressure if blood presents in the needle hub; this minimizes blood dilution. If blood does not enter the hub, discontinue the separation after 15-20 reciprocating strokes. Be sure to release negative pressure before removing the needle from the mass.

Express approximately three drops of the aspirated material onto the center of a glass slide using the air initially introduced into the syringe, have the bevel of the needle pointed down.

The Cytology staff person will prepare all slides. Any additional specimen will be placed into 50 mL tube of 95% alcohol for cell block processing.

**Collection Container**

Smears prepared by cytotechnology personnel

Contents of aspiration needle and/or syringe with aspirate specimen

**Special Handling Instructions**

Please notify the Cytology Department ext 24744 and make arrangements for a cytotechnologist to be present at the time aspiration is performed. He/she will assist in the preparation of smears and proper handling of the specimen. Requisition must state source of specimen and name of ordering physician.

**Days and Times Performed**

Monday - Friday, 7:30 am - 5 pm

**Turnaround Time**

Immediate interpretation for adequacy, 24 - 48 hours for final report unless further special stains or IHC studies required.

**Reference Ranges**

Negative to abnormal cells consistent with malignant neoplasm

**CPT Code**

88172; 88173

---

**FIRANT  Fire Ant IgE**

*Contracted Reference Lab*

**Collection Container**

Serum gel or red top tube

Serum

**Specimen Volume**

For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**

0.1 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**

ImmunoCAP

**Turnaround Time**

3-5 days

**CPT Code**

86003

**EMR Interface Order Code**

48770

---

**FIRE  Firebush (Kochia) IgE**

*Contracted Reference Lab*

**Collection Container**

Serum gel or red top tube

---
**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48775

---

**HER-2/neu FISH HER-2/neu**

*Baystate Reference Laboratories*

**Reflex Tests**
This is a reflex test when the immunohistochemistry (IHC) test for HER-2/neu has a 2+ result. This test is performed at an additional charge. Requests for this test on archived material (ie. Specimen procured more than 30 days ago) must be forwarded in writing to the Pathology Department [fax (413)794-5055]

Surgical Pathology Consultation; Outside Slides; Blocks, Wet Tissue

**Other Acceptable Specimen Types**
Breast; Gastric

**Reasons for Rejection**
Insufficient tissue

**Methodology**
HER2 IQFISH pharmDx is a direct fluorescence in situ hybridization (FISH) assay designed to quantitatively determine HER2 gene amplification in formalin-fixed, paraffin-embedded (FFPE) breast cancer tissue specimens and FFPE specimens from patients with invasive gastric and gastroesophageal junction adenocarcinoma.

**Days and Times Performed**
Monday - Friday, 8 am - 2 pm

**Turnaround Time**
7 - 10 Working Days

**Reference Ranges**
Negative or Positive

**CPT Code**
4300; 4302

---

**FLEC Flecainide, Serum**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 06150

---

**Reporting Name**
Flecainide, S

**Useful For**
Optimizing dosage
Assessing toxicity
Monitoring compliance

**Specimen Type**
Serum Red

**Specimen Required**

<table>
<thead>
<tr>
<th>Collection Container/Tube</th>
<th>Submission Container/Tube</th>
<th>Specimen Volume</th>
<th>Collection Instructions</th>
</tr>
</thead>
</table>
| Red top                   | Plastic vial              | 1.5 mL          | 1. Draw blood immediately before next scheduled dose.
|                           |                           |                 | 2. Centrifuge within 2 hours of draw and aliquot to remove serum from spun RBCs. |

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

<table>
<thead>
<tr>
<th>Trough Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2-1.0 mcg/mL</td>
<td>Therapeutic concentration</td>
</tr>
<tr>
<td>&gt;1.0 mcg/mL</td>
<td>Toxic concentration</td>
</tr>
</tbody>
</table>

**Day(s) and Time(s) Performed**
Monday through Saturday

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
80299

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLEC</td>
<td>Flecainide, S</td>
<td>3638-4</td>
</tr>
</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Secondary ID**
9243
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

**FLNDER  Flounder IgE**

*Contracted Reference Lab*

**Collection Container**

Serum gel or red top tube

**Serum**

**Specimen Volume**

For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**

0.1 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**

ImmunoCAP

**Turnaround Time**

3-5 days

**CPT Code**

86003

**EMR Interface Order Code**

48780

---

**FLUOR  Fluoride, Plasma**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**

EMR Interface Order Code: 06175

**Reporting Name**

Fluoride, P

**Useful For**

Assessing accidental fluoride ingestion

Monitoring patients receiving sodium fluoride for bone disease or patients receiving voriconazole therapy

**Specimen Type**

Plasma Heparin

**Specimen Required**

**Collection Container/Tube:** Green top (sodium heparin)

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 3 mL

**Specimen Minimum Volume**

1.2 mL

---

**Reference Values**

0.0-4.0 mcmol/L

**Day(s) and Time(s) Performed**

Tuesday; 8 a.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

82735

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL</td>
<td>Fluoride, P</td>
<td>14726-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8641</td>
<td>Fluoride, P</td>
<td>14726-4</td>
</tr>
</tbody>
</table>

**Reject Due To**

Gross hemolysis  OK

Gross lipemia  OK

Gross icterus  OK

**Method Name**

Ion-Selective Electrode (ISE)

---

**PROZAC  Fluoxetine, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**

Fluoxetine, S

**Useful For**

Monitoring serum concentration of fluoxetine during therapy

Evaluating potential toxicity

Evaluating patient compliance

**Specimen Type**

Serum Red

---

**Specimen Required**

**Container/Tube:** Red top

**Specimen Volume:** 1 mL

**Collection Instructions:** Centrifuge and separate serum from cells within 2 hours of draw.
Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Fluoxetine + Norfluoxetine: 120-500 ng/mL

Day(s) and Time(s) Performed
Tuesday; 4 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80299

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLUOX</td>
<td>Fluoxetine, S</td>
<td>78437-1</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value
---|-----------------|-------------------|
80228     | Fluoxetine, S   | 74982-0           |
251       | Norfluoxetine, S| 3868-7            |
252       | Fluoxetine+Norfluoxetine | 74948-1 |

Reject Due To

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>OK</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

FLPHEN  Fluphenazine, Prolixin

LabCorp

Collection Container
Red
Serum

Other Acceptable Specimen Types
Heparinized plasma

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>NA</td>
</tr>
<tr>
<td>Lipemia</td>
<td>NA</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
</tr>
</tbody>
</table>

Reference Values
Flurazepam:
Reference Range: 0 - 30 ng/mL

Desalkylflurazepam:
Reference Range: 30 - 150 ng/mL

Flurazepam + Desalkylflurazepam:
Reference Range: 30 - 180 ng/mL
### Day(s) and Time(s) Performed
Monday through Sunday

### CPT Code Information
80346

### LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FFLUR</td>
<td>Flurazepam (Dalmane)</td>
<td>73826-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1133</td>
<td>Flurazepam</td>
<td>46979-1</td>
</tr>
<tr>
<td>Z1160</td>
<td>Desalkylflurazepam</td>
<td>46980-9</td>
</tr>
<tr>
<td>Z1161</td>
<td>Flurazepam + Desalkylflurazepam</td>
<td>73826-0</td>
</tr>
</tbody>
</table>

### Method Name
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

### FLUVOX  Fluvoxamine (Luvox)

**Medtox Laboratories, Inc.**

**Report Name**
Fluvoxamine (Luvox)

**Specimen Type**
Varies

**Specimen Required**
Submit only 1 of the following specimens:

- **Plasma**
  Draw blood in a green-top sodium heparin tube(s), plasma gel tube is not acceptable. Spin down and send 3mL of plasma refrigerated in a plastic vial.

- **Serum**
  Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 3mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**
0.6 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

**Reference Values**
Units: ng/mL

Expected fluvoxamine concentrations on recommended daily dosage regimens:
50-900 ng/mL

### Day(s) and Time(s) Performed
Monday through Sunday

### CPT Code Information
80332

### LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FFVOX</td>
<td>Fluvoxamine (Luvox)</td>
<td>10988-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FFVOX</td>
<td>Fluvoxamine (Luvox)</td>
<td>10988-4</td>
</tr>
</tbody>
</table>

**Method Name**
High Performance Liquid Chromatography with Ultraviolet Detection; (HPLC-UV)

### RBCFOL  Folic Acid, RBC

**LabCorp**

**Collection Container**
2 Lavender (EDTA) tubes

**EDTA Whole blood**

**Specimen Volume**
6 mL whole blood in 2 lavender EDTA tubes

**Minimum Specimen Volume**
1 mL whole blood frozen (protect from light), 1 mL whole blood refrigerated

**Transport Temperature**
Refrigerate

**Reasons for Rejection**
Refrigerated specimen not in original tube, not receiving one frozen whole blood and one refrigerated whole blood

**Methodology**
Electrochemiluminescence

**CPT Code**
82747; 85014

**LOINC Code**
2283-0

**EMR Interface Order Code**
06250

### FOL  Folic Acid, Serum

**Baystate Reference Laboratories**

**Serum**

**Special Handling Instructions**
Protect from light

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.3 mL
### Frax - Fragile X (FMR-1 Mutation) Testing

**Integrated Genetics**

**Important Note**
Provider must obtain Prior Authorization for testing from the patient's insurance company. The testing lab (Integrated Genetics) will be billing the insurance. Patient must sign Informed Consent for genetic testing.

**Collection Container**
Lavender top (EDTA)

**Specimen Volume**
4 mL

**Transport Temperature**
Room Temperature or Refrigerated

**Specimen Stability**
4°C up to 4 days

**Reasons for Rejection**
Insufficient quantity, wrong tube, mislabeled specimens, specimen shared for other testing

**Methodology**
Polymerase chain reaction (PCR) analysis and capillary electrophoresis

**Turnaround Time**
10 days

**CPT Code**
81243

**EMR Interface Order Code**
69358

### FRAN - Francisella Tularensis (Tularemia) Antibodies

**Mass. Department of Public Health**

**Additional Information**
Testing referred to State Laboratory

**Collection Container**
Serum gel

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Frozen

**Specimen Stability**
7 days

---

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 2 hours, Refrigerated: 2 days, Frozen: 28 days freeze/thaw cycle 1

**Methodology**
Electrochemiluminescent

**Days and Times Performed**
Test performed daily

**Turnaround Time**
3 hrs for routine, 1 hr for STAT

**Reference Ranges**
4.6 - >20 ng/mL

**Units of Measure**
ng/mL

**CPT Code**
82746

**LOINC Code**
2284-8

**EMR Interface Order Code**
06225

---

**FRPMET - Fractionated Plasma Metanephrines**

**LabCorp**

**Important Note**

PATIENT INSTRUCTIONS: Patient should be fasting overnight (water and noncaffeinated soft drinks are permissible). The patient should be in a supine position for at least 15 minutes before and during sample collection. An indwelling venous catheter (normal saline to keep the line patent) is recommended, since the acute effects of the stress of venipuncture may increase metanephrine. It is preferable, but not essential, to draw the sample without a tourniquet.

**Collection Container**
Lavender (EDTA) top tube, pre-chilled

Spin and separate within 2 hours, then refrigerate the plasma

**Specimen Volume**
0.6 mL

**Minimum Specimen Volume**
0.4 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 2 days
Refrigerated: 14 days
Frozen: 14 days

**CPT Code**
83835

**EMR Interface Order Code**
27090
**FRINS  Free and Total Insulin**

*LabCorp*

**Collection Container**  
Serum gel or red top tube

**Specimen Volume**  
3 mL serum

**Minimum Specimen Volume**  
1.5 mL

**Transport Temperature**  
Refrigerated

**Turnaround Time**  
6-13 days

**CPT Code**  
83527, 83525

**EMR Interface Order Code**  
08135

**Stability**  
Room temp: 2 days  
Refrigerated: 10 days  
Frozen: 200 days

**FFA  Free Fatty Acids, Total, Serum**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**  
EMR Interface Order Code: 08050

**Reporting Name**  
Free Fatty Acids, Total, S

**Useful For**  
Evaluation of metabolic status of patients with endocrinopathies  
Monitoring of control of diabetes mellitus.  
Monitoring the effects of therapeutic diet/exercise lifestyle changes

**Specimen Type**  
Serum

1. Fasting-overnight (12-14 hours).  
2. Patient must not consume any alcohol for 24 hours before the specimen is collected.  
3. Patient should not be receiving therapeutic heparin.

**Collection Container/Tube:**  
Preferred: Serum gel  
Acceptable: Red top

**Submission Container/Tube:**  
Plastic vial

**Specimen Volume:**  
1 mL

**Collection Instructions:**  
1. Centrifuge within 45 minutes of collection and aliquot 1 mL of serum into a plastic vial.  
2. Immediately freeze specimen.

**Specimen Minimum Volume**  
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**  
≥18 years: 0.00-0.72 mmol/L  
Reference values have not been established for patients who are <18 years of age.

**Day(s) and Time(s) Performed**  
Monday through Friday; 7:30 a.m.-5 p.m.

**Test Classification**  
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions.  
Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**  
82725

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEFA</td>
<td>Free Fatty Acids, Total, S</td>
<td>15066-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
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<th>Result ID</th>
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<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>NEFA</td>
<td>Free Fatty Acids, Total, S</td>
<td>15066-4</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis  
- Gross lipemia  
- Gross icterus

**Method Name**  
Enzymatic Colorimetric

**Forms**  
If not ordering electronically, complete, print, and send a Cardiovascular Test Request Form (T724) with the specimen.

**Secondary ID**  
606892

**FRUCT  Fructosamine, Serum**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**  
EMR Interface Order Code: 07985
Reporting Name
Fructosamine, S

Useful For
Assessing intermediate-term glycemic control

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top

Specimen Volume: 1 mL

Collection Instructions:
1. Serum gel tubes should be centrifuged within 2 hours of collection.
2. Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

Specimen Minimum Volume
0.25 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
200-285 mcmol/L

Day(s) and Time(s) Performed
Monday through Sunday; Continuously

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer’s instructions.
Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
82985

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>FRUCT</td>
<td>Fructosamine, S</td>
<td>15069-8</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>FRUCT</td>
<td>Fructosamine, S</td>
<td>15069-8</td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis | Reject
Gross icterus   | Reject

Method Name
Colorimetric Rate Reaction

FSH  FSH

Baystate Reference Laboratories

Collection Container
Serum gel

Other Acceptable Specimen Types
Heparinized or EDTA plasma

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.3 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 5 days, Refrigerated: 14 days, Frozen: 1 year freeze/thaw cycle: 1

Methodology
Electrochemiluminescent

Days and Times Performed
Test performed daily

Turnaround Time
3 hrs for routine, 1 hr for STAT

Reference Ranges
Females:
- Follicular phase: 3.5 - 12.5 mIU/mL
- Ovulation: 4.7 - 21.5 mIU/mL
- Luteal phase: 1.7 - 7.7 mIU/mL
- Postmenopausal: 25.8 - 134.8 mIU/mL
- 14-17 years: 6.0 - 17.0 mIU/mL
- 11-13 years: 2.1 - 11.1 mIU/mL
- 6-10 years: 0.3 - 11.1 mIU/mL
- 1-5 years: 0.2 - 11.1 mIU/mL

Males:
- 18 years+: 1.5 - 12.4 mIU/mL
- 14-17 years: 1.5 - 12.9 mIU/mL
- 11-13 years: 0.4 - 4.6 mIU/mL
- 6-10 years: 0.4 - 3.8 mIU/mL
- 1-5 years: 0.2 - 2.8 mIU/mL

Units of Measure
mIU/mL

CPT Code
83001

LOINC Code
20433-9

EMR Interface Order Code
26600

FTA  FTA-ABS

LabCorp

Additional Information
FTA antibodies should not be used to follow disease activity or response to treatment since fluorescence has no relation to disease activity. Also, antibody levels will remain elevated for life.

Collection Container
Serum gel

Other Acceptable Specimen Types
Serum

Other Acceptable Specimen Types
Red top
**FUNSK  Fungal Culture (Skin, Hair, Nail)**

_Baystate Reference Laboratories_

**Additional Information**
Fungal smear included

**Collection Container**
Sterile sealed container
Skin scrapings, Nail clippings, hair

**Specimen Volume**
1 gram

**Minimum Specimen Volume**
1 gram

**Transport Temperature**
Refrigerate

**Specimen Stability**
24 hours refrigerated

**Reasons for Rejection**
E-swabs are not acceptable for specimen collection.

**Days and Times Performed**
7 days/week

**Turnaround Time**
30 days

**Reference Ranges**
No growth after 28 days

---

**LOINC Code**  
580-1

**EMR Interface Order Code**  
51670

---

**NRFUNC  Fungal Non-Respiratory Culture**

_Baystate Reference Laboratories_

**Additional Information**
Fungal smear included

**Collection Container**
Sterile sealed container, Amies swab
Aspirates, body fluids, tissue

**Specimen Volume**
1 mL/1 gram

**Minimum Specimen Volume**
1 mL/1 gram

**Transport Temperature**
Refrigerate

**Specimen Stability**
3-5 days depending on specimen type

**Reasons for Rejection**
E-swabs are not acceptable for specimen collection.

**Days and Times Performed**
7 days/week

**Turnaround Time**
30 days

**Reference Ranges**
No growth after 28 days

**LOINC Code**  
580-1

**EMR Interface Order Code**  
51674

---

**FUSM  Furarium Moniliforme IgE**

_Contracted Reference Lab_

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP
G6PD  G6PD Screen
Baystate Reference Laboratories
EDTA Whole blood

Specimen Volume
Lavender (EDTA): 4 mL, Two BD microtainers: 500uL each

Minimum Specimen Volume
Lavender (EDTA): 1 mL, Two BD microtainers: 500uL each

Transport Temperature
Refrigerate

Specimen Stability
24 hours refrigerated

Methodology
Brilliant cresyl blue decolorization

Days and Times Performed
7 am - 3 pm, Monday - Friday

Turnaround Time
1 Day

Reference Ranges
Normal

CPT Code
86003

LOINC Code
82960

EMR Interface Order Code
68558

Container
Serum gel or red top tube

QGAB  Gabapentin, Quant, Urine
Contracted Reference Lab

Urine

Specimen Volume
20 mL

Minimum Specimen Volume
7 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Preserved samples

GABAP  Gabapentin, Serum
Mayo Clinic Laboratories in Rochester

Reporting Name
Gabapentin, S

Useful For
Monitoring serum gabapentin concentrations  Assessing compliance  Adjusting dosage in patients

Specimen Type
Serum Red

Specimen Required

Container/Tube: Red top
Specimen Volume: 1 mL

Collection Instructions:
1. Draw specimen immediately before next scheduled dose.
2. Spin down within 2 hours of draw.

Specimen Minimum Volume
0.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
2.0-20.0 mcg/mL

Toxic Range: ≥25.0 mcg/mL

Day(s) and Time(s) Performed
Tuesday through Saturday; 12 a.m., Saturday; 4 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80171

Methodology
Mass spectrometry

Days and Times Performed
Daily

Turnaround Time
2 days

Reference Ranges
< 1000 ng/mL

CPT Code
80355 (G0480)

LOINC Code
59680-9

EMR Interface Order Code
70258

QGAB  Gabapentin, Quant, Urine
Contracted Reference Lab

Urine

Specimen Volume
20 mL

Minimum Specimen Volume
7 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Preserved samples
**GALACT Galactokinase, Blood**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 06375

**Reporting Name**
Galactokinase, B

**Useful For**
Diagnosis of galactokinase deficiency, the second most common cause of galactosemia

**Testing Algorithm**
See Galactosemia Testing Algorithm in Special Instructions.

**Specimen Type**
Whole Blood EDTA

**Advisory Information**

This test is for diagnosis of galactokinase (GALK) deficiency. The most common cause of galactosemia is GALT deficiency. In most cases, GALT deficiency should be ruled out prior to evaluating for galactokinase (GALK) deficiency (see GCT / Galactosemia Reflex, Blood).

To evaluate for galactose-1-phosphate uridylytransferase deficiency, see GALT / Galactose-1-Phosphate Uridylytransferase, Blood.

This assay will not detect UDP-galactose 4' epimerase (GALE) deficiency or galactose-1-phosphate uridylytransferase (GALT) deficiency. For epimerase deficiency, see GALE / UDP-Galactose 4' Epimerase (GALE), Blood.

This assay is not appropriate for monitoring dietary compliance; see GAL1P / Galactose-1-Phosphate (Gal-1-P), Erythrocytes.

**Specimen Required**

Container/Tube:
Preferred: Lavender top (EDTA)

Acceptable: Green top (sodium heparin), green top (lithium heparin), or yellow top (ACD)

Specimen Volume: 4 mL

Specimen Minimum Volume
2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood</td>
<td>Refrigerated</td>
<td>10 days</td>
<td></td>
</tr>
<tr>
<td>EDTA</td>
<td>(preferred)</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**
- Informed Consent for Genetic Testing
- Galactosemia Testing Algorithm
- Biochemical Genetics Patient Information
- Informed Consent for Genetic Testing (Spanish)

**Reference Values**
≥0.7 nmol/h/mg of hemoglobin

**Day(s) and Time(s) Performed**
Mondays; 9 a.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
82759

**LOINC Code Information**

<table>
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<tr>
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<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>GALK</td>
<td>Galactokinase, B</td>
<td>81143-0</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>38005</td>
<td>Galactokinase, B</td>
<td>81143-0</td>
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<tr>
<td>38007</td>
<td>Interpretation (GALK)</td>
<td>59462-2</td>
</tr>
<tr>
<td>38006</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

**Rejected Due To**

- Gross hemolysis: Reject

**Method Name**
Enzyme Reaction Followed by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Secondary ID**
8628

**Forms**
1. *New York Clients-Informed consent is required.* Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. Biochemical Genetics Patient Information (T602) in Special Instructions.
3. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.
**GALPHS**  
Galactose-1-Phosphate (Gal-1-P), Erythrocytes

Mayo Clinic Laboratories in Rochester

**Additional Test Codes**  
EMR Interface Order Code: 06410

**Reporting Name**  
Galactose-1-Phosphate, RBC

**Useful For**  
Monitoring dietary therapy of patients with galactosemia due to deficiency of galactose-1-phosphate uridyltransferase or uridine diphosphate galactose-4-epimerase

**Testing Algorithm**  
See Galactosemia Testing Algorithm in Special Instructions

**Specimen Type**  
Whole Blood EDTA

**Advisory Information**

This test is used to monitor dietary therapy of patients with galactosemia due to deficiency of galactose-1-phosphate uridyltransferase or uridine diphosphate galactose-4-epimerase.

This test is not appropriate for the diagnosis of galactosemia. The preferred test to evaluate for possible diagnosis of galactosemia, routine carrier screening, and follow-up of abnormal newborn screening results is GCT / Galactosemia Reflex, Blood.

This test is not appropriate for the diagnosis of epimerase deficiency, the preferred test to evaluate this deficiency is GALE / UDP-Galactose 4' Epimerase (GALE), Blood.

**Specimen Required**

**Patient Preparation:** Specimens collected following a meal can exhibit postprandial elevations. For infants, collect a specimen immediately prior to feeding to avoid this.

**Container/Tube:**  
Preferred: Lavender top (EDTA)  
Acceptable: Green top (sodium heparin)

**Specimen Volume:** 3 mL

**Specimen Minimum Volume**  
2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>Whole Blood EDTA</td>
<td>Refrigerated</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**

- Galactosemia Testing Algorithm
- Biochemical Genetics Patient Information

**Reference Values**

Reference interval (normal range): \( \leq 0.9 \) mg/dL  
Therapeutic range: \( \leq 4.9 \) mg/dL

**Day(s) and Time(s) Performed**

Tuesday; 8 a.m.

---

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

84378

**LOINC Code Information**

<table>
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<th>Test ID</th>
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<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>GAL1P</td>
<td>Galactose-1-Phosphate, RBC</td>
<td>2312-7</td>
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</table>

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<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>24101</td>
<td>Galactose-1-Phosphate, RBC</td>
<td>2312-7</td>
</tr>
</tbody>
</table>

**Reject Due To**

Gross hemolysis | Reject

**Method Name**

Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Forms**

1. Biochemical Genetics Patient Information (T602) in Special Instructions.
2. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

**GPUT**  
Galactose-1-Phosphate Uridyltransferase (GALT), Blood

Mayo Clinic Laboratories in Rochester

**Additional Test Codes**  
EMR Interface Order Code: 06401

**Reporting Name**  
Gal-1-P Uridyltransferase, RBC

**Useful For**  
Diagnosis of galactose-1-phosphate uridyltransferase deficiency, the most common cause of galactosemia

Confirmation of abnormal state newborn screening results

**Testing Algorithm**  
See Galactosemia Testing Algorithm in Special Instructions.

**Specimen Type**  
Whole Blood EDTA

**Advisory Information**

This test is for enzyme testing only. The preferred test to evaluate for possible diagnosis of galactosemia, routine carrier screening, and follow-up of abnormal newborn screening results is GCT / Galactosemia Reflex, Blood.

This assay is not appropriate for monitoring dietary compliance; see GAL1P / Galactose-1-Phosphate (Gal-1-P), Erythrocytes.

This assay will not detect UDP-galactose 4' epimerase (GALE) deficiency. For epimerase deficiency, see GALE / UDP-Galactose 4' Epimerase (GALE), Blood.

This assay will not detect galactokinase deficiency. For galactokinase deficiency, see GALK / Galactokinase, Blood.
Necessary Information

Patient's age is required.

Specimen Required

Container/Tube:
- Preferred: Lavender top (EDTA)
- Acceptable: Green top (sodium heparin) or yellow top (ACD)

Specimen Volume: 5 mL

Specimen Minimum Volume

2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood EDTA</td>
<td>Refrigerated</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td>days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14</td>
<td>days</td>
</tr>
</tbody>
</table>

Special Instructions

- Informed Consent for Genetic Testing
- Galactosemia Testing Algorithm
- Biochemical Genetics Patient Information
- Informed Consent for Genetic Testing (Spanish)

Reference Values

≥24.5 nmol/h/mg of hemoglobin

Day(s) and Time(s) Performed

Monday, Wednesday, Friday; 7 a.m. set up (specimen must be received the day prior)

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

82775

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>GALT</td>
<td>Gal-1-P Uridyltransferase, RBC</td>
<td>24082-0</td>
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</table>

Result ID | Test Result Name | Result LOINC Value |
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<tbody>
<tr>
<td>8333</td>
<td>Gal-1-P Uridyltransferase, RBC</td>
<td>24082-0</td>
</tr>
<tr>
<td>2296</td>
<td>Interpretation (GALT)</td>
<td>59462-2</td>
</tr>
<tr>
<td>58115</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis
- Reject

Method Name

Enzyme Reaction Followed by Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

---

Forms

1. New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. Biochemical Genetics Patient Information (T602) in Special Instructions.
3. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

FGA13  Galactose-alpha-1,3-galactose (Alpha-Gal) IgE

Viracor Eurofins

Important Note

THIS IS THE ALLERGEN TESTING

Method Name

Solid phase immunoassay

Reporting Name

Galactose-alpha-1,3-galactose IgE

Specimen Type

Serum

Specimen Required

Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume

0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td>days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>365</td>
<td>days</td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7</td>
<td>days</td>
</tr>
</tbody>
</table>

Reference Values

<0.10 kU/L

Previous reports (JACI 2009; 123:426-433) have demonstrated that patients with IgE antibodies to galactose-a-1,3-galactose are at risk for delayed anaphylaxis, angioedema, or urticaria following consumption of beef, pork, or lamb.

Day(s) and Time(s) Performed

Monday through Friday

Test Classification

This test was developed and its performance characteristics determined by Viracor Eurofins. It has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

86008
### LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
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<tbody>
<tr>
<td>FGA13</td>
<td>Galactose-alpha-1,3-galactose IgE</td>
<td>73837-7</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>FGA13</td>
<td>Galactose-alpha-1,3-galactose IgE</td>
<td>73837-7</td>
</tr>
</tbody>
</table>

### Reject Due To

- Hemolysis: NA
- Lipemia: Mild OK; Gross Reject
- Icterus: NA
- Other: NA

### Secondary ID

57566

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**GALAC  Galactose, Quantitative, Plasma**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**

Galactose, QN, P

**Useful For**

Screening for galactosemia

**Testing Algorithm**

This is a screening test only.

See Galactosemia Testing Algorithm in Special Instructions.

**Specimen Type**

Plasma Na Heparin

**Advisory Information**

This test is **not** recommended for follow-up of positive newborn screening results. For this purpose GAL1P / Galactose-1-Phosphate (Gal-1-P), Erythrocytes and GCT / Galactosemia Reflex Test, Blood are the most appropriate tests.

This test is **not** appropriate for the diagnosis of galactosemia. For diagnosis, see GCT / Galactosemia Reflex, Blood.

The preferred test for monitoring dietary therapy is GAL1P / Galactose-1-Phosphate (Gal-1-P), Erythrocytes.

**Specimen Required**

- **Collection Container/Tube:** Green top (sodium heparin)
- **Submission Container/Tube:** Plastic vial
- **Specimen Volume:** 0.5 mL

**Specimen Minimum Volume**

0.2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma Na Heparin</td>
<td>Frozen (preferred)</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>20 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>20 days</td>
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</table>

### Special Instructions

- Galactosemia Testing Algorithm
- Biochemical Genetics Patient Information

**Reference Values**

≤7 days: <5.4 mg/dL  
8-14 days: <3.6 mg/dL  
≥15 days: <2.0 mg/dL

**Day(s) and Time(s) Performed**

Varies

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

### CPT Code Information

82760

---

**UGALAC  Galactose, Quantitative, Urine**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**

EMR Interface Order Code: 06385

**Reporting Name**

Galactose, QN, U

**Useful For**

Screening test for galactosemia in urine specimens

**Testing Algorithm**

This test is not appropriate for the diagnosis or monitoring of galactosemia. For diagnosis, see GCT / Galactosemia Reflex, Blood. For monitoring, see GAL1P / Galactose-1-Phosphate (Gal-1-P), Erythrocytes.

See Galactosemia Testing Algorithm in Special Instructions

**Specimen Type**

Urine

**Advisory Information**

- This test is **not** recommended for follow-up of positive newborn screening results. For this purpose GAL1P / Galactose-1-Phosphate (Gal-1-P), Erythrocytes and GCT / Galactosemia Reflex Test, Blood are the most appropriate tests.
- This test is **not** appropriate for the diagnosis of galactosemia. For diagnosis, see GCT / Galactosemia Reflex, Blood.
- The preferred test for monitoring dietary therapy is GAL1P / Galactose-1-Phosphate (Gal-1-P), Erythrocytes.

---

This document contains information about various laboratory tests, including their LOINC codes, test details, and special instructions. It highlights the use of these tests in diagnosing and monitoring conditions related to galactosemia.
This test is not appropriate for the diagnosis of galactosemia. For diagnosis, see GCT / Galactosemia Reflex, Blood.

This test is not appropriate for monitoring of galactosemia. For monitoring, see GAL1P / Galactose-1-Phosphate (Gal-1-P), Erythrocytes.

**Specimen Required**

**Supplies:** Aliquot Tube, 5 mL (T465)
**Collection Container/Tube:** Clean, plastic urine collection container
**Submission Container/Tube:** Plastic, 5-mL tube (T465)
**Specimen Volume:** 1 mL

**Collection Instructions:** Collect a random urine specimen.

**Specimen Minimum Volume**

0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen (preferred)</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>20 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>20 days</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**

- Galactosemia Testing Algorithm
- Biochemical Genetics Patient Information

**Reference Values**

<30 mg/dL

**Day(s) and Time(s) Performed**

Varies

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

82760

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GALU</td>
<td>Galactose, QN, U</td>
<td>2310-1</td>
</tr>
</tbody>
</table>

**Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8765</td>
<td>Galactose, QN, U</td>
<td>2310-1</td>
</tr>
</tbody>
</table>

**Reject Due To**

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Method Name**

Spectrophotometric, Kinetic

**Forms**

1. Biochemical Genetics Patient Information (T602) in Special Instructions.
2. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

---

**GHB  Gamma-Hydroxybutyric Acid (GHB), Urine**

**Medtox Laboratories, Inc.**

**Reflex Tests**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>FGHAC</td>
<td>Gamma-Hydroxybutyric Acid, CF, UR</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Testing Algorithm**

If the GHB Screen, UR is non-negative, then the Gamma-Hydroxybutyric Acid, CF, UR (FGHAC) will be performed at an additional charge.

**Reporting Name**

GHB Screen, UR

**Specimen Type**

Urine

**Specimen Required**

Collect 10 mL random urine without preservatives. Ship refrigerated in a plastic container.

**Specimen Minimum Volume**

1.2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

**Reference Values**

Reference Range: Negative

Screening threshold: 5.0 ug/mL

**Day(s) and Time(s) Performed**

Monday through Sunday

**CPT Code Information**

80307

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FGHSU</td>
<td>GHB Screen, UR</td>
<td>29868-7</td>
</tr>
</tbody>
</table>

**Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Z4226</td>
<td>GHB</td>
<td>29868-7</td>
</tr>
</tbody>
</table>
Method Name
Liquid Chromatography with Tandem Mass Spectrometry (LC/MS/MS)
Gas Chromatography/Mass Spectrometry (GC/MS) (if appropriate)

GABP  Ganglioside Antibody Panel, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Ganglioside Ab Panel, S

Useful For
Supporting the diagnosis of an autoimmune neuropathy

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGG_M</td>
<td>IgG Monos. GM1</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>IGM_M</td>
<td>IgM Monos. GM1</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>IGG_A</td>
<td>IgG Asialo. GM1</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>IGM_A</td>
<td>IgM Asialo. GM1</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>IGG_D</td>
<td>IgG Disialo. GD1b</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>IGM_D</td>
<td>IgM Disialo. GD1b</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Red top
Acceptable: Serum gel
Specimen Volume: 1 mL

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

Profile Information:
IGG_M: Negative
IGM_M: Negative
IGG_A: Negative
IGM_A: Negative
IGG_D: Negative
IGM_D: Negative

Reflex Information:
IGMSTS: <1:2000
IMMSTS: <1:4000
IGATS: <1:16000
IMATS: <1:8000
IGDTS: <1:2000
IMDTS: <1:2000

Day(s) and Time(s) Performed
Tuesday, Thursday; 12 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83516 x 6
83520 x 6 (if applicable)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM1B</td>
<td>Ganglioside Ab Panel, S</td>
<td>82455-7</td>
</tr>
</tbody>
</table>

Result ID  Test Result Name  Result LOINC Value
4414  IgG Asialo. GM1  63212-5
4416  IgG Disialo. GD1b  In Process
4412  IgG Monos. GM1  63243-0
4415  IgM Asialo. GM1  63384-2
4417  IgM Disialo. GD1b  In Process
4413  IgM Monos. GM1  63247-1

Reject Due To

Gross hemolysis  Reject
Gross lipemia  Reject
Gross icterus  Reject

Method Name
Enzyme-Linked Immunosorbent Assay (ELISA)

Forms
If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request (T732) with the specimen.

Secondary ID
83189

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGMSTS</td>
<td>IgG Monos GM1 Titer, S</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>IMMSTS</td>
<td>IgM Monos GM1 Titer, S</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>IGATS</td>
<td>IgG Asialo GM1 Titer, S</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>IMATS</td>
<td>IgM Asialo GM1 Titer, S</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>IGDSTS</td>
<td>IgG Disialo GD1b Titer, S</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>IMDTS</td>
<td>IgM Disialo GD1b Titer, S</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm
Screening tests are performed for IgG and IgM antibodies to GM1 and GD1b. If positive, the appropriate titer will be performed at an additional charge.

See Ganglioside Antibody Panel Algorithm in Special Instructions.

Special Instructions
• Ganglioside Antibody Panel Algorithm

GARLIC  Garlic IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
GASTRN  Gastrin, Serum

**Mayo Clinic Laboratories in Rochester**

**Additional Test Codes**

EMR Interface Order Code: 06500

**Reporting Name**

Gastrin, S

**Useful For**

Investigation of patients with achlorhydria or pernicious anemia

Investigation of patients suspected of having Zollinger-Ellison syndrome

Diagnosis of gastrinoma

**Specimen Type**

Serum

**Specimen Required**

**Patient Preparation:**
1. Fasting (8 hours) required
2. For 12 hours before specimen collection, do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.
3. Proton pump inhibitors (omeprazole, lansoprazole, dexlansoprazole, esomeprazole, pantoprazole, and rabeprazole), which are used in the treatment of esophageal and gastroduodenal ulcer disease and dyspepsia, may cause significant elevations of serum gastrin levels. If medically feasible, proton pump inhibitor therapy should be discontinued 2 weeks before measurement of serum gastrin levels.
4. Drugs that interfere with gastrointestinal motility (eg, opioids) should be discontinued for at least 2 weeks before serum gastrin testing.

**Collection Container/Tube:**
- Preferred: Serum gel
- Acceptable: Red top

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 1 mL

**Collection Instructions:**
1. If multiple specimens are drawn, submit each vial under a separate order.
2. Label specimens with corresponding collection time.
3. Centrifuge at refrigerated temperature within 2 hours of collection and immediately aliquot serum into plastic vial.

**Specimen Minimum Volume**

0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

<100 pg/mL

There is no evidence that fasting serum gastrin levels differ between adults and children. Although 8-hour fasts are difficult or impossible to enforce in small children, serum gastrin levels after shorter fasting periods (3-8 hours) may be 50% to 60% higher than the 8-hour fasting value.

For SI unit Reference Values, see https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html

**Day(s) and Time(s) Performed**

Monday through Friday; 5 a.m.-3pm., Saturday; 6 a.m.-3pm

**Test Classification**

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**

82941

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAST</td>
<td>Gastrin, S</td>
<td>2333-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAST</td>
<td>Gastrin, S</td>
<td>2333-3</td>
</tr>
</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
</tbody>
</table>

**Method Name**

Automated Chemiluminescent Immunometric Assay

**Forms**

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:

- Oncology Test Request Form (T729)
- Benign Hematology Test Request Form (T755)

**GASPEP  Gastro Intestinal Peptide**

*LabCorp*

**Collection Container**

10 mL blood in a special tube containing G.I. Preservative.

Plasma from special collection tube Frozen.

**Specimen Volume**

3 mL
Minimum Specimen Volume
1 mL

Transport Temperature
Frozen

Specimen Stability
Frozen: 180 days

Reasons for Rejection
Not received frozen. Not collected in the G.I. preservative tube.

CPT Code
83519

EMR Interface Order Code
06525

RLMISC  Gastrointestinal Pathogen Panel, PCR, Feces

Mayo Clinic Laboratories in Rochester

Useful For
Rapid detection of gastrointestinal infections caused by:
- Campylobacter species (Campylobacter jejuni/Campylobacter coli/
  Campylobacter upsaliensis)
- Clostridioides (Clostridium) difficile toxin A/B
- Plesiomonas shigelloides
- Salmonella species
- Vibrio species (Vibrio parahaemolyticus, Vibrio vulnificus, Vibrio
  cholerae)
- Vibrio cholerae
- Yersinia species
- Enteroaggregative Escherichia coli (EAEC)
- Enteropathogenic E. coli (EPEC)
- Enterotoxigenic E. coli (ETEC)
- E. coli O157
- Shigella/Enteroinvasive E. coli (EIEC)
- Cryptosporidium species
- Cyclospora cayetanensis
- Entamoeba histolytica
- Giardia
- Adenovirus F 40/41
- Astrovirus
- Norovirus GI/GII
- Rotavirus A
- Sapovirus

This test is not recommended as a test of cure.

Special Instructions
- Parasitic Investigation of Stool Specimens Algorithm
- Laboratory Testing for Infectious Causes of Diarrhea

Method Name
Multiplex Polymerase Chain Reaction (PCR)

Reporting Name
GI Pathogen Panel, PCR, F

Specimen Type
Fecal

Advisory Information
It is not recommended that the following tests be concomitantly ordered if this test is ordered:
- VIBC / Vibrio Culture, Feces
- ROTA / Rotavirus Antigen, Feces
- LADV / Adenovirus, Molecular Detection, PCR, Varies
- GIAR / Giardia Antigen, Feces
- CRYPS / Cryptosporidium Antigen, Feces
- CYCL / Cyclospora Stain, Feces
- STL / Enteric Pathogens Culture, Feces
- CAMPC / Campylobacter Culture, Feces
- SHIGC / Shigella Culture, Feces
- SALMC / Salmonella Culture, Feces
- YERSC / Yersinia Culture, Feces
- E157C / Escherichia coli O157:H7 Culture, Feces
- STFRP / Shiga Toxin, Molecular Detection, PCR, Feces
- CDFRP / Clostridioides (Clostridium) difficile Toxin, Molecular
  Detection, PCR, Feces

Additional Testing Requirements
In some cases, there may be local public health requirements that impact Mayo Clinic Laboratories (MCL) clients and require additional testing on specimens with positive results from this panel. Clients should familiarize themselves with local requirements. MCL recommends clients retain an aliquot of each specimen submitted for this test to perform additional testing themselves, as needed. If necessary, see Interpretation for detailed information about how to obtain this testing.

Shipping Instructions
Specimen must arrive within 96 hours of collection.

Necessary Information

Specimen Required

Supplies: C and S Vial (T058)

Specimen Type: Preserved feces

Container/Tube: Cary-Blair transport system is required. Specific for recovery of enteric pathogens from fecal specimens (15 mL of non-nutritive transport medium containing phenol red as a pH indicator, either Cary-Blair or Para-Pak C and S). Submit sample in original Cary Blair medium container (not an aliquot).

Specimen Volume: 1 gram or 5 mL

Collection Instructions:
1. Collect fresh fecal specimen and place in preservative within 2 hours of collection.
2. Submit a representative portion of feces in container with transport medium.

Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal</td>
<td>Ambient (preferred)</td>
<td>4 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>4 days</td>
<td></td>
</tr>
</tbody>
</table>
Test Order Name
Specimen Source
C. difficile toxin
GI Pathogen Panel, PCR, F
Gently rotate the swab
Enterotoxigenic E. coli (ETEC)
Enteroaggregative E. coli (EAEC)
82205-6
80349-4
82195-9
Enteropathogenic E. coli (EPEC)
Break swab shaft at the scoreline and recap the swab
Shigella/Enteroinvasive E. coli
Gently rotate
80350-2
82202-3
Salmonella species
Vibrio species
(T244)
82198-3
82199-1
82200-7
82201-5
82202-3
82203-1
82204-6
82205-6
82206-4
82207-2
82207-0
82208-0
82209-8
82210-6
82211-4
82212-2
82213-0
9464-8

Gastroenterology and Hepatology Client Test Request
Microbiology Test Request
Laboratory Testing for Infectious Causes of Diarrhea
Parasitic Investigation of Stool Specimens Algorithm
Testing Algorithm
The following algorithms are available in Special Instructions:
-Parasitic Investigation of Stool Specimens Algorithm
-Laboratory Testing for Infectious Causes of Diarrhea

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
-Microbiology Test Request (T244)
-Gastroenterology and Hepatology Client Test Request (T728)

Gastrointestinal Pathogens Panel, PCR, F
C. difficile toxin
Enterotoxigenic E. coli (ETEC)
Enteroaggregative E. coli (EAEC)
Enteropathogenic E. coli (EPEC)
Shigella/Enteroinvasive E. coli
Salmonella species
Vibrio species
Shiga toxin producing E. coli
Vibrio cholerae
Rotavirus
Cryptosporidium species
Norovirus GI/GII
Giardia

Result ID
SRCGi
37081
37082
37083
37084
37085
37086
37087
37088
37089
37090
37091
37092
37093
37094
37095
37096
37097
37098
37099
37100
37101
37103
37282

Test Result Name
Campylobacter species
C. difficile toxin
Plesiomonas shigelloides
Salmonella species
Vibrio species
Vibrio cholerae
Yersinia species
Enterococcal aggregative E. coli (EAEC)
Enteropathogenic E. coli (EPEC)
Enterotoxigenic E. coli (ETEC)
Shiga toxin producing E. coli
Escherichia coli O157 serotype
Shigella/Enteroinvasive E. coli
Cryptosporidium species
Cyclospora cayetanensis
Entamoeba histolytica
Giardia
Adenovirus F40/41
Astrovirus
Norovirus GI/GII
Rotavirus
Sapovirus
Interpretation

Result LOINC Value
31208-2
82196-7
82197-5
82198-3
82199-1
82200-7
82201-5
82202-3
80349-4
80348-6
82203-1
80351-0
82203-1
82204-9
80350-2
82205-6
82206-4
82207-2
82208-0
82209-8
82210-6
82211-4
82212-2
82213-0
59464-8

Gastrointestinal Pathogens Panel, PCR, F
C. difficile toxin
Enterotoxigenic E. coli (ETEC)
Enteroaggregative E. coli (EAEC)
Enteropathogenic E. coli (EPEC)
Shigella/Enteroinvasive E. coli
Salmonella species
Vibrio species
Shiga toxin producing E. coli

LOINC Code Information
Test ID
GIP

Test Order Name
GI Pathogen Panel, PCR, F
Order LOINC Value
82195-9

Baystate Reference Laboratories
Additional Information
Limitations: A Negative result does not preclude infection with C. trachomatis or N. gonorrhoeae because results are dependent on adequate specimen collection, absence of inhibitors, and sufficient rRNA to be detected. The Aptima® Combo2 assay is not intended for the evaluation of suspected sexual abuse or for other medicolegal indications such as testing patients at age younger than 13 years old. As is true for all non-culture methods, a positive specimen obtained from a patient after therapeutic treatment cannot be interpreted as indicating the presence of viable C trachomatis or N. gonorrhoeae.

Therapeutic failure or success cannot be determined with Aptima® Combo2 assay since nucleic acid may persist following appropriate antimicrobial therapy. A negative urine result for a patient who is clinically suspected of having a chlamydial infection does not rule out the presence of C. trachomatis or N. gonorrhoeae in the urogenital tract. Testing of an endocervical (female) or urethral (male) specimen is recommended if there is high clinical suspicion of infection.

Female endocervical swab collection: Remove excess mucus from the cervical os and surrounding mucosa using the cleaning swab (white shaft). Insert the swab. Insert the specimen collection swab (blue shaft) into the endocervical canal. Gently rotate the swab clockwise for 10 - 30 seconds to ensure adequate sampling. Withdraw swab; avoid contact with vaginal mucosa. Remove cap from specimen transport tube and immediately place BLUE specimen collection swab in the transport tube. Break swab shaft at the scoreline and recapture the specimen transport tube tightly. Use of the BLUE unisex specimen collection swab included in the GenProbe Aptima® swab collection kit is required.

Male urethral swab collection: Patient should refrain from urinating for at least 1 hour prior to sample collection. Insert the specimen collection swab (blue shaft) 2-4 cm into the urethra. Gently rotate swab clockwise for 2 - 3 seconds to ensure adequate sampling. Withdraw swab. Remove cap from specimen transport tube and immediately place BLUE specimen collection swab into the transport tube. Break swab shaft at the scoreline and recapture the specimen transport tube tightly.

Rectal/Pharyngeal swab collection: Insert the specimen collection swab (blue shaft) into anal canal or pharynx. Gently rotate swab clockwise for 2-3 seconds to ensure adequate sampling. Withdraw swab. Remove cap from specimen transport tube and immediately place blue specimen collection swab into transport tube. Break swab shaft at the scoreline and recapture the specimen transport tube tightly.

Collection Container
GenProbe Aptima® swab (Aptima® collection kits are available through Client Service, (413) 322-4000 option 5

Urogenital swab: Male urethral or female cervical/endocervical or vaginal swab in appropriate Unisex GenProbe Aptima® swab transport tube.

Rectal/Pharyngeal swab: Male or female rectal or pharyngeal swab placed in Unisex GenProbe Aptima® swab transport tube.

Specimen Volume
Swab: GenProbe Aptima® swab for each source

Transport Temperature
2 - 30° C

Specimen Stability
Store swab in GenProbe Aptima® tube. Swab specimens must be tested within 60 days of collection.
Reasons for Rejection
Swab specimens collected into the Aptima® transport tubes received without a swab other than urine; Aptima® transport tube received containing the white “cleaning” swab instead of the collection swab.

Methodology
The GenProbe Aptima® Combo2 assay is a second generation nucleic acid amplification test that utilized target capture, transcription-mediated amplification, and hybridization protection assay technologies to streamline specimen processing, amplify target rRNA and detect amplicon, respectively.

Days and Times Performed
Daily; testing performed Monday - Friday

Turnaround Time
24 - 72 hours

Reference Ranges
No Chlamydia trachomatis RNA detected; no Neisseria gonorrhoeae RNA detected

CPT Code
87491 (Chlamydia amplified probe); 87591 (Gonorrhoeae amplified probe)

EMR Interface Order Code
59035

UGCAPR  GC Amplified Probe, Urine

Baystate Reference Laboratories

Additional Information
Limitations: A Negative result does not preclude infection with C. trachomatis or N. gonorrhoeae because results are dependent on adequate specimen collection, absence of inhibitors, and sufficient rRNA to be detected. The Aptima® Combo2 assay is not intended for the evaluation of suspected sexual abuse or for other medicolegal indications such as testing patients at age younger than 13 years old. As is true for all non-culture methods, a positive specimen obtained from a patient after therapeutic treatment cannot be interpreted as indicating the presence of viable C trachomatis or N. gonorrhoeae. Therapeutic failure or success cannot be determined with Aptima® Combo2 assay since nucleic acid may persist following appropriate antimicrobial therapy. A negative urine result for a patient who is clinically suspected of having a chlamydial infection does not rule out the presence of C. trachomatis or N. gonorrhoeae in the urogenital tract. Testing of an endocervical (female) or urethral (male) specimen is recommended if there is high clinical suspicion of infection.

Urine collection: Patient should not have urinated for at least 1 hour prior to specimen collection. The patient should be instructed not to cleanse the area and to collect the first 20 - 30mL of voided urine, the first part of the stream rather than a midstream specimen. 2 mL of collected urine sample must be carefully transferred to an Aptima® urine transport tube within 24 hours of collection.

Collection Container
GenProbe Aptima® urine transport tube (Aptima® collection kits are available through Client Service, (413) 322-4000 option 5, ThinPrep PreservCyt® liquid Pap vial

Urine: First void urine, or patient should not have urinated for at least one hour prior to specimen collection, transferred to GenProbe Aptima® urine transport tube (see “collection” for details).

Specimen Volume
Urine: 20 - 30 mL

Transport Temperature
2 - 30° C

Specimen Stability
Store urine specimens in GenProbe Aptima® tube. Urine specimen in transport tube must be tested within 30 days. Fresh urine must be transferred to Aptima® tube within 24 hours of collection.

Reasons for Rejection
Urine specimens not transferred to Aptima® urine transport tube within 24 hours of collection; urine specimen collected as “clean catch” midstream.

Methodology
The GenProbe Aptima® Combo2 assay is a second generation nucleic acid amplification test that utilized target capture, transcription-mediated amplification, and hybridization protection assay technologies to streamline specimen processing, amplify target rRNA and detect amplicon, respectively.

Days and Times Performed
Daily; testing performed Monday - Friday

Turnaround Time
24 - 72 hours

Reference Ranges
No Chlamydia trachomatis RNA detected; no Neisseria gonorrhoeae RNA detected

CPT Code
87491 (Chlamydia amplified probe); 87591 (Gonorrhoeae amplified probe)

EMR Interface Order Code
59010

GELA  Gelatin IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
68620

Container
Serum gel or red top tube
**GMISC  Genetics Miscellaneous Testing**

*Baystate Reference Laboratories*

**Important Note**
This code is used for genetic testing that doesn't have an orderable code. If unsure that the ordered test is a genetic test, call the Referral Lab for assistance.

**Collection Container**
Genetic testing typically requires 3 mL whole blood in a lavender (EDTA) tube. If questions, please call the Referral Lab at 413-322-4667.

**EMR Interface Order Code**
68670

---

**C12GEN  Gentamicin, 12 Hour Post Dose**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
EDTA or heparinized plasma

**Special Handling Instructions**
Collect sample 12 hours post dose

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Methodology**
Kinetic interaction of microparticles in a solution (KIMS)

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
Therapeutic: 1-15 mg/L

**Units of Measure**
mg/L

**CPT Code**
80170

**LOINC Code**
47109-4

**EMR Interface Order Code**
03165

---

**C4GENT  Gentamicin, 4 Hour Post Dose**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
EDTA or heparinized plasma

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Methodology**
Kinetic interaction of microparticles in a solution (KIMS)

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
Therapeutic: 1-15 mg/L

**Units of Measure**
mg/L

**CPT Code**
80170

**EMR Interface Order Code**
03160

---

**GENTPK  Gentamicin, Peak**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
EDTA or heparinized plasma

**Special Handling Instructions**
Draw 1 hr after IM dose

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Reference Ranges**
Therapeutic: 1-15 mg/L

**Units of Measure**
mg/L

**CPT Code**
80170

**LOINC Code**
47109-4

**EMR Interface Order Code**
03165

Page 312
Methodology
Kinetic interaction of microparticles in a solution (KIMS)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
Therapeutic: 5 - 10 mg/L

Units of Measure
mg/L

CPT Code
80170

EMR Interface Order Code
03050

GENTRA  Gentamicin, Random

Baystate Reference Laboratories

Collection Container
Serum gel

Other Acceptable Specimen Types
EDTA or heparinized plasma

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Kinetic interaction of microparticles in a solution (KIMS)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
0-10 mg/L

Units of Measure
mg/L

CPT Code
80170

EMR Interface Order Code
03050

GGT  GGTP

Baystate Reference Laboratories

Collection Container
Serum gel

Other Acceptable Specimen Types
EDTA or heparinized plasma

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Enzymatic
GIARAG  Giant Ragweed IgE

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
82977

**LOINC Code**
2324-2

**EMR Interface Order Code**
06450

GING  Ginger IgE

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
82977

**LOINC Code**
2324-2

**EMR Interface Order Code**
06450

GLADIN  Gliadin (Deamidated) Antibodies Evaluation, IgG and IgA, Serum

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
Gliadin (Deamidated) Ab, Eval, S
Useful For
Evaluating patients suspected of having celiac disease; this includes patients with symptoms compatible with celiac disease, patients with atypical symptoms, and individuals at increased risk of celiac disease

Evaluating the response to treatment with a gluten-free diet

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAGL</td>
<td>Gliadin(Deamidated) Ab, IgA, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>DGGL</td>
<td>Gliadin(Deamidated) Ab, IgG, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Testing Algorithm
The following algorithms are available in Special Instructions:
- Celiac Disease Comprehensive Cascade
- Celiac Disease Diagnostic Testing Algorithm
- Celiac Disease Gluten-Free Cascade
- Celiac Disease Routine Treatment Monitoring Algorithm
- Celiac Disease Serology Cascade

Specimen Type
Serum

Advisory Information
Cascade testing is recommended for celiac disease. Cascade testing ensures that testing proceeds in an algorithmic fashion. The following cascades are available; select the appropriate one for your specific patient situation.
- CDCOM / Celiac Disease Comprehensive Cascade: complete testing including HLA DQ
- CDSP / Celiac Disease Serology Cascade: complete testing excluding HLA DQ
- CDGF / Celiac Disease Gluten-Free Cascade: for patients already adhering to a gluten-free diet
To order individual tests, see Celiac Disease Diagnostic Testing Algorithm in Special Instructions.

Specimen Required
Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Celiac Disease Diagnostic Testing Algorithm
- Celiac Disease Comprehensive Cascade
- Celiac Disease Gluten-Free Cascade
- Celiac Disease Routine Treatment Monitoring Algorithm
- Celiac Disease Serology Cascade

Reference Values
Negative: <20.0 U
Weak positive: 20.0-30.0 U

Positive: >30.0 U
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday; 4 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
85016 x 2

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DGLDN</td>
<td>Gliadin (Deamidated) Ab, Eval, S</td>
<td>57776-7</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DAGL</td>
<td>Gliadin(Deamidated) Ab, IgA, S</td>
<td>47393-4</td>
</tr>
<tr>
<td>DGGL</td>
<td>Gliadin(Deamidated) Ab, IgG, S</td>
<td>47394-2</td>
</tr>
</tbody>
</table>

Reject Due To

| Gross hemolysis | Reject |
| Gross lipemia   | Reject |
| Gross icterus   | OK     |

Method Name
Enzyme-Linked Immunosorbent Assay (ELISA)

Forms
If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Client Test Request (T728) with the specimen.

Secondary ID
89031

AGM Glomerular Basement Membrane Antibodies, IgG, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Glomerular Basement Membrane IgG Ab

Useful For
Evaluating patients with rapid onset renal failure or pulmonary hemorrhage, as an aid in the diagnosis of Goodpasture syndrome

Specimen Type
Serum

Advisory Information
If patient is being evaluated for autoimmune skin disease, order CIFS / Cutaneous Immunofluorescence Antibodies (IgG), Serum for evaluation of anti-intercellular substance (ICS) and anti-basement membrane zone (BMZ) antibodies.

Specimen Required
Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.35 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

<1.0 U (negative)
≥1.0 U (positive)
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Friday, 4 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
83516

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>GBM</td>
<td>Glomerular Basement Membrane IgG Ab</td>
<td>31254-6</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name               | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GBM</td>
<td>Glomerular Basement Membrane IgG Ab</td>
<td>31254-6</td>
</tr>
</tbody>
</table>

Reject Due To

| Gross hemolysis | Reject |
| Gross lipemia   | Reject |
| Gross icterus   | OK     |

Method Name
Multiplex Flow Immunoassay

Secondary ID
8106

Forms
If not ordering electronically, complete, print, and send a Renal Diagnostics Test Request (T830) with the specimen.

GLUCGN Glucagon, Plasma

Mayo Clinic Laboratories in Rochester

Reporting Name
Glucagon, P

Useful For
Diagnosis and follow-up of glucagonomas and other glucagon-producing tumors

Assessing diabetic patients with problematic hyper- or hypoglycemic episodes (extremely limited utility)

Glucagon is routinely measured along with serum glucose, insulin, and C-peptide levels, during the mixed-meal test employed in the diagnostic workup of suspected postprandial hypoglycemia. However, it plays only a minor role in the interpretation of this test.

Specimen Type
Plasma EDTA

Specimen Required

Collection Container/Tube: Lavender top (EDTA)
Submission Container/Tube: Plastic vial
Specimen Volume: 2 mL

Collection Instructions:
1. Fasting
2. Pre-chill tube at 4° C before drawing the specimen.
3. Draw into the pre-chilled tube, and process as follows:
   a. After drawing specimen, chill tube in wet ice for 10 minutes.
   b. Centrifuge in a refrigerated centrifuge or in chilled centrifuge cup.
   c. Immediately after centrifugation, remove plasma, place in a plastic transport vial (T465), and freeze.

Specimen Minimum Volume
0.45 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen</td>
<td>90 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

≤6 hours: 100-650 pg/mL
1-2 days: 70-450 pg/mL
2-4 days: 100-650 pg/mL
4-14 days: declining gradually to adult levels
>14 days: ≤80 pg/mL (range based on 95% confidence limits)

Glucagon levels are inversely related to blood glucose levels at all ages. This is particularly pronounced at birth and shortly thereafter, until regular feeding patterns are established. This explains the higher levels immediately after birth, which then fall as the glucagon release mobilizes the infant's glucose stores, then rise again as stores are depleted, finally normalizing towards adult levels as regular feeding patterns are established.

For SI unit Reference Values, see https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html

Day(s) and Time(s) Performed
Tuesday, Thursday; 10 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82943

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>GLP</td>
<td>Glucagon, P</td>
<td>2338-2</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>9358</td>
<td>Glucagon, P</td>
<td>2338-2</td>
</tr>
</tbody>
</table>
Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

Method Name
Immunooassay Following Extraction

Forms
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

<table>
<thead>
<tr>
<th>FBS</th>
<th>Glucose</th>
</tr>
</thead>
</table>

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
EDTA, heparinized, and potassium oxalate/NaFL plasma; Blood collected in potassium oxalate/NaFL is stable for 3 days at room temperature if centrifuged

Special Handling Instructions
Serum or plasma must be separated within 3 hours of collection

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room Temp: 8 hours Refrigerated: 6 days

Reasons for Rejection
Serum/plasma not separated from cells within 3 hours of collection

Methodology
Hexokinase

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges

<table>
<thead>
<tr>
<th>GLUCOSE - FASTING (FBS)</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>0 - 1 month</td>
<td>40 - 80</td>
</tr>
<tr>
<td>2 months to 1 year</td>
<td>50 - 100</td>
</tr>
<tr>
<td>2 - 15 years</td>
<td>60 - 99</td>
</tr>
<tr>
<td>16 years +</td>
<td>70 - 99</td>
</tr>
</tbody>
</table>

Critical Results
Patient age less than or equal to 1 month: <50 mg/dL or >140 mg/dL
Patient age > 1 month: <50 mg/dL or >500 mg/dL

CPT Code
82947

LOINC Code
2345-7

EMR Interface Order Code
06550

<table>
<thead>
<tr>
<th>FBS50</th>
<th>Glucose Tolerance, 1 Hr (Post 50 gm Dose)</th>
</tr>
</thead>
</table>

Baystate Reference Laboratories

Collection Container
Light Green
Plasma

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Hexokinase

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mg/dL

CPT Code
82950

LOINC Code
2345-7

EMR Interface Order Code
11825

<table>
<thead>
<tr>
<th>GTT2</th>
<th>Glucose Tolerance, 2 Hr</th>
</tr>
</thead>
</table>

Baystate Reference Laboratories

Collection Container
Light Green
Plasma

Special Handling Instructions
Fasting and 2 hour sample drawn

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate
**Specimen Stability**
Refrigerated: 7 days

**Methodology**
Hexokinase

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
Normal:
- Fasting: <100 mg/dL
- 120min: <140 mg/dL

Impaired tolerance:
- Fasting: = or >100 and <126 mg/dL, and/or
- 120 min: = or > 140 and <200 mg/dL

Consistent with diabetes mellitus:
- Fasting: = or >126 mg/dL, and/or
- 120min: = or >200 mg/dL

**Units of Measure**
mg/dL

**CPT Code**
82947, 82950

**EMR Interface Order Code**
11950

---

**NSGTT2  Glucose Tolerance, 2 Hr (Non-Standard)**

**Baystate Reference Laboratories**

**Collection Container**
Light Green
Plasma

**Special Handling Instructions**
Sample drawn every 30 minutes for 2 hours

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Methodology**
Hexokinase

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Units of Measure**
mg/dL

**CPT Code**
82951, 82952 (X2)

---

**GTT3P  Glucose Tolerance, 3 Hour (Pregnancy)**

**Baystate Reference Laboratories**

**Collection Container**
Light Green
Plasma

**Special Handling Instructions**
Sample drawn every hour for 3 hours

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Methodology**
Hexokinase

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Units of Measure**
mg/dL

**CPT Code**
82951, 82952

---
Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
Two or more of the tolerance results must exceed the following:
- Fasting: \( \geq 95 \text{ mg/dL} \)
- 1 hour: \( \geq 180 \text{ mg/dL} \)
- 2 hour: \( \geq 155 \text{ mg/dL} \)
- 3 hour: \( \geq 140 \text{ mg/dL} \)

Units of Measure
mg/dL

CPT Code
82951, 82952

EMR Interface Order Code
11975

---

GTT4  Glucose Tolerance, 4 Hour

Baystate Reference Laboratories

Collection Container
Light Green Plasma

Special Handling Instructions
Samples drawn every hour for 4 hours

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Hexokinase

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mg/dL

CPT Code
82951, 82952 (X3)

EMR Interface Order Code
12050

---

GTT5  Glucose Tolerance, 5 Hour

Baystate Reference Laboratories

Collection Container
Light Green Plasma

Special Handling Instructions
Samples drawn every hour for 5 hours

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Hexokinase

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mg/dL

CPT Code
82951, 82952 (X4)

---

GTT6  Glucose Tolerance, 6 Hour

Baystate Reference Laboratories

Collection Container
Light Green Plasma

Special Handling Instructions
Samples drawn every hour for 6 hours

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Hexokinase

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mg/dL

CPT Code
82951, 82952(X4)
**G6PDQ  Glucose-6-Phosphate Dehydrogenase (G-6-PD), Quantitative, Erythrocytes**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
G-6-PD, QN, RBC

**Useful For**
Evaluation of individuals with Coombs-negative nonspherocytic hemolytic anemia

Rapid testing to assess glucose-6-phosphate dehydrogenase (G6PD) enzyme capacity prior to Rasburicase therapy

**Specimen Type**
Whole Blood ACD-B

**Specimen Required**

*Container/Tube:*
Preferred: Yellow top (ACD solution B)
Acceptable: EDTA

*Specimen Volume: 6 mL*

*Collection Instructions: Do not* transfer blood to other containers.

**Specimen Minimum Volume**
1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood ACD-B</td>
<td>Refrigerated</td>
<td>20 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
≥12 months: 8.8-13.4 U/g Hb
Reference values have not been established for patients who are <12 months of age.

**Day(s) and Time(s) Performed**
Monday through Saturday

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
82955

**LOINC Code Information**

<table>
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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>G6PD</td>
<td>G-6-PD, QN, RBC</td>
<td>32546-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>G6PD_</td>
<td>G-6-PD, QN, RBC</td>
<td>32546-4</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis | Reject

**Method Name**
Kinetic Spectrophotometry (KS)

---

**Testing Algorithm**
The following algorithms are available in Special Instructions:
- G6PD Genotyping Algorithm for Therapeutic Drug Recommendations
- Newborn Screen Follow-up for Glucose-6-Phosphate Dehydrogenase (G-6-PD) Deficiency

For more information, see Newborn Screening Act Sheet Glucose-6-Phosphate Dehydrogenase Deficiency in Special Instructions.

**Special Instructions**
- G6PD Genotyping Algorithm for Therapeutic Drug Recommendations
- Newborn Screening Act Sheet Glucose-6-Phosphate Dehydrogenase Deficiency
- Newborn Screen Follow-up for Glucose-6-Phosphate Dehydrogenase (G-6-PD) Deficiency

**Forms**
If not ordering electronically, complete, print, and send a Benign Hematology Test Request Form (T755) with the specimen.

---

**CFGLU  Glucose, CSF**

*Baystate Reference Laboratories*

**Collection Container**
CSF

Cerebral Spinal Fluid

**Specimen Volume**
0.2 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Methodology**
Hexokinase

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours for routine, 1 hour for stats

**Reference Ranges**
40-80 mg/dL

**Units of Measure**
mg/dL

**CPT Code**
82945

**LOINC Code**
2342-4

**EMR Interface Order Code**
06569
**FGLU  Glucose, Fluid**

*Baystate Reference Laboratories*

**Collection Container**
Fluid

**Identify Source of Body Fluid**

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Methodology**
Hexokinase

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
Not established

**Units of Measure**
mg/dL

**CPT Code**
82945

**EMR Interface Order Code**
06562

---

**UGLUCR  Glucose, Urine, Random**

*Baystate Reference Laboratories*

**Collection Container**
Urine

**Random Urine**

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerate

**Reference Ranges**
Not established

**Units of Measure**
gm/24Hr

**CPT Code**
82945

**LOINC Code**
2350-7

**EMR Interface Order Code**
06650

---

**UGLUCQ  Glucose, Urine, Quantitative**

*Baystate Reference Laboratories*

**Collection Container**
Jug

24 Hour urine

**Specimen Volume**
10 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerate

**Reasons for Rejection**
Specimen not refrigerated, preservative added

**Methodology**
Hexokinase

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
Not established

**Units of Measure**
mg/dL

**CPT Code**
82945

**LOINC Code**
2350-7

**EMR Interface Order Code**
06665
Glutamic Acid Decarboxylase (GAD65) Antibody Assay, Serum

**Useful For**
- Assessing susceptibility to autoimmune (type 1, insulin-dependent) diabetes mellitus and related endocrine disorders (eg, thyroiditis and pernicious anemia)
- Distinguishing between patients with type 1 and type 2 diabetes
- Confirming a diagnosis of stiff-man syndrome, autoimmune encephalitis, cerebellitis, brain stem encephalitis, myelitis; titers generally ≥0.03 nmol/L
- Confirming susceptibility to organ-specific neurological disorders (eg, myasthenia gravis, Lambert-Eaton syndrome); titers generally ≤0.02 nmol/L

**Specimen Type**
Serum

**Specimen Required**
- **Container/Tube:**
  - **Preferred:** Red top
  - **Acceptable:** Serum gel
- **Specimen Volume:** 1.5 mL

**Specimen Minimum Volume**
1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
≤0.02 nmol/L
Reference values apply to all ages.

**Day(s) and Time(s) Performed**
Monday through Friday; 5 a.m., 2 p.m.
Saturday, Sunday; 7 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
86341

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>GD65S</td>
<td>GAD65 Ab Assay, S</td>
<td>30347-9</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

**Method Name**
Radioimmunoassay (RIA)

**Forms**
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Neurology Specialty Testing Client Test Request (T732)

Gluten IgE

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48790

**Container**
Serum gel or red top tube

Goldenrod IgE

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
48795
Container
Serum gel or red top tube

GFEATH  Goose Feathers IgE
Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
48795
Container
Serum gel or red top tube

GRAM  Gram Smear
Baystate Reference Laboratories
Additional Information
A gram stain is not available without a companion request for culture with the exception of specimen types listed.
Collection Container
Eswab, Amies swab, air dried smear submitted by provider
Urethral discharge, esophageal brushing
Special Handling Instructions
Air dried smears should be placed in a cardboard slide holder or sealed specimen collection cup.

Transport Temperature
Swabs: refrigerated, Air dried smears: room temperature
Specimen Stability
For specimens submitted on Eswab: 48 hours refrigerated or room temp. For other swab types: 24 hours refrigerated.
Reasons for Rejection
Cracked or broken slide
Days and Times Performed
7 days/week
Turnaround Time
24 hours.
LOINC Code
664-3
EMR Interface Order Code
51775

GRANAB  Granulocyte Antibodies, Serum
Mayo Clinic Laboratories in Rochester
Reporting Name
Granulocyte Ab, S
Useful For
The work-up of individuals having febrile, nonhemolytic transfusion reactions
The detection of individuals with autoimmune neutropenia
Specimen Type
Serum Red
Specimen Required
Container/Tube: Red top
Specimen Volume: 1.5 mL
Additional Information: Only pretransfusion reaction specimen is acceptable.
Specimen Minimum Volume
0.3 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Not applicable
Day(s) and Time(s) Performed
Tuesday, Wednesday, Friday; 7:30 a.m.-5 p.m.
Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.
CPT Code Information
86021

LOINC Code Information

<table>
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<th>Test ID</th>
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<th>Order LOINC Value</th>
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<td>LAGGT</td>
<td>Granulocyte Ab, S</td>
<td>35279-9</td>
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</table>

<table>
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<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>LAGG</td>
<td>Granulocyte Ab, S</td>
<td>35279-9</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Indirect Immunofluorescence

**GRAPE  Grape IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48825

**Container**
Serum gel or red top tube

**GRNPEP  Green Bell Pepper IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
00525

**Container**
Serum gel or red top tube

**GFRUIT  Grapefruit IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
00565

**Container**
Serum gel or red top tube

**GROLIV  Green Olive IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
00525

**Container**
Serum gel or red top tube
<table>
<thead>
<tr>
<th>Test ID</th>
<th>Description</th>
<th>Contracted Reference Lab</th>
<th>Collection Container</th>
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<tbody>
<tr>
<td>GRBEAN</td>
<td>Green String Bean IgE</td>
<td>Baystate Reference Laboratories</td>
<td>Serum gel or red top tube</td>
</tr>
<tr>
<td>GDUST</td>
<td>Greer House Dust IgE</td>
<td>Baystate Reference Laboratories</td>
<td>Serum gel or red top tube</td>
</tr>
</tbody>
</table>

**Minimum Specimen Volume**

- 0.1 mL

**Transport Temperature**

- Refrigerated

**Specimen Stability**

- Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**

- ImmunoCAP

**Turnaround Time**

- 3-5 days

**CPT Code**

- 86003

**EMR Interface Order Code**

- 00545

**Container**

- Serum gel or red top tube

---

**Minimum Specimen Volume**

- 0.1 mL

**Transport Temperature**

- Refrigerated

**Specimen Stability**

- Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**

- ImmunoCAP

**Turnaround Time**

- 3-5 days

**CPT Code**

- 86003

**EMR Interface Order Code**

- 48870

**Container**

- Serum gel or red top tube

---

**Minimum Specimen Volume**

- 0.1 mL

**Transport Temperature**

- Refrigerated

**Specimen Stability**

- Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**

- ImmunoCAP

**Turnaround Time**

- 3-5 days

**CPT Code**

- 86003

**EMR Interface Order Code**

- 67360

---

**Additional Information**

- Gram stain not performed. If the initial screening test for group A is positive, the culture portion of the test will be credited.

**Reflex Tests**

- Negative screen reflexes to Throat Culture

**Collection Container**

- E-swab or 2 Amies swabs

**Swab of throat**

**Transport Temperature**

- Refrigerate

**Specimen Stability**

- For specimens submitted on Eswab: 48 hours refrigerated or room temperature
- For other swab types: 24 hours refrigerated

**Reasons for Rejection**

- Inappropriate source of specimen

**Days and Times Performed**

- 7 days/week

**Reference Ranges**

- No Group A Beta hemolytic streptococci isolated

**LOINC Code**

- 18481-2

**EMR Interface Order Code**

- 67360
GSBPCR  Group B Strept by PCR

Baystate Reference Laboratories

Additional Information
Susceptibility testing will not be performed. For penicillin allergic patients, use order code GBSPCA.

Collection Container
Eswab, Ames swab

Swab

Special Handling Instructions
Use one swab to sample both vaginal and rectal areas.

Specimen Volume
1 swab

Transport Temperature
Refrigerated

Specimen Stability
For specimens submitted on Eswab: 48 hours refrigerated or room temperature; For amies swab: 24 hours refrigerated.

Reasons for Rejection
Incorrect swab type, dry swab, excessive transport time.

Methodology
PCR

Days and Times Performed
7 days/week

Turnaround Time
2-4 days

Reference Ranges
Not Detected

CPT Code
87081, 87653

LOINC Code
48683-7

EMR Interface Order Code
71141

GSBPCA  Group B Strept by PCR w/ Sensi for Pen Allergic Patients

Baystate Reference Laboratories

Additional Information
Susceptibility testing will be performed.

Collection Container
Eswab, Ames swab

Swab

Special Handling Instructions
Use one swab to sample both vaginal and rectal areas.

Specimen Volume
1 swab

Transport Temperature
Refrigerated

Specimen Stability
For specimens submitted on Eswab: 48 hours refrigerated or room temperature; For amies swab: 24 hours refrigerated.

Reasons for Rejection
Incorrect swab type, dry swab, excessive transport time.

Methodology
PCR

Days and Times Performed
7 days/week

Turnaround Time
2-4 days

Reference Ranges
Not Detected

CPT Code
87081, 87653, may include 87184

LOINC Code
48683-7

EMR Interface Order Code
71143

HGH  Growth Hormone

Baystate Reference Laboratories

Collection Container
Serum gel

Serum

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Frozen

Specimen Stability
Room temperature: 1 day, Refrigerated: 7 days

Methodology
Chemiluminescence

Days and Times Performed
Tuesday

Turnaround Time
1 - 7 days

Reference Ranges
Females: 0-8 ng/mL
Males: 0-3 ng/mL

Units of Measure
ng/mL

CPT Code
83003

EMR Interface Order Code
26750
### GUANID  Guanidinoacetate

*LabCorp to MNG Labs*

**Important Note**
For testing on urine, use code CRDPU

**Collection Container**
Sodium heparin (green) or EDTA (Lavender) Plasma

**Other Acceptable Specimen Types**
EDTA or heparin plasma

**Special Handling Instructions**
Separate and freeze plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Frozen

**Specimen Stability**
Frozen

**CPT Code**
82017, 82570

**EMR Interface Order Code**
07635

### FGUMX  Gum Xanthan IgE

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
70624

**Container**
Serum gel or red top tube

### GPIGEP  Guinea Pig Epithelia IgE

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Frozen

**CPT Code**
82017, 82570

**EMR Interface Order Code**
07635

### HPABSC  H. Pylori Antibodies (IgA,IgG)

*Baystate Reference Laboratories*

**Important Note**
Screening test only, results are not quantitated. Quantitation is not available.

**Additional Information**
This test should only be performed on patients with symptoms suggestive of gastrointestinal disease. Performance characteristics correlate with pretest probability, and prevalence increases with age. This test has not been specifically evaluated in the pediatric population, a lower prevalence group. Please interpret results together with clinical and other diagnostic findings. Note that a positive result does not distinguish active infection from colonization by H. pylori.

**Collection Container**
Gel

**Other Acceptable Specimen Types**
Red top serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
5 days refrigerated
Reasons for Rejection
Specimens not centrifuged within 24 hours, specimens older than 5 days.

Methodology
Lateral flow

Reference Ranges
Negative

LOINC Code
17859-0

EMR Interface Order Code
55425

HPYA  H. Pylori Antibody, IgA

LabCorp

Collection Container
Serum gel

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Heat inactivated serum; hemolysis; lipemia; gross bacterial contamination

Methodology
Enzyme-linked immunosorbent assay (ELISA)

Days and Times Performed
Monday - Friday

Turnaround Time
2 - 4 days

CPT Code
86677 (Results of this test are for investigational purposes only)

LOINC Code
7901-2

EMR Interface Order Code
68052

HDCK  Haddock IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48830

Container
Serum gel or red top tube
HAEMAB  Haemophilus Influenzae Ab

Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum
Specimen Volume
1 mL
Minimum Specimen Volume
0.5 mL
Transport Temperature
Refrigerated
Reasons for Rejection
Gross hemolysis or lipemia
CPT Code
86317
EMR Interface Order Code
59250

HALIBT  Halibut IgE

Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
00575
Container
Serum gel or red top tube

HALO  Haloperidol, Serum

Mayo Clinic Laboratories in Rochester
Additional Test Codes
EMR Interface Order Code: 06700

Reporting Name
Haloperidol, S
Useful For
Optimizing dosage
Monitoring compliance
Assessing toxicity
Specimen Type
Serum Red
Specimen Required
Container/Tube: Red top
Specimen Volume: 1 mL
Specimen Minimum Volume
0.3 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
HALOPERIDOL
5-16 ng/mL
REDUCED HALOPERIDOL
10-80 ng/mL

Day(s) and Time(s) Performed
Tuesday, Thursday; 4 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80173

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HALO</td>
<td>Haloperidol, S</td>
<td>87550-0</td>
</tr>
</tbody>
</table>

Result ID  Test Result Name      Result LOINC Value
80339 Haloperidol, S 3669-9
169 Reduced Haloperidol 38364-6

Reject Due To

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>OK</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.
**HAP  Haptoglobin**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Heparinized or edta plasma

**Special Handling Instructions**
Slightly hemolysis may falsely decrease result

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temp: 3 months, Refrigerated: 8 months, Frozen: >3 months

**Reasons for Rejection**
Moderately to grossly hemolyzed

**Methodology**
Immunoturbidimetric

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours for routine, 1 hour for STAT

**Reference Ranges**
Males and Females: 30 - 200 mg/dL

**CPT Code**
83010

**EMR Interface Order Code**
46550

---

**HZCOMP  Hazelnut Component Profile**

*Baystate Reference Laboratories*

**LOINC Code**
69421-6
58753-5
65765-0
81788-2

**EMR Interface Order Code**
70995

**HAZELT  Hazelnut Tree IgE**

*Conducted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003
HCG  HCG, Quantitative, plus Beta

Baystate Reference Laboratories

Important Note
This test can be ordered on male patients.

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
Heparinized, EDTA, sodium citrate, or sodium fluoride plasma

Specimen Volume
2 mL

Minimum Specimen Volume
0.3 mL

Transport Temperature
Refrigerate

Specimen Stability
Room Temperature: 5 days, Refrigerated: 14 days, Frozen: 12 months freeze/thaw cycle 1

Methodology
Electrochemiluminescence

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges
Females: < or = 5 mIU/mL
Males: ≤ 3 mIU/mL

Units of Measure
mIU/mL

CPT Code
84702

LOINC Code
45194-8

EMR Interface Order Code
69396

HCVG3  HCV Type 3 NS5a Drug Resistance

LabCorp

Important Note
Spin, separate and freeze within 6 hours

Additional Test Codes
This code is for HCV Type 3 only. For Type 1, use code HCVG1.

Collection Container
Lavender top (EDTA) tube; Serum gel and PPT tube acceptable
Plasma or serum

Specimen Volume
2 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Frozen

Reasons for Rejection
Gross hemolysis or lipemia; heparin plasma; use of pop-top tube

Turnaround Time
11 - 15 days

CPT Code
87902

EMR Interface Order Code
69396

HDL  HDL Cholesterol

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
Heparinized plasma

Special Handling Instructions
EDTA plasma may cause 3-5% decrease due to osmotic effects

Specimen Volume
1 mL
Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Reasons for Rejection
Serum/plasma not separated from cells within 6 hours of collection

Methodology
Enzymatic colorimetric

Days and Times Performed
Daily

Turnaround Time
24 hours

Reference Ranges

<table>
<thead>
<tr>
<th>HDL CHOLESTEROL (HDL)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 - 19 years</td>
<td>&gt; 45</td>
<td>&gt; 45</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td>20 years+</td>
<td>&gt; 39</td>
<td>&gt; 39</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

CPT Code
83718

LOINC Code
2085-9

EMR Interface Order Code
06775

HMSRA  Heavy Metal/Creatinine Ratio, with Reflex, Urine

Mayo Clinic Laboratories in Rochester

Specimen Required

Patient Preparation:
- Patient should not eat seafood for a 48-hour period prior to start of collection.
- High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Supplies: Urine Tubes, 10 mL (T068)
Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert
Submission Container/Tube: Plastic, 10-mL urine tube (T068) or clean, plastic aliquot container with no metal cap or glued insert
Specimen Volume: 6 mL
Collection Instructions:
1. Collect a random urine specimen.
2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Secondary ID
48549

Useful For
Preferred screening test for detection of arsenic, cadmium, mercury, and lead in random urine specimens

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARSC</td>
<td>Arsenic/Creatinine Ratio, U</td>
<td>Yes, (order ARSCR)</td>
<td>Yes</td>
</tr>
<tr>
<td>CDRC</td>
<td>Cadmium/Creatinine Ratio, U</td>
<td>Yes, (order CDRCR)</td>
<td>Yes</td>
</tr>
<tr>
<td>HGRC</td>
<td>Mercury/Creatinine Ratio, U</td>
<td>Yes, (order HGRCR)</td>
<td>Yes</td>
</tr>
<tr>
<td>PBRC</td>
<td>Lead/Creatinine Ratio, U</td>
<td>Yes, (order PBRCR)</td>
<td>Yes</td>
</tr>
<tr>
<td>CDCR</td>
<td>Creatinine Conc</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASFRU</td>
<td>Arsenic Fractionation, Random, U</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm
If arsenic concentration is greater than or equal to 35 mcg/L, then fractionation will be performed at an additional charge.

See Porphyria (Acute) Testing Algorithm in Special Instructions.

Special Instructions
- Trace Metals Analysis Specimen Collection and Transport
- Porphyria (Acute) Testing Algorithm

Method Name
ARSC, CDRC, HGRC, and PBRC: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
CDCR: Enzymatic Colorimetric Assay

Reporting Name
Heavy Metal/Creat Ratio, w/Reflex,U

Specimen Type
Urine

Specimen Minimum Volume
3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Reference Values

ARSENIC/CREATININE:
0-17 years: not established
≥18 years: <24 mcg/g creatinine

CADMIUM/CREATININE:
0-17 years: not established
≥18 years: <0.6 mcg/g creatinine

MERCURY/CREATININE:
0-17 years: not established
≥18 years: <2 mcg/g creatinine
LEAD/CREATININE:
0-17 years: not established
≥18 years: <2 mcg/g creatinine

Day(s) and Time(s) Performed
Monday through Saturday; 7 p.m.

Test Classification
See Individual Test IDs

CPT Code Information
82175
82300
83655
82570

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMCRU</td>
<td>Heavy Metal/Creat Ratio, w/Reflex,U</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>48544</td>
<td>Cadmium/Creatinine Ratio, U</td>
<td>13471-8</td>
</tr>
<tr>
<td>48546</td>
<td>Mercury/Creatinine Ratio, U</td>
<td>13465-0</td>
</tr>
<tr>
<td>48548</td>
<td>Lead/Creatinine Ratio, U</td>
<td>13466-8</td>
</tr>
<tr>
<td>CDCR</td>
<td>Creatinine Conc</td>
<td>2161-8</td>
</tr>
<tr>
<td>48541</td>
<td>Arsenic/Creatinine Ratio, U</td>
<td>13463-5</td>
</tr>
<tr>
<td>48542</td>
<td>Arsenic Concentration w/Reflex</td>
<td>5586-3</td>
</tr>
</tbody>
</table>

HMDBL   Heavy Metals Screen with Demographics, Blood

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 06710

Useful For
Detecting exposure to arsenic, lead, cadmium, and mercury

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASB</td>
<td>Arsenic, B</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>PBHMB</td>
<td>Lead, B</td>
<td>Yes, (Order PBDB)</td>
<td>Yes</td>
</tr>
<tr>
<td>CDB</td>
<td>Cadmium, B</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>HG</td>
<td>Mercury, B</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>DEMO6</td>
<td>Patient Demographics</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Method Name
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

Reporting Name
Heavy Metals Scrn with Demographics

Specimen Type
Whole blood

Specimen Required

Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183)

Specimen Volume: Full tube

Collection Instructions:
1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.
2. Send specimen in original collection tube.

Additional Information: If ordering the trace element blood collection tube from BD, order catalog #368381.

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

Day(s) and Time(s) Performed
Monday through Saturday; 2 p.m.

Test Classification
See Individual Test IDs

CPT Code Information
82175-Arsenic
82300-Cadmium
83655-Lead
83825-Mercury

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMDB</td>
<td>Heavy Metals Scrn with Demographics</td>
<td>29588-1</td>
</tr>
</tbody>
</table>
Special Instructions
• Lead and Heavy Metals Reporting
• Trace Metals Analysis Specimen Collection and Transport
• Porphyria (Acute) Testing Algorithm

Specimen Minimum Volume
0.3 mL

Reference Values
ARSENIC
0-12 ng/mL
Reference values apply to all ages.

LEAD
All ages: 0.0-4.9 mcg/dL
Critical values
Pediatrics (≤15 years): ≥20.0 mcg/dL
Adults (≥16 years): ≥70.0 mcg/dL

CADMIUM
0.0-4.9 ng/mL
Reference values apply to all ages.

MERCURY
0-9 ng/mL
Reference values apply to all ages.

Testing Algorithm
See Porphyria (Acute) Testing Algorithm in Special Instructions.

HEINZ  Heinz Bodies

Baystate Reference Laboratories

Collection Container
Green
Heparinized whole blood

Other Acceptable Specimen Types
Lavender (EDTA) whole blood

Special Handling Instructions
Specimen must be received in laboratory by 10 am

Specimen Volume
1 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Transport sample to laboratory ASAP after collection

Specimen Stability
Ambient temperature

Reasons for Rejection
Hemolyzed, clotted, QNS specimen

Days and Times Performed
Daily: 7 am - 10 am

Turnaround Time
2 Days

CPT Code
85441

LOINC Code
33057-1

EMR Interface Order Code
32550

HPYLAG  Helicobacter pylori Antigen, Feces
Mayo Clinic Laboratories in Rochester

Reporting Name
Helicobacter pylori Ag, F

Useful For
Aiding in the diagnosis of Helicobacter pylori infection
Monitoring the eradication of Helicobacter pylori after therapy (in most situations, confirmation of eradication is not mandatory)

Testing Algorithm
See Helicobacter pylori Diagnostic Algorithm in Special Instructions.

Specimen Type
Fecal

Specimen Required

Supplies: Stool Collection Kit, Random (T635)
Submission Container/Tube: Plastic container
Specimen Volume: 5 g
Collection Instructions: Mix stool well.
Additional Information: Falsely negative results may be obtained within 2 weeks of treatment with antimicrobials, bismuth, or proton pump inhibitors—see cautions for details.

Specimen Minimum Volume
See Specimen Required

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal</td>
<td>Frozen (preferred)</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>48 hours</td>
<td></td>
</tr>
</tbody>
</table>
Special Instructions

- Helicobacter pylori Diagnostic Algorithm

Reference Values

Negative

Day(s) and Time(s) Performed

Monday through Saturday; Varies

Test Classification

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

87338

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPSA</td>
<td>Helicobacter pylori Ag, F</td>
<td>17780-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>24088</td>
<td>Helicobacter pylori Ag, F</td>
<td>17780-8</td>
</tr>
</tbody>
</table>

Reject Due To

- Other: Very mucoid stool; or watery, diarrheal specimen Stool in transport media, swab, or preservative

Method Name

Enzyme-Linked Immunosorbent Assay (ELISA)

Forms

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:

- General Request (T239)
- Microbiology Test Request (T244)
- Gastroenterology and Hepatology Client Test Request (T728)

Secondary ID

81806

UBT Helicobacter pylori Breath Test

Mayo Clinic Laboratories in Rochester

Reporting Name

H. pylori C Urea Breath Test

Useful For

Diagnostic testing for Helicobacter pylori infection in patients suspected to have active H pylori infection

Monitoring response to therapy

Testing Algorithm

See Helicobacter pylori Diagnostic Algorithm in Special Instructions

Specimen Type

Breath

Advisory Information

An alternative test for the diagnosis of active Helicobacter pylori infection in patients is the HPSA / Helicobacter pylori Antigen, Feces, which requires a different collection.

Necessary Information

A completed Pediatric UHR Calculation Information card (see Special Instructions) is required for patients between 3 and 17 years old. Testing may be delayed if this information is not received with the specimen.

Specimen Required

Patient Preparation:

1. Patient should be fasting for 1 hour.
2. Patients should not have taken bismuth/Tritec, antibiotics, proton-pump inhibitors (eg, Prilosec, Prevacid, Aciphex, Protonix, and Nexium) or Pepto-Bismol for 2 weeks prior to testing. If these instructions are not followed, test results may be inaccurate.
3. Histamine 2-receptor antagonists (H2RAs) such as Pepcid, Tagamet, Axid, or Zantac should be discontinued for 24 to 48 hours before the BreathTek UBT test is administered. If these instructions are not followed, test results may be inaccurate.

Collection Instructions:

1. Do not collect if patient is younger than 3 years of age.
2. Follow instructions included with kit.

Specimen Minimum Volume

Bag of "breath" must be full

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breath</td>
<td>Ambient</td>
<td>7 days</td>
<td>BREATH TEST BAG</td>
</tr>
</tbody>
</table>

Special Instructions

- Helicobacter pylori Diagnostic Algorithm
- Pediatric UHR Calculation Information card

Reference Values

Negative

Reference values apply to all ages.

Day(s) and Time(s) Performed

Monday through Friday, Sunday; 6:30 a.m.-5 p.m.

Test Classification

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

83013

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>UBT</td>
<td>H. pylori C Urea Breath Test</td>
<td>29891-9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>81590</td>
<td>H. pylori C Urea Breath Test</td>
<td>29891-9</td>
</tr>
</tbody>
</table>

Reject Due To

No specimen should be rejected.

Method Name

Infrared Spectrophotometry (SP)
HELIS  

Helicobacter pylori Diagnosis Algorithm in Special Instructions

Useful For

Recovery of Helicobacter pylori from gastric specimens for antimicrobial susceptibility testing of the organism (amoxicillin, ciprofloxacin, clarithromycin, metronidazole and tetracycline are routinely tested)

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>GID</td>
<td>Bacteria Identification</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>TISSR</td>
<td>Tissue Processing</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>SUS</td>
<td>Susceptibility</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>ISAE</td>
<td>Aerobe Ident by Sequencing</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm

When this test is ordered, the reflex tests may be performed and charged.

When Helicobacter pylori is isolated, identification will be confirmed and susceptibility testing performed. The routine susceptibility panel includes amoxicillin, ciprofloxacin, clarithromycin, metronidazole, and tetracycline.

See Helicobacter pylori Diagnostic Algorithm in Special Instructions.

Reporting Name

Helicobacter pylori Culture + Susc

Specimen Type

Varies

Shipping Instructions

Specimen must be received in laboratory within 48 hours of collection. Specimen should be collected and packaged as close to shipping time as possible.

Necessary Information

Specimen source is required; include the specific anatomic source.

Specimen Required

Preferred:
Specimen Type: Gastric biopsy
Container/Tube: Sterile container
Specimen Volume: Entire collection

Collection Instructions:
Acquire biopsied tissue; moisten with sterile saline.

Acceptable:
Specimen Type: Gastric brushings or gastric aspirate
Container/Tube: Sterile container
Specimen Volume: Entire collection

Specimen Minimum Volume

0.5 mL or 0.5 x 0.2 x 0.2-cm sized piece of tissue

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varieties</td>
<td>Refrigerated</td>
<td>48 hours</td>
<td>Special Container</td>
</tr>
</tbody>
</table>

Reject Due To

Other | Biopsy submitted in fluid other than sterile saline

Reference Values

Susceptibility results are reported as minimal inhibitory concentration (MIC) in mcg/mL. Breakpoints (also known as "clinical breakpoints") are used to categorize an organism as susceptible, susceptible-dose dependent, intermediate, resistant, or nonsusceptible according to the Clinical and Laboratory Standards Institute (CLSI) guidelines.

In some instances an interpretive category cannot be provided based on available data and the following comment will be included: "There are no established interpretive guidelines for agents reported without interpretations."

Susceptible (S):
A category defined by a breakpoint that implies that isolates with an MIC at or below the susceptible breakpoint are inhibited by the usually achievable concentrations of antimicrobial agent when the dosage recommended to treat the site of infection is used, resulting in likely clinical efficacy.

Intermediate (I):
A category defined by a breakpoint that includes isolates with MICs within the intermediate range that approach usually attainable blood and tissue levels and for which response rates may be lower than for susceptible isolates.

Note: The intermediate category implies clinical efficacy in body sites in which the drugs are physiologically concentrated. The intermediate category also includes a buffer zone for inherently variable interpretive guidelines. For drugs with narrow pharmacotoxicity margins.

Resistant (R):
A category defined by a breakpoint that implies that isolates with an MIC at or above the resistant breakpoint are not inhibited by the usually achievable concentrations of the agent with normal dosage schedules and/or that demonstrate MICs that fall in the range in which specific microbial resistance mechanisms are likely, and clinical efficacy of the agent against the isolate has not been reliably shown in treatment studies. (Clinical and Laboratory Standards Institute: Performance Standards for Antimicrobial Susceptibility Testing, 29th Informational Supplement. CLSI Supplement M100. Wayne, PA, 2019)

Day(s) and Time(s) Performed

Monday through Sunday

Test Classification

This test uses a standard method. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.
CPT Code Information
87081-Helicobacter pylori culture
87077-Bacteria identification (if appropriate)
87153-Aerobe Ident by Sequencing (if appropriate)
87176-Tissue processing (if appropriate)
87181-Susceptibility (if appropriate)
87186-Sensitivity, MIC (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HELIS</td>
<td>Helicobacter pylori Culture + Susc</td>
<td>587-6</td>
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<table>
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<th>Test Result Name</th>
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<tbody>
<tr>
<td>HELIS</td>
<td>Helicobacter pylori Culture + Susc</td>
<td>587-6</td>
</tr>
</tbody>
</table>

Special Instructions
- Helicobacter pylori Diagnostic Algorithm

Method Name
Conventional Culture Techniques

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- Microbiology Test Request (T244)
- Gastroenterology and Hepatology Client Test Request (T728)

Secondary ID
62769

HLHALO Helminthosporium halodes IgE

Contracted Reference Lab
Baystate Reference Laboratories

Collection Container
Lavender (EDTA)
EDTA Whole blood

Specimen Volume
4 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
24 hours refrigerated

Reasons for Rejection
Specimen clotted, <1.0 mL, greater than 24 hours old, specimen frozen

Methodology
XN9000

Days and Times Performed
24 hours a day, 7 days a week

Turnaround Time
Stat: 1 hour, Routine: 4 hours

Reference Ranges

<table>
<thead>
<tr>
<th>HEMATOCRIT (HCT)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 - 3 Days</td>
<td>43.4 - 56.1</td>
<td>37.4 - 55.9</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>4 - 7 Days</td>
<td>40.2 - 54.7</td>
<td>39.1 - 56.7</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>8 - 14 Days</td>
<td>33.7 - 51.1</td>
<td>36.4 - 51.2</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>15 - 30 Days</td>
<td>29.7 - 44.2</td>
<td>30.6 - 44.7</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>31 - 60 Days</td>
<td>26.2 - 35.3</td>
<td>26.3 - 36.6</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>61 - 180 Days</td>
<td>28.7 - 36.1</td>
<td>28.5 - 36.1</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>0.5 to 2 Years</td>
<td>33.0 - 39.0</td>
<td>33.0 - 39.0</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>2 to &lt;6 Years</td>
<td>34.0 - 43.5</td>
<td>34.0 - 43.5</td>
<td>%</td>
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<tr>
<td></td>
<td>6 to &lt;12 Years</td>
<td>35.0 - 45.0</td>
<td>35.0 - 45.0</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>12 to &lt;18 Years</td>
<td>37.0 - 49.0</td>
<td>36.0 - 46.0</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>≥ 18 Years</td>
<td>40.5 - 50.5</td>
<td>35.7 - 45.8</td>
<td>%</td>
</tr>
</tbody>
</table>

CPT Code
85014

LOINC Code
4544-3

EMR Interface Order Code
32285

HCTO Hematocrit

Baystate Reference Laboratories

Collection Container
Serum gel or red top tube

Serum

Specimen Volume
4 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
24 hours refrigerated

Reasons for Rejection
Specimen clotted, <1.0 mL, greater than 24 hours old, specimen frozen

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
00595

Container
Serum gel or red top tube
Critical Values

<table>
<thead>
<tr>
<th>HEMATOCRIT (HCT)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
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<td>&lt;30%</td>
<td>&gt;62%</td>
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<tr>
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<td>8-14 Days</td>
<td>&lt;27%</td>
<td>&gt;62%</td>
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<td></td>
<td>15-60 Days</td>
<td>&lt;24%</td>
<td>&gt;62%</td>
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<td>61-180 Days</td>
<td>&lt;21%</td>
<td>&gt;62%</td>
</tr>
<tr>
<td></td>
<td>&gt;180 Days</td>
<td>&lt;20%</td>
<td>&gt;60%</td>
</tr>
</tbody>
</table>

**FLHCT Hematocrit, Fluid**

*Baystate Reference Laboratories*

**Collection Container**
Lavender (EDTA)
Fluid

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Stat: 1 hour, Routine: 4 hours

**Reference Ranges**

<table>
<thead>
<tr>
<th>HEMOGLOBIN (HGB)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Males</td>
<td>Females</td>
<td>Units</td>
</tr>
<tr>
<td>1 - 3 Days</td>
<td>14.7 - 18.6</td>
<td>12.7 - 18.3</td>
<td>g/dL</td>
</tr>
<tr>
<td>4 - 7 Days</td>
<td>13.4 - 17.9</td>
<td>12.2 - 18.7</td>
<td>g/dL</td>
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<td>8 - 14 Days</td>
<td>11.1 - 16.7</td>
<td>11.9 - 16.9</td>
<td>g/dL</td>
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<tr>
<td>15 - 30 Days</td>
<td>9.9 - 14.9</td>
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<td>g/dL</td>
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<tr>
<td>31 - 60 Days</td>
<td>8.9 - 11.9</td>
<td>8.9 - 12.3</td>
<td>g/dL</td>
</tr>
<tr>
<td>61 - 180 Days</td>
<td>9.7 - 12.2</td>
<td>9.7 - 12.0</td>
<td>g/dL</td>
</tr>
<tr>
<td>0.5 to &lt;2 Years</td>
<td>10.5 - 13.5</td>
<td>10.5 - 13.5</td>
<td>g/dL</td>
</tr>
<tr>
<td>2 to &lt;6 Years</td>
<td>11.5 - 14.5</td>
<td>11.5 - 14.5</td>
<td>g/dL</td>
</tr>
<tr>
<td>6 to &lt;12 Years</td>
<td>11.5 - 15.5</td>
<td>11.5 - 15.5</td>
<td>g/dL</td>
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<tr>
<td>12 to &lt;18 Years</td>
<td>13.0 - 16.0</td>
<td>12.0 - 16.0</td>
<td>g/dL</td>
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<tr>
<td>≥ 18 Years</td>
<td>13.7 - 17.1</td>
<td>11.7 - 15.5</td>
<td>g/dL</td>
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</table>

**CPT Code**
85018

**LOINC Code**
718-7

**EMR Interface Order Code**
32300

**Critical Values**

<table>
<thead>
<tr>
<th>Critical Values</th>
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<tbody>
<tr>
<td>HEMOGLOBIN (HGB)</td>
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</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-7 Days</td>
<td>&lt;10 g/dL</td>
<td>&gt;20 g/dL</td>
<td>g/dL</td>
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<tr>
<td>8-14 Days</td>
<td>&lt;9 g/dL</td>
<td>&gt;20 g/dL</td>
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<tr>
<td>15-60 Days</td>
<td>&lt;8 g/dL</td>
<td>&gt;20 g/dL</td>
<td>g/dL</td>
</tr>
<tr>
<td>61-180 Days</td>
<td>&lt;7 g/dL</td>
<td>&gt;20 g/dL</td>
<td>g/dL</td>
</tr>
<tr>
<td>&gt;180 Days</td>
<td>&lt;6.5 g/dL</td>
<td>&gt;20 g/dL</td>
<td>g/dL</td>
</tr>
</tbody>
</table>

**HBA1C Hemoglobin A1c**

*Baystate Reference Laboratories*

**Collection Container**
Lavender (EDTA)
Whole Blood

**Specimen Volume**
4 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
24 hours refrigerated

**Reasons for Rejection**
Specimen clotted, <1.0 mL, greater than 24 hours old, specimen frozen
Specimen Stability
Room temperature: 3 days, Refrigerated: 7 days, Frozen: 6 months

Reasons for Rejection
Specimen not whole blood; not collected in a lavender top tube

Methodology
Turbidimetric Inhibition Immunoassay (TINIA)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
Reference range reported with result: 4 - 6%

<table>
<thead>
<tr>
<th>HgBA1c (%)</th>
<th>Glucose Control Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 6%</td>
<td>Excellent</td>
</tr>
<tr>
<td>6 - 7%</td>
<td>Very Good</td>
</tr>
<tr>
<td>7 - 8%</td>
<td>Good</td>
</tr>
<tr>
<td>8 - 10%</td>
<td>Fair</td>
</tr>
<tr>
<td>&gt; 10%</td>
<td>Poor</td>
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</tbody>
</table>

CPT Code
83036

LOINC Code
17855-8

EMR Interface Order Code
10720

A1CGLU  Hemoglobin A1c with Estimated Glucose

Baystate Reference Laboratories

Additional Information
Estimated Glucose (eAG) is calculated using the recommended ADA equation:
eAG (mg/dL) = 28.7 x HBA1c – 46.7

Collection Container
Lavender (EDTA)
Whole Blood

Special Handling Instructions
Do not centrifuge, do not freeze.

Specimen Volume
2 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 3 days, Refrigerated: 7 days, Frozen: 6 months

Reasons for Rejection
Specimen not whole blood; not collected in a lavender top tube

Methodology
Turbidimetric Inhibition Immunoassay (TINIA)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
Reference range reported with result: 0 - 5.6 %
<table>
<thead>
<tr>
<th>Hemoglobin A1c, Diagnostic</th>
<th>Comment sent with result</th>
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</thead>
<tbody>
<tr>
<td>≥ 6.5 %</td>
<td>Results consistent with Diabetes Mellitus</td>
</tr>
<tr>
<td>5.7 - 6.4 %</td>
<td>Increased risk for Diabetes Mellitus</td>
</tr>
<tr>
<td>≤ 5.6 %</td>
<td>Normal test</td>
</tr>
</tbody>
</table>

**CPT Code**
83036

**LOINC Code**
17855-8

**EMR Interface Order Code**
10690

**HH  Hemoglobin and Hematocrit**

*Baystate Reference Laboratories*

**Collection Container**
Lavender (EDTA)

**EDTA Whole blood**

**Specimen Volume**
4 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
24 hours refrigerated

**Reasons for Rejection**
Specimen clotted, <1.0 mL, greater than 24 hours old, specimen frozen

**Methodology**
XN9000

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Stat: 1 hour, Routine: 4 hours

### Reference Ranges

#### HEMOGLOBIN (HGB)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>1 - 3 Days</td>
<td>14.7 - 18.6</td>
<td>12.7 - 18.3</td>
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<td>8 - 14 Days</td>
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<td>15 - 30 Days</td>
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<td>61 - 180 Days</td>
<td>9.7 - 12.2</td>
<td>9.7 - 12.0</td>
<td>g/dL</td>
</tr>
<tr>
<td>0.5 to &lt;2 Years</td>
<td>10.5 - 13.5</td>
<td>10.5 - 13.5</td>
<td>g/dL</td>
</tr>
<tr>
<td>2 to &lt;6 Years</td>
<td>11.5 - 14.5</td>
<td>11.5 - 14.5</td>
<td>g/dL</td>
</tr>
<tr>
<td>6 to &lt;12 Years</td>
<td>11.5 - 15.5</td>
<td>11.5 - 15.5</td>
<td>g/dL</td>
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<tr>
<td>12 to &lt;18 Years</td>
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<td>12.0 - 16.0</td>
<td>g/dL</td>
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<tr>
<td>≥ 18 Years</td>
<td>13.7 - 17.1</td>
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<td>g/dL</td>
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#### HEMATOCRIT (HCT)

<table>
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<th>Units</th>
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<td>43.4 - 56.1</td>
<td>37.4 - 55.9</td>
<td>%</td>
</tr>
<tr>
<td>4 - 7 Days</td>
<td>40.2 - 54.7</td>
<td>39.1 - 56.7</td>
<td>%</td>
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<tr>
<td>8 - 14 Days</td>
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<td>28.7 - 36.1</td>
<td>28.5 - 36.1</td>
<td>%</td>
</tr>
<tr>
<td>0.5 to 2 Years</td>
<td>33.0 - 39.0</td>
<td>33.0 - 39.0</td>
<td>%</td>
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<td>%</td>
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<td>%</td>
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<tr>
<td>≥ 18 Years</td>
<td>40.5 - 50.5</td>
<td>35.7 - 45.8</td>
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</table>

**CPT Code**
85018, 85014

**LOINC Code**
24360-0

**EMR Interface Order Code**
32135

**Critical Values**

#### HEMOGLOBIN

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<thead>
<tr>
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<th>Units</th>
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<tbody>
<tr>
<td>1-7 Days</td>
<td>&lt;10 g/dL</td>
<td>&gt;20 g/dL</td>
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<tr>
<td>8-14 Days</td>
<td>&lt;9 g/dL</td>
<td>&gt;20 g/dL</td>
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<tr>
<td>15-60 Days</td>
<td>&lt;8 g/dL</td>
<td>&gt;20 g/dL</td>
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<tr>
<td>61-180 Days</td>
<td>&lt;7 g/dL</td>
<td>&gt;20 g/dL</td>
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</tr>
<tr>
<td>&gt;180 Days</td>
<td>&lt;6.5 g/dL</td>
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#### HEMATOCRIT

<table>
<thead>
<tr>
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<th>Females</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>1-7 Days</td>
<td>&lt;30%</td>
<td>&gt;62%</td>
<td></td>
</tr>
<tr>
<td>8-14 Days</td>
<td>&lt;27%</td>
<td>&gt;62%</td>
<td></td>
</tr>
<tr>
<td>15-60 Days</td>
<td>&lt;24%</td>
<td>&gt;62%</td>
<td></td>
</tr>
<tr>
<td>61-180 Days</td>
<td>&lt;21%</td>
<td>&gt;62%</td>
<td></td>
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<tr>
<td>&gt;180 Days</td>
<td>&lt;20%</td>
<td>&gt;60%</td>
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</table>
Hemoglobin Electrophoresis Cascade, Blood

Mayo Clinic Laboratories in Rochester

Reporting Name
HGB Electrophoresis Cascade

Useful For
Diagnosis and comprehensive classification of thalassemias and hemoglobin variants

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
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<tbody>
<tr>
<td>A2F</td>
<td>Hemoglobin A2 and F</td>
<td>No</td>
<td>Yes</td>
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<td>HBEL</td>
<td>Hemoglobin Electrophoresis, B</td>
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Reflex Tests

<table>
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<th>Reporting Name</th>
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<th>Always Performed</th>
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<tr>
<td>SDEX</td>
<td>Hemoglobin S, Scrm, B</td>
<td>Yes</td>
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<td>IEF</td>
<td>IEF Confirms</td>
<td>No</td>
<td>No</td>
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<td>MASS</td>
<td>Hb Variant by Mass Spec, B</td>
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<td>UNHB</td>
<td>Unstable Hemoglobin, B</td>
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<td>ATHAL</td>
<td>Alpha-Globin Gene Analysis</td>
<td>Yes</td>
<td>No</td>
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<td>WASQR</td>
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<td>Beta Globin Gene Sequencing, B</td>
<td>Yes, (Order WBSEQ)</td>
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<td>Beta Globin Cluster Locus Del/Dup,B</td>
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<td>HPFH</td>
<td>Hemoglobin F, Red Cell Distrib, B</td>
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Testing Algorithm

Hemoglobin electrophoresis cascade will always include hemoglobin A(2) and F and hemoglobin electrophoresis utilizing cation exchange HPLC and capillary electrophoresis methods.

Hemoglobin electrophoresis reflex testing, performed at additional charge, may include any or all of the following to identify rare hemoglobin variants present: sickle solubility (hemoglobin S screen), hemoglobin heat and isopropanol stability studies (unstable hemoglobin), isoelectric focusing, intact globin chain mass spectrometry (hemoglobin variant by mass spectrometry), Hb F distribution by flow cytometry (hemoglobin F red cell distribution), DNA (Sanger) testing for beta chain variants and the most common beta thalassemias (beta-globin gene sequencing), multiplex ligation-dependent probe amplification (MLPA) testing for beta cluster locus large deletions and duplications, including large deletional hereditary persistence of fetal hemoglobin (HPFH), delta-beta (DBT), delta thalassemias, gamma-delta-beta (GDBT), and epsilon-gamma-delta-beta (EGDBT) thalassemias (beta globin cluster locus del/dup), large deletional alpha thalassemias and alpha gene duplications (alpha-globin gene analysis), alpha chain variants and non-deletional alpha thalassemias (alpha-globin gene sequencing), and gamma chain variants and non-deletional HPFH (gamma globin full gene sequencing).

If a Thalassemia/Hemoglobinopathy Patient Information sheet (T358) is received with the sample, the reported clinical features or clinical impression will be considered in the interpretation and focus of the evaluation. Our laboratory has extensive experience in hemoglobin variant identification and many cases can be confidently classified without molecular testing. However, molecular confirmation is always available. If no molecular testing or, conversely, specific molecular tests are desired, utilize the appropriate check boxes on the information sheet. If the information sheet or other communication is not received, the reviewing hematopathologist will select appropriate tests to sufficiently explain the clinical impression or reported CBC results, which may or may not include molecular testing.

Hemoglobin (HGB) Electrophoresis Summary Interpretation, an additional consultative interpretation that summarizes all testing, will be provided after test completion to incorporate subsequent results into an overall evaluation if 1 or more of the following molecular tests are reflexed on the HBELEC / Hemoglobin Electrophoresis Cascade, Blood:
- ATHAL / Alpha-Globin Gene Analysis
- WASQR / Alpha-Globin Gene Sequencing, Blood
- WBSQR / Beta-Globin Gene Sequencing, Blood
- WBDDR / Beta-Globin Cluster Locus Deletion/Duplication, Blood
- WGSQR / Gamma-Globin Full Gene Sequencing

See Benign Hematology Evaluation Comparison in Special Instructions.

Specimen Type
Whole Blood EDTA

Advisory Information

Alpha-thalassemias with only 1 or 2 alpha-globin gene deletions are not recognized by this testing protocol. ATHAL / Alpha-Globin Gene Analysis is required to identify 1 or 2 globin gene deletions.

Necessary Information

Include recent transfusion information.

Include most recent CBC results.

Specimen Required

Container/Tube:
Preferred: Lavender top (EDTA)
Acceptable: ACD (solution B), green top (sodium heparin)
Specimen Volume: 10 mL
Collection Instructions: Send specimen in original tube. Do not aliquot.

Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood EDTA</td>
<td>Refrigerated</td>
<td>7 days</td>
<td>Special Container</td>
</tr>
</tbody>
</table>

Special Instructions

- Thalassemia/Hemoglobinopathy Patient Information
- Informed Consent for Genetic Testing
- Metabolic Hematology Patient Information
- Benign Hematology Evaluation Comparison
- Informed Consent for Genetic Testing (Spanish)
Reference Values

HEMOGLOBIN A
1-30 days: 5.9-77.2%
1-2 months: 7.9-92.4%
3-5 months: 54.7-97.1%
6-8 months: 80.0-98.0%
9-12 months: 86.2-98.0%
13-17 months: 88.8-98.0%
18-23 months: 90.4-98.0%
≥24 months: 95.8-98.0%

HEMOGLOBIN A2
1-30 days: 0.0-2.1%
1-2 months: 0.0-2.6%
3-5 months: 1.3-3.1%
≥6 months: 2.0-3.3%

HEMOGLOBIN F
1-30 days: 22.8-92.0%
1-2 months: 7.6-89.8%
3-5 months: 1.6-42.2%
6-8 months: 0.0-16.7%
9-12 months: 0.0-10.5%
13-17 months: 0.0-7.9%
18-23 months: 0.0-6.3%
≥24 months: 0.0-0.9%

VARIANT
No abnormal variants

VARIANT 2
No abnormal variants

VARIANT 3
No abnormal variants

Day(s) and Time(s) Performed
Monday through Saturday

Test Classification
This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
Hemoglobin Electrophoresis Cascade
83020-Quantitation by electrophoresis
83021-Quantitation by HPLC

IEF Confirms
82664-Electrophoresis, not elsewhere specified (if appropriate)

Hemoglobin, Unstable, Blood
83068 (if appropriate)

Hemoglobin Variant by Mass Spectrometry (MS), Blood
83789 (if appropriate)

Hemoglobin F, Red Blood Cell Distribution, Blood
88184 (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBELO</td>
<td>HGB Electrophoresis Cascade</td>
<td>In Process</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value
--- | --- | ---
2380 | Hemoglobin A | 20572-4
2381 | Hemoglobin A2 | 42245-1
2382 | Hemoglobin F | 42246-9
2383 | Variant | 32017-6
29224 | Variant 2 | 32017-6
29225 | Variant 3 | 32017-6
2101 | Interpretation | 78748-1

Reject Due To
All specimens will be evaluated by Mayo Clinic Laboratories for test suitability

Method Name
A2F: Cation Exchange/High-Performance Liquid Chromatography (HPLC)
HBEL: Capillary Electrophoresis
IEF: Isoelectric Focusing
MASS: Mass Spectrometry (MS)
HPFH: Flow Cytometry
UNHB: Isopropanol and Heat Stability
HBELA: Consultative Interpretation

Forms
1. New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. Metabolic Hematology Patient Information (T810) in Special Instructions
3. If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
   - General Request (T239)
   - Benign Hematology Test Request (T755)

HGBS  Hemoglobin S

Baystate Reference Laboratories

Collection Container
Lavender (EDTA), Two BD EDTA microtainers

EDTA Whole blood

Specimen Volume
Lavender tube: 4 mL, BD Microtainer: 500 microliters

Minimum Specimen Volume
Lavender tube: 1 mL, BD Microtainer: 500 mL

Transport Temperature
Refrigerate

Specimen Stability
Up to 7 days refrigerated

Reasons for Rejection
Clotted, inadequate volume, >7 days old

Methodology
HPLC

Days and Times Performed
Test performed Wednesday and Friday

Turnaround Time
1 - 5 Days

Units of Measure
%
**HGBOPP  Hemoglobinopathy Evaluation with Interpretation**

*Baystate Reference Laboratories*

**Additional Information**
High performance liquid chromatography (HPLC) followed by citrate agar electrophoresis for confirmation of certain variants; pathologist interpretation.

**Collection Container**
Lavender (EDTA) tube or 2 BD EDTA microtainers

**Specimen Volume**
Lavender tube: 4 mL; BD Microtainer: 500 microliters

**Minimum Specimen Volume**
Lavender tube: 1 mL; BD Microtainer: 500 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Up to 7 days refrigerated

**Reasons for Rejection**
Clotted, inadequate volume, >7 days old

**Methodology**
HPLC

**Days and Times Performed**
Test performed Wednesday and Friday, requires pathologist interpretation.

**Turnaround Time**
1 - 5 Days

**Units of Measure**
gm/dL

**LOINC Code**
44923-1

**EMR Interface Order Code**
33801

**HEPPTT  Hepabsorb PTT**

*Baystate Reference Laboratories*

**Additional Information**
Test is performed only if the APTT result is outside of the upper limit of the normal range.

**Collection Container**
Light Blue

**Specimen Volume**
Platelet poor plasma: 1.5 mL, Whole blood: 2.7 mL

**Minimum Specimen Volume**
Platelet poor plasma: 1 mL, Whole blood: 2.7 mL

**Transport Temperature**
Platelet poor plasma: frozen, Whole blood: ambient temperature

**Specimen Stability**
Whole blood: 4 hours

**Reasons for Rejection**
Hemolyzed, clotted, Whole blood >4 hours old

**Methodology**
Clot based assay

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Daily - available STAT

**Reference Ranges**
24.3 - 33.1 Seconds
HEPXA  Heparin Anti-Xa Assay
Baystate Reference Laboratories

Collection Container
Light Blue
Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 1 ml aliquots, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Methodology
Chromogenic

Days and Times Performed
7 am - 3 pm

Turnaround Time
Daily

Reference Ranges
Reference range: 0.50 - 1.00 IU/mL (therapeutic). This range is applicable to Enoxaparin(Lovenox). For ranges of other low molecular formulations, refer to the specific package insert for the drug.

Recommended prophylactic (preventative treatment) range for Enoxaparin is 0.20-0.50 IU/mL. This range may vary depending on the type of LMWH administered.

CPT Code
85525, 85730

LOINC Code
3269-8

EMR Interface Order Code
34250

Useful For
Detection of IgG antibodies directed against heparin/platelet factor 4 complexes that are implicated in the pathogenesis of immune-mediated type II heparin-induced thrombocytopenia (HIT-II).

Clinical picture of HIT type II:
- In patients not previously exposed to heparin
- Decrease in platelet count (thrombocytopenia) of 50% or more from baseline or postoperative peak
- Onset of thrombocytopenia beginning approximately 5 to 10 days after initiation of heparin this may or may not be associated with new or progressive thrombosis in patients treated with heparin

Patients previously exposed to heparin (especially within the preceding 100 days), in addition to the above findings, the onset of thrombocytopenia could occur within 24 to 48 hours after reexposure to heparin

Method Name
Enzyme-Linked Immunosorbent Assay (ELISA)

Reporting Name
Heparin-PF4 IgG Ab (HIT), S

Specimen Type
Serum Red

Specimen Required
Collection Container/Tube: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Frozen (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>48 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis  Reject
Gross lipemia  Reject

Reference Values
HIT ELISA:
<0.400

HIT Interpretation:
Negative

Day(s) and Time(s) Performed
Monday through Sunday, Varies

Test Classification
This test has been modified from the manufacturer’s instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
86022

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>HITIG</td>
<td>Heparin-PF4 IgG Ab (HIT), S</td>
<td>In Process</td>
</tr>
</tbody>
</table>

HIT  Heparin-PF4 IgG Antibody (HIT), Serum
Mayo Clinic Laboratories in Rochester

Secondary ID
86533
<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>46915</td>
<td>HIT ELISA</td>
<td>73818-7</td>
</tr>
<tr>
<td>21468</td>
<td>Heparin Inhibition</td>
<td>73817-9</td>
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<tr>
<td>21469</td>
<td>HIT Interpretation</td>
<td>69049-5</td>
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<tr>
<td>21470</td>
<td>HIT Comment</td>
<td>48767-8</td>
</tr>
</tbody>
</table>

**Forms**

If not ordering electronically, complete, print, and send a Coagulation Test Request (T753) with the specimen.

---

**UFH  Heparin, Unfractionated**

*Baystate Reference Laboratories*

**Collection Container**

Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Special Handling Instructions**

Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**

Platelet poor plasma: 1 ml aliquot, Whole blood: 2.7 mL

**Minimum Specimen Volume**

Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL.

**Transport Temperature**

Platelet poor plasma: frozen, whole blood: ambient temperature

**Specimen Stability**

Whole blood: 4 hours

**Reasons for Rejection**

Hemolyzed, clotted, Whole blood >4 hours old

**Methodology**

Chromogenic

**Days and Times Performed**

24 hours a day, 7 days a week

**Turnaround Time**

Daily

**Reference Ranges**

Therapeutic: 0.3 - 0.7 IU/ml

**CPT Code**

85520

**LOINC Code**

3271-4

---

**HEPP  Hepatic Function Panel**

*Baystate Reference Laboratories*

**Important Note**

This Panel includes: Total Bilirubin, Direct Bilirubin, Indirect Bilirubin, Delta Bilirubin, Albumin, AST (SGOT), ALT (SGPT), Alkaline Phosphatase, and Total Protein.

**Collection Container**

Serum gel

Serum

**Other Acceptable Specimen Types**

Heparinized plasma

**Specimen Volume**

2 mL

**Minimum Specimen Volume**

0.5 mL

**Transport Temperature**

Refrigerate

**Specimen Stability**

See individual test listings

**Reasons for Rejection**

See individual test listings

**Methodology**

See individual test listings

**Days and Times Performed**

Test performed daily

**Turnaround Time**

24 hours

**Reference Ranges**

See individual test listings

**Units of Measure**

See individual test listings

**CPT Code**

80076

**LOINC Code**

24325-3

**EMR Interface Order Code**

14390
### TOTAL BILIRUBIN (TBIL)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1 day</td>
<td>0.0 - 8.0</td>
<td>0.0 - 8.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>2 - 3 days</td>
<td>0.0 - 14.0</td>
<td>0.0 - 14.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>4 - 5 days</td>
<td>0.0 - 17.0</td>
<td>0.0 - 17.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>6 - 30 days</td>
<td>0.0 - 1.0</td>
<td>0.0 - 1.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>&gt; 30 days</td>
<td>0.0 - 1.2</td>
<td>0.0 - 1.2</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

### DIRECT BILIRUBIN (DBIL)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>All</td>
<td>0.0 - 0.3</td>
<td>0.0 - 0.3</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

### INDIRECT BILIRUBIN (IBIL)

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<thead>
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<th>Age</th>
<th>Males</th>
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<tbody>
<tr>
<td>0 - 1 day</td>
<td>1.7 - 5.9</td>
<td>1.7 - 5.9</td>
<td>mg/dL</td>
</tr>
<tr>
<td>2 - 3 days</td>
<td>5.7 - 6.7</td>
<td>5.7 - 6.7</td>
<td>mg/dL</td>
</tr>
<tr>
<td>4 - 5 days</td>
<td>3.7 - 11.7</td>
<td>3.7 - 11.7</td>
<td>mg/dL</td>
</tr>
<tr>
<td>6 days +</td>
<td>0.0 - 0.7</td>
<td>0.0 - 0.7</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

### DELTA BILIRUBIN (DELTA)

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<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.0 - 0.2</td>
<td>0.0 - 0.2</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

### ALBUMIN (ALB)

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<thead>
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<th>Age</th>
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<th>Females</th>
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</thead>
<tbody>
<tr>
<td>0 - 3 days</td>
<td>2.8 - 4.4</td>
<td>2.8 - 4.4</td>
<td>gm/dL</td>
</tr>
<tr>
<td>4 days - 13 years</td>
<td>3.8 - 5.4</td>
<td>3.8 - 5.4</td>
<td>gm/dL</td>
</tr>
<tr>
<td>14 - 17 years</td>
<td>3.2 - 4.5</td>
<td>3.2 - 4.5</td>
<td>gm/dL</td>
</tr>
<tr>
<td>18 years +</td>
<td>3.4 - 4.8</td>
<td>3.4 - 4.8</td>
<td>gm/dL</td>
</tr>
</tbody>
</table>

### AST (SGOT)

<table>
<thead>
<tr>
<th>Age</th>
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<th>Females</th>
<th>Units</th>
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<tbody>
<tr>
<td>All</td>
<td>0 - 38</td>
<td>0 - 32</td>
<td>U/L</td>
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</tbody>
</table>

### ALT (SGPT)

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<thead>
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<th>Males</th>
<th>Females</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>All</td>
<td>0 - 41</td>
<td>0 - 33</td>
<td>U/L</td>
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</tbody>
</table>

### ALKALINE PHOSPHATASE (ALP)

<table>
<thead>
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<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1 day</td>
<td>0 - 250</td>
<td>0 - 250</td>
<td>U/L</td>
</tr>
<tr>
<td>2 - 5 days</td>
<td>0 - 231</td>
<td>0 - 231</td>
<td>U/L</td>
</tr>
<tr>
<td>6 days - 6 months</td>
<td>0 - 449</td>
<td>0 - 449</td>
<td>U/L</td>
</tr>
<tr>
<td>7 - 12 months</td>
<td>0 - 462</td>
<td>0 - 462</td>
<td>U/L</td>
</tr>
<tr>
<td>1 - 3 years</td>
<td>0 - 281</td>
<td>0 - 281</td>
<td>U/L</td>
</tr>
<tr>
<td>4 - 6 years</td>
<td>0 - 269</td>
<td>0 - 269</td>
<td>U/L</td>
</tr>
<tr>
<td>7 - 12 years</td>
<td>0 - 300</td>
<td>0 - 300</td>
<td>U/L</td>
</tr>
<tr>
<td>13 - 17 years</td>
<td>0 - 390</td>
<td>0 - 187</td>
<td>U/L</td>
</tr>
<tr>
<td>18 years +</td>
<td>40 - 129</td>
<td>35 - 104</td>
<td>U/L</td>
</tr>
</tbody>
</table>

### TOTAL PROTEIN (TP)

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 30 days</td>
<td>4.0 - 6.7</td>
<td>4.0 - 6.7</td>
<td>gm/dL</td>
</tr>
<tr>
<td>1 month - 2 years</td>
<td>5.0 - 7.0</td>
<td>5.0 - 7.0</td>
<td>gm/dL</td>
</tr>
<tr>
<td>3 years +</td>
<td>6.2 - 8.2</td>
<td>6.2 - 8.2</td>
<td>gm/dL</td>
</tr>
</tbody>
</table>
ANTHAV  
**Hepatitis A Antibody, IgM**

_Baystate Reference Laboratories_

**Collection Container**
Gel

Gel serum

**Other Acceptable Specimen Types**
Red top serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
7 days refrigerated

**Reasons for Rejection**
Specimens not centrifuged within 24 hours, specimens older than 7 days.

**Methodology**
Chemiluminesence

**Reference Ranges**
Negative

**LOINC Code**
22314-9

**EMR Interface Order Code**
51812

---

**HAVG  Hepatitis A IgG Antibody**

_Baystate Reference Laboratories_

**Specimen Volume**
1.0 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Room Temperature

**Specimen Stability**
Refrigerated 7 days

**Reasons for Rejection**
Specimens not centrifuged within 24 hours, specimen greater than 7 days old

**Methodology**
Chemiluminescent Microparticle Immunoassay (CMIA)

**Days and Times Performed**
Monday - Friday

**Turnaround Time**
1 - 3 days

**CPT Code**
86708

---

**ANTHBC  Hepatitis B Core Antibody (Total) IgG and IgM (Undifferentiated)**

_Baystate Reference Laboratories_

**Important Note**
IgM determination on Positive results must be requested separately, using code "HBCM"

**Collection Container**
Gel

Gel serum

**Other Acceptable Specimen Types**
Red top serum

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
7 days refrigerated

**Reasons for Rejection**
Specimens not centrifuged within 24 hours, specimens older than 7 days.

**Methodology**
Chemiluminescence

**Reference Ranges**
Negative

**LOINC Code**
16933-4

**EMR Interface Order Code**
51825

---

**HBCM  Hepatitis B Core Antibody, IgM**

_Baystate Reference Laboratories_

**Collection Container**
Gel

Gel serum

**Other Acceptable Specimen Types**
Red top serum

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate
**Specimen Stability**
7 days refrigerated

**Reasons for Rejection**
Specimens not centrifuged within 24 hours, specimens older than 7 days.

**Methodology**
Chemiluminescence

**Reference Ranges**
Negative

**LOINC Code**
31204-1

**EMR Interface Order Code**
51850

---

**HBEAB  Hepatitis B e-Antibody, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
HBe Antibody, S

**Useful For**
Determining infectivity of hepatitis B virus (HBV) carriers

Monitoring infection status of individuals with chronic hepatitis B

Monitoring serologic response of chronically HBV-infected patients receiving antiviral therapy

Determining the level of hepatitis B e-antibody

**Testing Algorithm**
See HBV Infection-Diagnostic Approach and Management Algorithm in Special Instructions.

**Specimen Type**
Serum SST

**Additional Testing Requirements**
If ordered with HBVQN / Hepatitis B Virus (HBV) DNA Detection and Quantification by Real-Time PCR, Serum; send separate vials.

**Necessary Information**
Date of collection is required.

---

**Specimen Required**

**Patient Preparation:** For 24 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.

**Collection Container/Tube:** Serum gel

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 1 mL

**Collection Instructions:** Centrifuge and aliquot serum from gel within 24 hours.

**Specimen Minimum Volume**
0.5 mL

---

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum SST</td>
<td>Frozen (preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**
- Viral Hepatitis Serologic Profiles
- HBV Infection-Diagnostic Approach and Management Algorithm

**Reference Values**
Negative

See Viral Hepatitis Serologic Profiles in Special Instructions.

**Day(s) and Time(s) Performed**
Monday through Saturday; Varies

**Test Classification**
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**
86707

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEAB</td>
<td>HBe Antibody, S</td>
<td>33463-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEAB</td>
<td>HBe Antibody, S</td>
<td>33463-1</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis Reject
- Gross lipemia Reject
- Gross icterus Reject

**Method Name**
Chemiluminescence Immunoassay

**Secondary ID**
80973

**Forms**
If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Client Test Request (T728) with the specimen.

---

**HBEAG  Hepatitis B e-Antigen, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Hepatitis Be Ag, S

**Useful For**
Determining infectivity of hepatitis B virus (HBV) carriers

Monitoring infection status of individuals with chronic hepatitis B

Monitoring serologic response of chronically HBV-infected patients receiving antiviral therapy

Determining the level of hepatitis B e-antigen
Testing Algorithm
See HBV Infection-Diagnostic Approach and Management Algorithm in Special Instructions.

Specimen Type
Serum SST

Additional Testing Requirements
If ordered with HBVQN / Hepatitis B Virus (HBV) DNA Detection and Quantification by Real-Time PCR, Serum; send separate vials.

Necessary Information
Date of collection is required.

Specimen Required

Patient Preparation: For 24 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.

Collection Container/Tube: Serum gel
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL
Collection Instructions: Centrifuge and aliquot serum within 24 hours.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum SST</td>
<td>Frozen (preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
• Viral Hepatitis Serologic Profiles
• HBV Infection-Diagnostic Approach and Management Algorithm

Reference Values
Negative
See Viral Hepatitis Serologic Profiles in Special Instructions.

Day(s) and Time(s) Performed
Monday through Saturday; Varies

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer’s instructions.
Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
87350

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAG</td>
<td>Hepatitis Be Ag, S</td>
<td>13954-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAG</td>
<td>Hepatitis Be Ag, S</td>
<td>13954-3</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis | Reject
Gross lipemia | Reject
Gross icterus | Reject

Method Name
Chemiluminescence Immunoassay

Forms
If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Client Test Request (T728) with the specimen.

HBVQNT  Hepatitis B Quantitative, Plasma
Baystate Reference Laboratories

Collection Container
BD Vacutainer PPT (Plasma Preparation Tube) or Lavender (EDTA) Plasma

Special Handling Instructions
Lavender EDTA: Whole blood must be spun and the plasma removed within 24 hours of draw. PPT: Inverted 8-10 times immediately after draw, spin within 6 hours of draw at 1100 RCF for a minimum of 10 minutes. The specimen can be transported with the plasma and the original tube.

Specimen Volume
4 mL

Transport Temperature
PPT: Refrigerated; NEVER FROZEN Plasma from Lavender top; refrigerated or frozen, must be frozen after 72 hours.

Specimen Stability
4° C up to 5 days, -20° C: 6 weeks

Reasons for Rejection
Excessive delay in transport, specimen not processed in time, shared specimen; wrong tube, mislabeled specimens, insufficient quantity, PPT tube frozen.

Methodology
Quantitative Polymerase chain reaction (qPCR)

Days and Times Performed
Tuesday

Turnaround Time
7 days

Units of Measure
Log IU/mL

CPT Code
87517

LOINC Code
29615-2

EMR Interface Order Code
32265
ANThq  Hepatitis B Surface Antibody, Quantitative

Baystate Reference Laboratories

Important Note
A positive result may indicate past infection or provide evidence of immunization.

Gel Serum

Specimen Volume
1.0 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Room Temperature

Specimen Stability
7 days refrigerated

Reasons for Rejection
Specimen not centrifuged within 24 hours, specimen greater than 7 days old, specimen not meeting BRL’s labeling guidelines

Methodology
Chemilluminescence

Days and Times Performed
Monday - Friday

Turnaround Time
1 - 3 days

Units of Measure
mIU/mL

CPT Code
86317

LOINC Code
16935-9

EMR Interface Order Code
51950

HBSAG  Hepatitis B Surface Antigen

Baystate Reference Laboratories

Reflex Tests
HBSAGN (Hepatitis B Surface Antigen Neutralization)

Collection Container
Gel

Gel serum

Other Acceptable Specimen Types
Red top serum

Specimen Volume
6 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerate

Specimen Stability
7 days refrigerated

Reasons for Rejection
Specimens not centrifuged within 24 hours, specimens older than 7 days

Methodology
Chemilluminescence

Units of Measure
Qualitative

LOINC Code
5196-1

EMR Interface Order Code
59275

HBSAGN  Hepatitis B Surface Antigen Neutralization

LabCorp

Collection Container
Gel

Gel serum

Other Acceptable Specimen Types
Red top serum

Specimen Volume
2 mL

Minimum Specimen Volume
1.5 mL

Transport Temperature
Refrigerate

Specimen Stability
7 days refrigerated

Reasons for Rejection
Specimens not centrifuged within 24 hours, specimens older than 7 days

Methodology
Chemilluminescence

Units of Measure
Qualitative

LOINC Code
5196-1

EMR Interface Order Code
59275

HBAG  Hepatitis B Surface Antigen, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
HBs Antigen, S

Useful For
Diagnosis of acute, recent, or chronic hepatitis B infection
Determination of chronic hepatitis B infection status

This test is not offered as a screening or confirmatory test for blood donor specimens.

**Reflex Tests**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBGNT</td>
<td>HBs Antigen Confirmation, S</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Testing Algorithm**

If hepatitis B surface antigen (HBsAg) screen is reactive with signal-to-cutoff (S/CO) ratio in the range of 1.00 to 100.0 then HBsAg confirmation will be performed at an additional charge.

See the following in Special Instructions:
- HBV Infection-Diagnostic Approach and Management Algorithm
- HBV Infection-Monitoring Before and After Liver Transplantation

**Specimen Type**

Serum SST

**Advisory Information**

This test is not intended for stand-alone prenatal screening for chronic hepatitis B in pregnant women. For testing such patients, order HBAGP / Hepatitis B Surface Antigen Prenatal, Serum.

This test is not intended for testing cadaver or grossly hemolyzed specimens. For testing such patients, order HBGCD / Hepatitis B Surface Antigen for Cadaveric or Hemolyzed Specimens, Serum, which is FDA-approved for testing on these sources.

**Additional Testing Requirements**

Testing for acute hepatitis B virus infection should also include HBIM / Hepatitis B Core Antibody, IgM, Serum, as during the acute HBV infection “window period”, Hepatitis B surface (HBs) antigen and HBs antibody may not be detected.

**Necessary Information**

1. Date of collection is required.
2. Indicate if specimens are from autopsy/cadaver or hemolyzed sources so that the proper FDA-licensed assay can be performed.

**Specimen Required**

**Collection Container/Tube:** Serum gel
**Submission Container/Tube:** Plastic vial
**Specimen Volume:** 2 mL
**Collection Instructions:**
1. Centrifuge blood collection tube per collection tube manufacturer's instructions (eg, centrifuge and aliquot within 2 hours of collection for BD Vacutainer tubes).
2. Transfer serum into aliquot tube.

**Specimen Minimum Volume**

0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum SST</td>
<td>Frozen (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**

- Viral Hepatitis Serologic Profiles
- HBV Infection-Monitoring Before and After Liver Transplantation
- HBV Infection-Diagnostic Approach and Management Algorithm

**Reference Values**

Negative

See Viral Hepatitis Serologic Profiles in Special Instructions.

**Day(s) and Time(s) Performed**

Monday through Saturday; Varies

**Test Classification**

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**

87340
87341 (if appropriate)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBAG</td>
<td>HBs Antigen, S</td>
<td>5196-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>H_BAG</td>
<td>HBs Antigen, S</td>
<td>5196-1</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

**Method Name**

Chemiluminescence Immunoassay

**Forms**

If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Client Test Request (T728) with the specimen.

**ANTHCV  Hepatitis C Antibody**

Baystate Reference Laboratories

**Collection Container**

Gel

**Gel serum**

**Other Acceptable Specimen Types**

Red top serum

**Specimen Volume**

2 mL

**Minimum Specimen Volume**

0.5 mL

**Transport Temperature**

Refrigerate
**Specimen Stability**
7 days refrigerated

**Reasons for Rejection**
Specimens not centrifuged within 24 hours, specimens older than 7 days.

**Methodology**
Chemiluminescence

**Reference Ranges**
Negative

**LOINC Code**
16128-1

**EMR Interface Order Code**
51975

---

**HCVQNT Hepatitis C Viral Load, RNA, Quantification**

*Baystate Reference Laboratories*

**Collection Container**
BD Vacutainer® PPT® Plasma Preparation Tubes or Lavender (EDTA) Plasma

**Special Handling Instructions**
PPT: Invert 8-10 times immediately after draw, spin within 6 hours of draw at 1,100 RCF for a minimum of 10 minutes. The specimen can be transported with the plasma in the original tube.

Lavender EDTA: Whole blood must be spun and the plasma removed from red cells within 24 hours of draw.

**Specimen Volume**
4 mL

**Transport Temperature**
PPT: Refrigerated, NEVER FROZEN; Plasma from Lavender top: refrigerated or frozen, must be frozen after 72 hours.

**Specimen Stability**
4°C up to 3 days; -20°C: 6 weeks

**Reasons for Rejection**
Excessive delay in transport, specimen not processed in time, shared specimen; wrong tube, mislabeled specimens, insufficient quantity, PPT tube frozen

**Methodology**
Quantitative Polymerase Chain Reaction (qPCR)

**Days and Times Performed**
Monday – Friday

**Turnaround Time**
7 days

**Units of Measure**
Log IU/mL

**CPT Code**
87522

**LOINC Code**
38180-6

**EMR Interface Order Code**
52065

---

**HCVFIB Hepatitis C Virus (HCV) Fibrosure**

*LabCorp*

**Additional Information**
Patient should be FASTING for at least eight hours.

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Red top

**Special Handling Instructions**
Separate serum from cells within two hours of collection.

**Specimen Volume**
3.5 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Specimen can be stored refrigerated at 2°C to 8°C for 72 hours and frozen at -70°C for seven days. Frozen samples are stable for one freeze/thaw cycle.

**Reasons for Rejection**
Gross hemolysis; gross lipemia; improper labeling; nonfasting specimen; patient YOUNGER THAN 14 years of age

**Days and Times Performed**
Daily

**Turnaround Time**
3 - 5 days

**CPT Code**
81596

**LOINC Code**
34444

**EMR Interface Order Code**
67534

---

**HCVGN Hepatitis C Virus (HCV) Genotyping**

*Baystate Reference Laboratories*

**Collection Container**
BD Vacutainer®, PPT® Plasma Preparation Tubes or Lavender (EDTA) Plasma

**Special Handling Instructions**
PPT®: Invert 8-10 times immediately after draw, spin within 6 hours of draw at 1,100 RCF for a minimum of 10 minutes. The specimen can be transported with the plasma in the original tube.

Lavender EDTA: Whole blood must be spun and the plasma removed from red cells within 24 hours of draw.

**Specimen Volume**
3 mL
Transport Temperature
PPT®: Refrigerated, NEVER FROZEN; Plasma from Lavender top: refrigerated or frozen, must be frozen after 72 hours.

Specimen Stability
4°C up to 3 days; -20°C: 6 weeks

Reasons for Rejection
Excessive delay in transport, specimen not processed in time, shared specimen; wrong tube, mislabeled specimens, insufficient quantity, PPT® tube frozen. Must have HCV viral load greater than 1000 IU/mL within 60 days.

Methodology
Polymerase Chain Reaction (PCR) followed by a direct analysis on the electrochemical eSensor XT-8 detection system.

Days and Times Performed
Tuesday

Turnaround Time
7 days

CPT Code
87902

LOINC Code
32286-7

EMR Interface Order Code
66180

HEPDAB  Hepatitis D Virus Total Antibodies, Serum

Necessary Information
Date of collection is required.

Specimen Required

Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL
Collection Instructions:
1. Centrifuge blood collection tube per collection tube manufacturer's instructions (eg, centrifuge and aliquot within 2 hours of collection for BD Vacutainer tubes).
2. Aliquot serum into plastic vial.

Secondary ID
9209

Useful For
Detection of hepatitis D virus (HDV)-specific total antibodies (combined IgG and IgM) in human serum

Diagnosis of concurrent HDV infection in patients with acute hepatitis B virus (HBV) infection (acute coinfection), chronic HBV infection (chronic coinfection), or acute exacerbation of known chronic HBV infection (HDV superinfection)

Special Instructions
- Viral Hepatitis Serologic Profiles

Method Name
Enzyme Immunoassay (EIA)

Reporting Name
HDV Total Ab, S

Specimen Type
Serum

Specimen Minimum Volume
0.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis  Reject
Gross lipemia    Reject
Gross icterus    Reject

Reference Values
Negative

Day(s) and Time(s) Performed
Monday, Thursday; Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
86692

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHDV</td>
<td>HDV Total Ab, S</td>
<td>40727-0</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
9209      | HDV Total Ab, S  | 40727-0           |

Forms
If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Client Test Request (T728) with the specimen.

HEPDAG  Hepatitis Delta Antigen

Baystate Reference Laboratories

Additional Information
Testing referred to Cambridge Biomedical Inc.

Collection Container
Serum gel

Other Acceptable Specimen Types
Red top tube
Special Handling Instructions
Specimen needs to be separated and frozen within 24 hours of collection

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated for up to 24 hours

Specimen Stability
24 hours refrigerated; 3 weeks frozen

Reasons for Rejection
Hemolyzed or hyperlipemic specimens

Methodology
ELISA

Turnaround Time
3 - 5 days

LOINC Code
44754-0

EMR Interface Order Code
59775

**HEPEG**  *Hepatitis E IgG*

*LabCorp*

Additional Information
Testing referred to Viracor IBT

Collection Container
Serum gel only

Special Handling Instructions
Spin serum gel tube within 45 minutes of venipuncture

Specimen Volume
2 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
Refrigerated or ambient -7 days; frozen: 30 days

Reasons for Rejection
Specimens beyond their acceptable length of time from collection; specimen types other than those listed

Methodology
ELISA

Turnaround Time
3 - 5 days

CPT Code
86790

LOINC Code
14211-7

EMR Interface Order Code
59310

**HEPEM**  *Hepatitis E IgM*

*LabCorp*

Additional Information
Testing referred to Viracor IBT

Collection Container
Serum gel only

Special Handling Instructions
Spin serum gel tube within 45 minutes of venipuncture

Specimen Volume
2 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
Refrigerated or ambient -7 days; frozen: 30 days

Reasons for Rejection
Specimens beyond their acceptable length of time from collection; specimen types other than those listed

Methodology
ELISA

Turnaround Time
3 - 5 days

CPT Code
86790

LOINC Code
14212-5

EMR Interface Order Code
59335

**HHCHRB**  *Hereditary Hemochromatosis*

*Baystate Reference Laboratories*

Collection Container
Lavender top (EDTA)

Whole Blood

Specimen Volume
4 mL

Transport Temperature
Room Temperature or Refrigerated

Specimen Stability
4°C up to 4 days

Reasons for Rejection
Insufficient quantity, wrong tube, mislabeled specimen, specimen shared

Methodology
Realtime PCR with endpoint fluorescence analysis
<table>
<thead>
<tr>
<th>QHER</th>
<th>Heroin Metabolite, Quant, Urine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contracted Reference Lab</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Additional Information</strong></td>
<td>Includes 6-Acetylmorphine</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>20 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td>5 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerated</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>7 days</td>
</tr>
<tr>
<td><strong>Reasons for Rejection</strong></td>
<td>Preserved samples</td>
</tr>
</tbody>
</table>

| **Methodology**            | Mass spectrometry              |
| **Days and Times Performed** | Daily                         |
| **Turnaround Time**        | 2 days                         |
| **Reference Ranges**       | < 10 ng/mL                     |
| **CPT Code**               | 80356 (G0480)                  |
| **LOINC Code**             | 10975-1                        |
| **EMR Interface Order Code** | 70704                         |

<table>
<thead>
<tr>
<th><strong>Herpes</strong></th>
<th>Herpes Cytology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baystate Reference Laboratories</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Gel</td>
</tr>
<tr>
<td><strong>Other Acceptable Specimen Types</strong></td>
<td>Red top serum</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>1 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerate</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>7 days refrigerated</td>
</tr>
<tr>
<td><strong>Reasons for Rejection</strong></td>
<td>Specimens not centrifuged within 24 hours, specimens older than 7 days.</td>
</tr>
</tbody>
</table>

| **Methodology** | EIA |
| **Reference Ranges** | Negative |
| **LOINC Code** | 5206-8 |
| **EMR Interface Order Code** | 51960 |

<table>
<thead>
<tr>
<th><strong>HSV1AB</strong></th>
<th>Herpes Simplex 1 Antibody, IgG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baystate Reference Laboratories</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Gel</td>
</tr>
<tr>
<td><strong>Other Acceptable Specimen Types</strong></td>
<td>Red top serum</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>4 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Room Temperature</td>
</tr>
</tbody>
</table>

| **Specimen Stability** | Stable in proper fixative |
| **Reasons for Rejection** | Improper fixation; air drying artifact; unlabeled container; failure to include pertinent history |
| **Days and Times Performed** | Monday - Friday, 7:30 am - 5 pm |
| **Turnaround Time** | 24 - 48 hours; for same day processing, specimens must be received by 2 pm |
| **Reference Ranges** | No viral inclusion bodies identified or viral inclusions/changes present |

| **CPT Code** | 88160 |

<table>
<thead>
<tr>
<th><strong>HSV12G</strong></th>
<th>Herpes Simplex 1/2 Antibody, IgG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baystate Reference Laboratories</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Gel</td>
</tr>
<tr>
<td><strong>Other Acceptable Specimen Types</strong></td>
<td>Red top serum</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>4 mL</td>
</tr>
</tbody>
</table>

| **Methodology** | EIA |
| **Reference Ranges** | Negative |
| **LOINC Code** | 5206-8 |
| **EMR Interface Order Code** | 51960 |
Transport Temperature
Refrigerate

Specimen Stability
7 days refrigerated

Reasons for Rejection
Specimens not centrifuged within 24 hours, specimens older than 7 days.

Methodology
EIA

Reference Ranges
Negative

LOINC Code
27948-9

EMR Interface Order Code
51955

HSVLES Herpes Simplex 1/2 PCR, Lesion

Baystate Reference Laboratories

Collection Container
Other

Swab in M4 Viral Transport Media (VTM), or Copan Universal Transport Media (UTM)

Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
4°C up to 7 days

Reasons for Rejection
Insufficient quantity; wrong tube; mislabeled specimens, specimen shared for other testing, no swab in media.

Methodology
Real-time PCR with Thermal Melt analysis

Days and Times Performed
Monday – Friday

Turnaround Time
7 days

CPT Code
87529 x 2

LOINC Code
20444-6

EMR Interface Order Code
65725

HSVAB2 Herpes Simplex 2, Antibody, IgG

Baystate Reference Laboratories

Collection Container
Gel

Gel serum

Other Acceptable Specimen Types
Red top serum

Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
7 days refrigerated

Reasons for Rejection
Specimens not centrifuged within 24 hours, specimens older than 7 days.

Methodology
EIA

Reference Ranges
Negative
**HSPCRB  Herpes Simplex Virus PCR, Blood**

*Contracted Reference Lab*

**Collection Container**
Lavender (EDTA) top tube

**Whole Blood**

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 7 days, Refrigerated: 7 days, Frozen: NA

**CPT Code**
87529 x2

**EMR Interface Order Code**
66325

---

**UHEX4  HEX4 (Pompe Disease), Urine**

*Duke University Medical Center*

**Collection Container**
Urine

**Random Urine**

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
0.25 mL

**Transport Temperature**
Frozen

**Specimen Stability**
Frozen

**CPT Code**
82570, 83739

**EMR Interface Order Code**
65185

---

**HEXTA  Hexosaminidase A and Total Hexosaminidase, Leukocytes**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 05590

**Reporting Name**
Hexosaminidase A and Total, WBC

**Useful For**
Carrier detection and diagnosis of Tay-Sachs disease

**Testing Algorithm**
See Tay-Sachs Disease Carrier Testing Protocol in Special Instructions.

**Reasons for Rejection**

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**LAHEXP  Hexagonal Phase Phospholipid**

*LabCorp*

**Additional Information**

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**Shipping Instructions**
For optimal isolation of leukocytes, it is recommended the specimen arrive refrigerated within 96 hours of draw to be stabilized. Draw specimen Monday through Thursday only and not the day before a holiday. Specimen should be drawn and packaged as close to shipping time as possible.

Specimen Required

Container/Tube:
Preferred: Yellow top (ACD solution B)
Acceptable: Yellow top (ACD solution A)
Specimen Volume: 6 mL
Collection Instructions: Do not transfer blood to other containers.

Specimen Minimum Volume
5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood</td>
<td>Refrigerated (preferred)</td>
<td>4 days</td>
<td>YELLOW TOP/ACD</td>
</tr>
<tr>
<td>ACD</td>
<td>Ambient</td>
<td>4 days</td>
<td>YELLOW TOP/ACD</td>
</tr>
</tbody>
</table>

Special Instructions

- Informed Consent for Genetic Testing
- Tay-Sachs Disease Carrier Testing Protocol
- Biochemical Genetics Patient Information
- Informed Consent for Genetic Testing (Spanish)

Reference Values

HEXOSAMINIDASE TOTAL  
≤15 years: ≥20 nmol/min/mg  
≥16 years: 16.4-36.2 nmol/min/mg

HEXOSAMINIDASE PERCENT A  
≤15 years: 20-80% of total  
≥16 years: 63-75% of total

Day(s) and Time(s) Performed
Specimens are stabilized Monday through Sunday  
Assay is performed Tuesday, Thursday, and alternating Fridays; 8 a.m.  
(not reported on Saturday or Sunday)

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83080 x 2

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAGW</td>
<td>Hexosaminidase A and Total, WBC</td>
<td>87544-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8775</td>
<td>Hexosaminidase Total, WBC</td>
<td>24075-4</td>
</tr>
<tr>
<td>2294</td>
<td>Hexosaminidase Percent A, WBC</td>
<td>23825-3</td>
</tr>
<tr>
<td>2284</td>
<td>Interpretation (NAGW)</td>
<td>59462-2</td>
</tr>
<tr>
<td>35029</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis

Method Name
Heat Inactivation, Fluorometric, Semi-automated

Forms
1. New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. Biochemical Genetics Patient Information (T602) in Special Instructions
3. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

Secondary ID
8775

HICKRY  Hickory Tree, White IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49617

Container
Serum gel or red top tube

HISTP  Histamine Plasma

Viracor Eurofins

Method Name
Enzyme Immunoassay (EIA)

Reporting Name
Histamine Plasma

Specimen Type
Plasma EDTA

Specimen Required
Specimen Type: Plasma
Collection Container/Tube: Lavender top (EDTA)
Submission Container/Tube: Plastic vial
Specimen Volume: 3 mL

Collection Instructions:
Draw 3 mL blood in a lavender-top (EDTA) tube(s). Cool immediately on ice. Centrifuge at 1500 rpm for 10 minutes at 4°C. The centrifugation should be performed within 20 minutes of collection. Carefully remove 1 mL of EDTA plasma from the upper part of the tube. Freeze and send frozen in a plastic vial.

Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Condition</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>Mild reject; Gross reject</td>
</tr>
<tr>
<td>Lipemia</td>
<td>Mild reject; Gross reject</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>Specimens other than Plasma EDTA. Test is strictly frozen</td>
</tr>
</tbody>
</table>

Reference Values

<1.0 ng/mL

Day(s) and Time(s) Performed
Monday, Tuesday, Thursday

Test Classification
This test was developed and its performance characteristics determined by Viracor Eurofins. It has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83088

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHSPL</td>
<td>Histamine Plasma</td>
<td>2416-6</td>
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</table>

Result ID

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHSPL</td>
<td>Histamine Plasma</td>
<td>2416-6</td>
</tr>
</tbody>
</table>

Secondary ID
57533

UHISTQ Histamine, 24-Hour Urine

Quest Diagnostics Nichols Institute

Additional Test Codes
EMR Interface Order Code: 06810

Reporting Name
Histamine, 24-Hour U

Specimen Type
Urine

Specimen Required

Patient Preparation: Avoid taking allergy causing drugs, antihistamines, oral corticosteroids, and substances which block H₂ receptors for at least 24 hours prior to specimen collection. Avoid direct sunlight during the collection.

Specimen Type: Urine
Submission Container/Tube: Plastic, 10-mL tube (T068)
Specimen Volume: 4 mL

Collection Instructions: Submit only 1 of the following:
- Collect 24-hour urine with 10 mL 6N HCL. (Preferred)
- Collect 24-hour urine without preservative.

1. Collect urine for 24 hours, either with 10 mL 6N HCL preservative (preferred), or with no preservative.
2. Avoid direct sunlight during the 24-hour collection.
3. Send specimen refrigerated in the plastic, 10-mL urine tube (T068)
4. Collection volume and duration are required

Specimen Minimum Volume
2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>48 hours</td>
<td></td>
</tr>
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</table>

Reject Due To

<table>
<thead>
<tr>
<th>Condition</th>
<th>reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>NA</td>
</tr>
<tr>
<td>Lipemia</td>
<td>NA</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>Random Urine</td>
</tr>
</tbody>
</table>

Reference Values

Histamine, 24-Hour Urine: 0.006 – 0.131 mg/24 h
Creatinine, 24-Hour Urine

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>g/24 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-8</td>
<td>0.11 - 0.68</td>
</tr>
<tr>
<td>9-12</td>
<td>0.17 - 1.41</td>
</tr>
<tr>
<td>13-17</td>
<td>0.29 - 1.87</td>
</tr>
<tr>
<td>Adults</td>
<td>0.63 - 2.50</td>
</tr>
</tbody>
</table>

Day(s) and Time(s) Performed
Tuesday, Friday

Test Classification
This test was performed using a kit that has not been approved or cleared by the FDA. The analytical performance characteristics of this test have been determined by Quest Diagnostics Nichols Institute, San Juan Capistrano. This test should not be used for diagnosis without confirmation by other medically established means.

CPT Code Information
83088

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FH24U</td>
<td>Histamine, 24-Hour U</td>
<td>9410-2</td>
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</tbody>
</table>

Result ID

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z3686</td>
<td>Total Volume</td>
<td>3167-4</td>
</tr>
<tr>
<td>Z3693</td>
<td>Histamine, 24 hr Urine</td>
<td>9410-2</td>
</tr>
<tr>
<td>Z3694</td>
<td>Creatinine, 24-Hour Urine</td>
<td>2162-6</td>
</tr>
</tbody>
</table>

Method Name
Immunocassay (IA)
**HIST Histone Antibodies**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 14 days

**Reasons for Rejection**
gross hemolysis, gross lipemia, icterus

**CPT Code**
83516

**EMR Interface Order Code**
45325

---

**HISTRL Histoplasma Antibodies**

*LabCorp*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
0.6 mL

**Minimum Specimen Volume**
0.3 mL

**LOINC Code**
27266-6

**EMR Interface Order Code**
52185

---

**HISTU Histoplasma Antigen, Urine**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 04365

**Useful For**
Aids in the diagnosis of *Histoplasma capsulatum* infection

Monitoring *Histoplasma* antigen levels in urine

**Reflex Tests**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMVHU</td>
<td>MVista Histoplasma Ag, U</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Testing Algorithm**
If antigen test is indeterminate, the specimen will be sent to MiraVista Laboratories and *Histoplasma* antigen will be performed at an additional charge.

---

**Reporting Name**
Histoplasma Ag, U

**Specimen Type**
Urine

---

**Specimen Required**

**Supplies:** Aliquot tube, 5-mL (T465)

**Container/Tube:** Plastic, 5-mL aliquot tube

**Specimen Volume:** 3 mL

**Collection Instructions:**
1. Collect a random urine specimen.
2. No preservative.
3. Centrifuging to remove particulates is not approved.

**Specimen Minimum Volume**
2.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject
- Other: Turbid reject, colored reject

**Reference Values**

**HISTOPLASMA ANTIGEN RESULT**

Negative

**HISTOPLASMA ANTIGEN VALUE**

Negative: 0.00-0.10
Indeterminate: 0.11-1.10
Positive: ≥1.11

**Day(s) and Time(s) Performed**
Monday through Sunday; 9 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
87385-x 2 (if appropriate)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>UHIST</td>
<td>Histoplasma Ag, U</td>
<td>44524-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISTQ</td>
<td>Histoplasma Ag Result</td>
<td>44524-7</td>
</tr>
<tr>
<td>DEXHU</td>
<td>Histoplasma Ag Value</td>
<td>13971-7</td>
</tr>
</tbody>
</table>

**Method Name**
Enzyme Immunoassay (EIA)

**Secondary ID**
63014

**Forms**
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.
**HIV4G**  
*HIV 1 & 2 antibody p24 antigen screening test*

*Baystate Reference Laboratories*

**Important Note**
Qualitative detection of Human Immunodeficiency Virus p24 antigen and antibodies to Human Immunodeficiency Viruses type 1 (including group "O") and type 2, in serum by Chemiluminescent immunoassay (CIA). Specimens repeatedly reactive are automatically referred for confirmatory.supplemental testing. A reactive result does not distinguish HIV-1 p24 antigen, HIV-1 antibody, HIV-2 antibody, and HIV-1 group O antibody.

**Additional Test Codes**
Samples yielding positive results by this screening assay are referred for confirmatory.supplemental testing. HIV antibody differentiation testing will be performed at an additional charge.

**Transport Temperature**
Stable for 7 days refrigerated

**EMR Interface Order Code**
68660

---

**HIV2VL**  
*HIV 2 RNA Quantitation*

*LabCorp*

**Collection Container**
Lavender top (EDTA) tube

Plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Frozen

**Specimen Stability**
Frozen 1 month at -20° C

Freeze/thaw cycles Stable x3

**CPT Code**
87538

**EMR Interface Order Code**
70987

---

**HIVTRN**  
*HIV Trofile RNA*

*LabCorp*

**Additional Information**

**Reflex Tests**

**Collection Container**
Lavender (EDTA)

---

**Other Acceptable Specimen Types**

**Special Handling Instructions**

**Specimen Volume**
10 mL

**Minimum Specimen Volume**

**Transport Temperature**

**Specimen Stability**

**Reasons for Rejection**

**Methodology**

**Days and Times Performed**

**Turnaround Time**

**Reference Ranges**

**CPT Code**

**LOINC Code**
57182-8

**EMR Interface Order Code**
68354

**HIVPCR**  
*HIV-1 DNA and RNA Qualitative Detection by PCR, Plasma*

*Mayo Clinic Laboratories in Rochester*

**Useful For**
Virologic detection of HIV-1 infection in infants younger than 2 years of age (an age group for which serologic tests are unreliable) born to HIV-1-infected mothers

Early detection of acute HIV-1 infection in children and adults who may be receiving combination antiretroviral prophylaxis or preemptive treatment

Determining eradication of HIV-1 in individuals receiving combination highly active antiretroviral therapies

**Testing Algorithm**
The following algorithms are available in Special Instructions:
- HIV Testing Algorithm (Fourth-Generation Screening Assay), Including Follow-up of Reactive Rapid Serologic Test Results
- HIV Prenatal Testing Algorithm, Including Follow-up of Reactive Rapid Serologic Test Results

**Special Instructions**
- HIV Testing Algorithm (Fourth-Generation Screening Assay), Including Follow-up of Reactive Rapid Serologic Test Results
- HIV Prenatal Testing Algorithm, Including Follow-up of Reactive Rapid Serologic Test Results
**Method Name**
Real-Time Polymerase Chain Reaction (PCR)

**Reporting Name**
HIV-1 DNA / RNA Qualitative, P

**Specimen Type**
Plasma EDTA

**Advisory Information**
This assay should not be used as a screening test or primary diagnostic test for HIV-1 infection, except in infants younger than 2 years of age born to HIV-1-infected mothers. For other age groups, order HVCOP / HIV-1 and HIV-2 Antigen and Antibody Routine Screen, Plasma as the screening test.

**Shipping Instructions**
1. Ship plasma on ice packs if arrival at Mayo Clinic Laboratories is expected within 5 days of plasma separation.
2. If shipment will be delayed for more than 5 days, freeze plasma specimen -20 to -80° C until shipment on dry ice.

**Specimen Required**

**Supplies:** Aliquot Tube, 5 mL (T465)

**Collection Container/Tube:** Lavender top (EDTA)

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 1 mL

**Collection Instructions:** Centrifuge blood collection tube and aliquot plasma into plastic vial per collection tube manufacturer's instructions (eg, centrifuge and aliquot within 2 hours of collection for BD Vacutainer tubes).

**Additional Information:** This test can be used for detection and diagnosis of HIV-1 infections, including in children younger than 2 years of age when serologic tests are not useful (due to presence of maternal HIV antibodies).

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen (preferred)</td>
<td>35 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>5 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: OK
- Gross lipemia: OK

**Reference Values**
Undetected

**Day(s) and Time(s) Performed**
Varies (once per week minimum)

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.
Specimen Minimum Volume
1.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen (preferred)</td>
<td>35 days</td>
<td>ALIQUOT TUBE</td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>5 days</td>
<td>ALIQUOT TUBE</td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis  OK
Gross lipemia  OK

Reference Values

Not applicable

Day(s) and Time(s) Performed

Varies; test will be performed in batches of 10

Test Classification

This test has been modified from the manufacturer’s instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

87901

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>HIVPR</td>
<td>HIV-1 Genotypic PR-RT Resistance, P</td>
<td>49659-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>37216</td>
<td>HIV-1 Genotypic PR-RT Drug Resistance, P</td>
<td>34700-5</td>
</tr>
<tr>
<td>37263</td>
<td>Nucleos(t)ide RT mutations</td>
<td>45175-7</td>
</tr>
<tr>
<td>21411</td>
<td>Abacavir</td>
<td>30287-7</td>
</tr>
<tr>
<td>21406</td>
<td>Didanosine</td>
<td>30284-4</td>
</tr>
<tr>
<td>37285</td>
<td>Emtricitabine</td>
<td>41402-9</td>
</tr>
<tr>
<td>37284</td>
<td>Lamivudine</td>
<td>30283-6</td>
</tr>
<tr>
<td>21408</td>
<td>Stavudine</td>
<td>30286-9</td>
</tr>
<tr>
<td>21530</td>
<td>Tenofovir</td>
<td>41396-3</td>
</tr>
<tr>
<td>21405</td>
<td>Zidovudine</td>
<td>30280-8</td>
</tr>
<tr>
<td>37264</td>
<td>Nonnucleoside RT mutations</td>
<td>45176-5</td>
</tr>
<tr>
<td>604980</td>
<td>Doravirine</td>
<td>91897-9</td>
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<td>21414</td>
<td>Efavirenz</td>
<td>30291-9</td>
</tr>
<tr>
<td>31267</td>
<td>Etravirine</td>
<td>52749-9</td>
</tr>
<tr>
<td>21410</td>
<td>Nevirapine</td>
<td>30289-3</td>
</tr>
<tr>
<td>34917</td>
<td>Rilpivirine</td>
<td>68463-9</td>
</tr>
<tr>
<td>21400</td>
<td>Protease Mutations</td>
<td>33630-5</td>
</tr>
<tr>
<td>28076</td>
<td>Atazanavir + Ritonavir</td>
<td>49618-2</td>
</tr>
<tr>
<td>26784</td>
<td>Darunavir + Ritonavir</td>
<td>49630-7</td>
</tr>
<tr>
<td>26733</td>
<td>Fosamprenavir + Ritonavir</td>
<td>51409-1</td>
</tr>
<tr>
<td>26734</td>
<td>Indinavir + Ritonavir</td>
<td>49619-0</td>
</tr>
<tr>
<td>21532</td>
<td>Lopinavir + Ritonavir</td>
<td>42000-0</td>
</tr>
<tr>
<td>21416</td>
<td>Nelfinavir</td>
<td>30294-3</td>
</tr>
<tr>
<td>26735</td>
<td>Saquinavir + Ritonavir</td>
<td>49621-6</td>
</tr>
<tr>
<td>28201</td>
<td>Tipranavir + Ritonavir</td>
<td>49622-4</td>
</tr>
</tbody>
</table>

INTHIV  HIV-1 Genotypic Integrase Inhibitor Drug Resistance, Plasma

Mayo Clinic Laboratories in Rochester

Advisory Information

This test is intended to be used to monitor known HIV-positive infections. It is not intended for primary detection of HIV infections.

Shipping Instructions

Ship frozen on dry ice. If shipment will be delayed for more than 5 days, freeze specimen at -70° C (up to 35 days) until shipment on dry ice.

Necessary Information

<table>
<thead>
<tr>
<th>Specimen Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplies: Aliquot Tube, 5 mL (T465)</td>
</tr>
<tr>
<td>Collection Container/Tube: Lavender top (EDTA)</td>
</tr>
<tr>
<td>Submission Container/Tube: Polypropylene vial</td>
</tr>
<tr>
<td>Specimen Volume: 2.2 mL</td>
</tr>
</tbody>
</table>

Collection Instructions: Centrifuge and aliquot plasma per collection tube manufacturer’s instructions for use (eg, centrifuge and aliquot within 2 hours of collection for BD Vacutainer tubes).

Additional Information: To ensure a minimum HIV-1 RNA amount (at least 500 copies/mL), the preferred blood volume must be submitted. Testing may be canceled if the specimen supplied is inadequate.

Secondary ID

63247

Useful For

Identification of HIV-1 genotypic mutations in the integrase region of HIV-1 to predict antiretroviral drug resistance in HIV-1-infected patients receiving integrase strand transfer inhibitors (ie, bictegravir, dolutegravir, elvitegravir, raltegravir)

Guiding initiation or change of drug combinations for the treatment of HIV-1 infection

Testing Algorithm

See HIV Treatment Monitoring Algorithm in Special Instructions.

Special Instructions

- HIV Treatment Monitoring Algorithm

Method Name

Reverse Transcriptase Polymerase Chain Reaction (RT-PCR)/DNA Sequencing

Reporting Name

HIV-1 Genotypic Integrase Resist, P

Specimen Type

Plasma EDTA

Specimen Minimum Volume

1.2 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen (preferred)</td>
<td>35 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>5 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: OK
- Gross lipemia: OK

Reference Values
Not applicable

Day(s) and Time(s) Performed
Varies; test will be performed in batches of 10

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
87906

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>HIVI</td>
<td>HIV-1 Genotypic Integrase Resist, P</td>
<td>72560-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>63247</td>
<td>HIV-1 Genotypic Integrase Resist, P</td>
<td>59462-2</td>
</tr>
<tr>
<td>44168</td>
<td>Integrase mutations</td>
<td>61199-6</td>
</tr>
<tr>
<td>603221</td>
<td>Bictegravir</td>
<td>90080-3</td>
</tr>
<tr>
<td>44169</td>
<td>Dolutegravir</td>
<td>72857-6</td>
</tr>
<tr>
<td>44170</td>
<td>Elvitegravir</td>
<td>72526-7</td>
</tr>
<tr>
<td>44171</td>
<td>Raltegravir</td>
<td>72525-9</td>
</tr>
</tbody>
</table>
**HIVQTS**  
**HIV-1 RNA (Viral Load) Quantitative, Plasma**

**Baystate Reference Laboratories**

**Collection Container**  
BD Vacutainer PPT® Plasma Preparation Tubes or Lavender (EDTA) Plasma

**Special Handling Instructions**  
PPT®: Invert 8-10 times immediately after draw, spin within 6 hours of draw at 1,100 RCF for a minimum of 10 minutes. The specimen can be transported with the plasma in the original tube.  
Lavender EDTA: Whole blood must be spun and the plasma removed from red cells within 24 hours of draw.

**Specimen Volume**  
5 mL

**Transport Temperature**  
PPT®: Refrigerated, NEVER FROZEN Plasma from Lavender top: refrigerated or frozen, must be frozen after 72 hours

**Specimen Stability**  
4°C up to 5 days, -20°C: 6 weeks

**Reasons for Rejection**  
Excessive delay in transport, specimen not processed in time, shared specimen; wrong tube, mislabeled specimens, insufficient quantity, PPT® tube frozen

**Methodology**  
Reverse transcriptase polymerase chain reaction (RT-PCR) with real-time detection

**Days and Times Performed**  
Monday – Friday

**Turnaround Time**  
7 days

**Units of Measure**  
copies/mL and Log10 copies/mL

**CPT Code**  
87536

**LOINC Code**  
20447-9

**EMR Interface Order Code**  
56615

**HLB27  HLA-B27, Blood**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**  
HLA-B27, B

**Useful For**  
Assisting in the diagnostic process of ankylosing spondylitis, juvenile rheumatoid arthritis, and Reiter syndrome

**Specimen Type**  
Whole Blood EDTA

**Specimen Required**

**Specimen must arrive within 96 hours of draw.**

**Container/Tube:** Lavender top (EDTA)  
**Specimen Volume:** 6 mL  
**Collection Instructions:** Do not transfer blood to other containers.

**Specimen Minimum Volume**  
1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood EDTA</td>
<td>Ambient</td>
<td>4 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

An interpretive report will be provided.

**Day(s) and Time(s) Performed**  
Monday through Friday; 7:30-5 p.m.  
Saturday; 10 a.m.-6 p.m.

**Test Classification**

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer’s instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**  
86812

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>LY27B</td>
<td>HLA-B27, B</td>
<td>26028-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LY27</td>
<td>HLA-B27 Result</td>
<td>26028-1</td>
</tr>
<tr>
<td>B27C</td>
<td>Interpretation</td>
<td>69052-9</td>
</tr>
</tbody>
</table>

**Reject Due To**

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Method Name**  
Flow Cytometry

**Forms**

If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

**HNK1  HNK1 (CD57) Profile**

*LabCorp*

**Collection Container**  
Lavender top (EDTA) AND Yellow top (ACD)  
Whole blood

**Special Handling Instructions**  
Must be received in Referral Lab, Whitney Ave, before 3 pm.

**Specimen Volume**  
10 mL

**Transport Temperature**  
Ambient

**Specimen Stability**  
48 hours
Reasons for Rejection
Specimen refrigerated or frozen.

Methodology
Flow cytometry

CPT Code
86356, 86357

EMR Interface Order Code
00360

HDUST  Hollister-Stier House Dust IgE

Specimen refrigerated or frozen.

Methodology
Flow cytometry

CPT Code
86356, 86357

EMR Interface Order Code
00360

HDUST  Hollister-Stier House Dust IgE

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48875

Container
Serum gel or red top tube

HOCYST  Homocysteine, Plasma

Baystate Reference Laboratories

Collection Container
Green

Plasma

Other Acceptable Specimen Types
EDTA plasma

Special Handling Instructions
Separate from cells within 1 hour and refrigerate. If no centrifuge is available, transport specimen ON ICE stat.
Serum results may be 10% higher.

Specimen Volume
3 mL

Minimum Specimen Volume
0.15 mL

Transport Temperature
Refrigerate spun plasma. If no centrifuge is available, transport ON ICE stat.

Specimen Stability
Room temperature: 4 days, Refrigerated: 14 days, Frozen: 10 months

Methodology
Chemiluminescence

Days and Times Performed
Wednesday and Friday

Turnaround Time
1 - 7 days

Reference Ranges
Male and Female: 5 - 15 umol/L

Units of Measure
umol/L

CPT Code
83090

EMR Interface Order Code
14450

UHVAQ  Homovanillic Acid, 24 Hour, Urine

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 06785

Reporting Name
Homovanillic Acid (HVA), 24 Hr, U

Useful For
Screening children for catecholamine-secreting tumors with a 24-hour urine collection when requesting homovanillic acid only

Monitoring neuroblastoma treatment

Screening patients with possible inborn errors of catecholamine metabolism

Specimen Type
Urine

Necessary Information
1. Collection duration and urine volume are required.
2. Patient's age is required.

Specimen Required

Patient Preparation: Administration of L-dopa may falsely increase homovanillic acid results; it should be discontinued 24 hours prior to and during collection of specimen.

Container/Tube: Plastic, 10-mL urine tube (T068)

Specimen Volume: 5 mL

Collection Instructions:
1. Collect a 24-hour urine specimen.
2. Add 25 mL of 50% acetic acid as preservative at start of collection. If specimen is refrigerated during collection, preservative may be added up to 12 hours after collection. Use 15 mL of 50% acetic acid for children less than 5 years old. This preservative is intended to achieve
a pH of between approximately 1 and 5. If necessary, adjust urine pH to 1 to 5 with 50% acetic or HCl acid.

**Additional Information:**
1. The sensitivity of this test is greater on a 24-hour specimen than on a random specimen.
2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.
3. Bactrim may interfere with detection of the analyte. All patients taking Bactrim should be identified to the laboratory when this test is ordered.

**Specimen Minimum Volume**
2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**
- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens

**Reference Values**
- <1 year: <35.0 mg/g creatinine
- 1 year: <30.0 mg/g creatinine
- 2-4 years: <25.0 mg/g creatinine
- 5-9 years: <15.0 mg/g creatinine
- 10-14 years: <9.0 mg/g creatinine
- ≥15 years (adults): <8 mg/24 hours

**Day(s) and Time(s) Performed**
Monday through Friday; 8 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
83150

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVA</td>
<td>Homovanillic Acid (HVA), 24 Hr, U</td>
<td>13760-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>3572</td>
<td>Homovanillic Acid, Adult (&gt;14 yr)</td>
<td>2436-4</td>
</tr>
<tr>
<td>3573</td>
<td>Homovanillic Acid, Child (&lt;15 yr)</td>
<td>13760-4</td>
</tr>
<tr>
<td>TM39</td>
<td>Collection Duration</td>
<td>13362-9</td>
</tr>
<tr>
<td>VL37</td>
<td>Urine Volume</td>
<td>3167-4</td>
</tr>
</tbody>
</table>

**Reject Due To**
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Urine Preservative Collection Options**
**Note:** The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.
### Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>180 days</td>
<td></td>
</tr>
</tbody>
</table>

### Reference Values

- <1 year: <35.0 mg/g creatinine
- 1 year: <30.0 mg/g creatinine
- 2-4 years: <25.0 mg/g creatinine
- 5-9 years: <15.0 mg/g creatinine
- 10-14 years: <9.0 mg/g creatinine
- ≥15 years (adults): <8.0 mg/g creatinine

### Day(s) and Time(s) Performed

Monday through Friday; 8 a.m.

### Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

### CPT Code Information

83150

### LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVAR</td>
<td>Homovanillic Acid (HVA), Random, U</td>
<td>11146-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>60275</td>
<td>Homovanillic Acid (HVA), Random, U</td>
<td>11146-8</td>
</tr>
</tbody>
</table>

### Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

### Method Name

Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

### Forms

If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

---

### HBEE  Honey Bee IgE

- **Contracted Reference Lab**: Honey Bee IgE
- **Collection Container**: Serum gel or red top tube
- **Specimen Volume**
  - For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
- **Minimum Specimen Volume**: 0.1 mL
- **Transport Temperature**: Refrigerated
- **Specimen Stability**
  - Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

### HOP  Hop Fruit IgE

- **Contracted Reference Lab**: Hop Fruit IgE
- **Collection Container**: Serum gel or red top tube
- **Specimen Volume**
  - For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
- **Minimum Specimen Volume**: 0.1 mL
- **Transport Temperature**: Refrigerated
- **Specimen Stability**
  - Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
### HORSDN  Horse Dander IgE

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

### HPVGTT  HPV Genotype Testing - Cytology

**Baystate Reference Laboratories**

**Methodology**
Hologic HPV 16 18/45 Genotype Assay/Amplify target mRNA/NAAT

**Days and Times Performed**
Daily; testing performed Monday - Friday

**Turnaround Time**
3 - 7 working days

**Preparation and Handling**

**PreservCyt® Fixative Vial**

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Room Temperature

**Specimen Stability**
PreservCyt® vial stable at room temperature for 30 days

**Reasons for Rejection**
ThinPrep specimens collected from sites other than cervical/endocervical, vaginal or anal; Unlabeled or mislabeled fixative container; Incomplete patient information.

**Methodology**
Hologic HPV 16 18/45 Genotype Assay/Amplify target mRNA/NAAT

**Additional Information**

**Indications of Testing:** The HPV test should be used in conjunction with Pap testing. The test is typically used in the setting of: Negative morphology, positive HPV reflex to HPV Genotype 16 18/45

**Reflex Tests**
Indications of Testing: The HPV test should be used in conjunction with Pap testing. The test is typically used in the setting of: Negative morphology, positive HPV reflex to HPV Genotype 16 18/45

**Collection Container**
Cytology Pap test fixative container (PreservCyt® solution), available through Client Service, (413)322-4000 option 5

One cytology fixative bottle (PreservCyt® Solution) containing adequate sampling from both the ectocervix and endocervix or vaginal specimen.

**Special Handling Instructions**
Transport of Specimens for HPV, HPV w/GT, CTGC or Trichomonas: The tests that we use to detect these infections are extremely sensitive, and there are usually a lot of organisms in positive specimens. All specimens with orders for CTGC, TRICH or HPV should each be in their own biohazard bags. Aliquotted specimens also need to be transported in their own separate specimen bag. This practice it to prevent cross-contamination between specimens.

**Specimen Volume**
PreservCyt® Fixative Vial

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Room Temperature

**Specimen Stability**
PreservCyt® vial stable at room temperature for 30 days

**Reasons for Rejection**
ThinPrep specimens collected from sites other than cervical/endocervical, vaginal or anal; Unlabeled or mislabeled fixative container; Incomplete patient information.

**Methodology**
Hologic HPV 16 18/45 Genotype Assay/Amplify target mRNA/NAAT

**Days and Times Performed**
Daily; testing performed Monday - Friday

**Turnaround Time**
3 - 7 working days
Reference Ranges
A positive result indicates detection of mRNA from one or more of the following high-risk HPV types: 16, and/or 18/45. A negative result indicates such mRNA sequences were not detected by the assay. Results should be correlated with other clinical cytologic findings.

CPT Code
87624 (HPV amplified probe; 87625 (Genotype 16 18/45)

EMR Interface Order Code

**HPV  HPV Testing**

*Baystate Reference Laboratories*

**Reflex Tests**
HPV Genotype

**Collection Container**
Cytology Pap test fixative container (PreservCyt® solution), available through Client Service, (413)322-4000 option 4

One cytology fixative bottle (PreservCyt® Solution) containing adequate sampling from both the ectocervix and endocervix or vaginal specimen, vaginal or rectal specimen.

**Note:** A anal-rectal cytology specimen is collected using a Dacron swab. Moisten the swab in tap water and insert as far as possible into the anal canal. Slowly rotate the swab in one direction with gentle pressure on the walls of the swab is slowly being withdrawn. Care should be taken to ensure the transition zone is sampled. Vigorously rotate the swab in the PreservCyt® solution 10 times while pushing against the wall of the ThinPrep vial. Swirl the swab vigorously to release additional material. Discard the swab. Tighten the cap on the ThinPrep container so that the torque line on the cap passes the torque line on the vial.

**Special Handling Instructions**
Transport of Specimens for HPV, HPV w/GT, CTGC or Trichomonas: The tests that we use to detect these infections are extremely sensitive, and there are usually a lot of organisms in positive specimens. All specimens with orders for CTGC, TRICH or HPV should each be in their own biohazard bags. Aliquots specimens also need to be transported in their own separate specimen bag. This practice it to prevent cross-contamination between specimens.

**Specimen Volume**
PreservCyt® Fixative Vial

**Transport Temperature**
Room Temperature

**Specimen Stability**
PreservCyt® vial stable at room temperature for 30 days.

**Reasons for Rejection**
Improper collection or inadequate specimen; improperly labeled; specimen more than six months old in ThinPrep vial; frozen specimens; specimen leaked in transit; quantity not sufficient for analysis; name discrepancies; excessively bloody specimens.

**Methodology**
Hologic HPV Assay/Amplify target mRNA/NAAT

**Days and Times Performed**
Daily; testing performed Monday - Friday

**Turnaround Time**
3 - 7 working days

**Reference Ranges**
A positive result indicates detection of mRNA from one or more of the following high-risk HPV types: 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59 and 68. A negative result indicates such mRNA sequences were not detected by the assay. Results should be correlated with other clinical cytologic findings.

**CPT Code**
87624

**EMR Interface Order Code**
20837

**HTLVWB  HTLV I/II Western Blot**

*LabCorp*

**Additional Information**

**Reflex Tests**

**Other Acceptable Specimen Types**

**Special Handling Instructions**

**Specimen Volume**
mL

**Minimum Specimen Volume**

**Transport Temperature**

**Specimen Stability**

**Reasons for Rejection**

**Methodology**

**Days and Times Performed**

**Turnaround Time**

**Reference Ranges**

**CPT Code**
65835

**HTLVAB  HTLV1/HTLV2 Antibody**

*LabCorp*

**Reflex Tests**
Positive results will reflex to a Western Blot

**Collection Container**
Serum gel

Serum
Other Acceptable Specimen Types

Red top

Specimen Volume
2 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Gross bacterial contamination; hemolysis; lipemia

Methodology
Chemiluminescent immunoassay (CLIA); line blot (immunoblot)

Turnaround Time
3-5 days

Reference Ranges
Negative

CPT Code
86790

LOINC Code
29901-6

EMR Interface Order Code
55175

HTLVCF  HTLV1/HTLV2 Antibody, CSF

Baystate Reference Laboratories

Additional Information
Testing referred to ARUP

Reflex Tests
Positive results will reflex to a Western Blot

Collection Container
Other

CSF

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
7 days/ Frozen: indefinitely

Reasons for Rejection
Severely hemolyzed or lipemic specimens; heat-inactivated specimens; specimens received room temperature

Methodology
EIA/Western blot

LOINC Code
63460-0

EMR Interface Order Code
54585

FHAM  Human Anti-mouse Antibody (HAMA)

Quest Diagnostics Nichols Institute

Reporting Name
Human Anti-mouse AB (HAMA)

Specimen Type
Serum Red

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Frozen</td>
<td>90 days</td>
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Reject Due To

<table>
<thead>
<tr>
<th>Reason</th>
<th>Acceptance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>Mild OK; Gross OK</td>
</tr>
<tr>
<td>Lipemia</td>
<td>Mild OK; Gross reject</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>SST (serum separator tube)</td>
</tr>
</tbody>
</table>

Reference Values
≤ 74 ng/mL

Day(s) and Time(s) Performed
Thursday

CPT Code Information
83520

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHAM</td>
<td>Human Anti-mouse AB (HAMA)</td>
<td>14975-7</td>
</tr>
</tbody>
</table>

Method Name
Enzyme Linked Immunosorbent Assay (ELISA)

HV6PCR  Human Herpesvirus-6, Molecular Detection, PCR, Plasma

Mayo Clinic Laboratories in Rochester

Reporting Name
HHV-6 PCR, P

Useful For
As an adjunct in the rapid diagnosis of human herpesvirus-6 infection in plasma specimens
Specimen Type
Plasma EDTA

Specimen Required
Supplies: Aliquot Tube, 5 mL (T465)
Collection Container/Tube: Lavender top (EDTA)
Submission Container/Tube:
Preferred: Aliquot Tube, 5 mL (T465)
Acceptable: Screw-capped, sterile container
Specimen Volume: 1 mL
Collection Instructions: Spin down promptly.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information
<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Negative

Day(s) and Time(s) Performed
Monday through Friday

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
87532

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHV6</td>
<td>HHV-6 PCR, P</td>
<td>29495-9</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value | 87532 | HHV-6 PCR, P | 29495-9 |

Reject Due To

- Gross hemolysis | Reject
- Gross lipemia  | OK

Method Name
Real-Time Polymerase Chain Reaction (PCR)/DNA Probe Hybridization

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

TGFB1 Human Transforming Growth Factor Beta 1

Baystate Reference Laboratories

Important Note
Centrifuge within 30 minutes of collection. Remove plasma and spin again to remove all cell debris. Remove 1 mL plasma to new tube and freeze immediately.

Plasma
Transport Temperature
Frozen

EMR Interface Order Code
69174

HYMORP Hydrocodone and metabolites

Medtox Laboratories, Inc.

Reporting Name
Hydrocodone and MTB, Free

Specimen Type
Varies

Specimen Required
Submit only 1 of the following specimens:

Plasma
Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 5 mL sodium heparin plasma refrigerated in a plastic vial.

Serum
Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 5 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

- Hemolysis | NA
- Lipemia    | NA
- Icterus    | NA
- Other      | NA

Reference Values
Reference Range:
- Hydrocodone, unconjugated: 10-100 ng/mL
- Hydromorphone, unconjugated: 1-30 ng/mL
- Dihydrocodeine, unconjugated: Not established ng/mL

Day(s) and Time(s) Performed
Tuesday through Saturday

CPT Code Information
80361
**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHMTB</td>
<td>Hydrocodone and MTB, Free</td>
<td>Not Provided</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z4300</td>
<td>Hydrocodone, unconjugated</td>
<td>12786-0</td>
</tr>
<tr>
<td>Z4301</td>
<td>Hydromorphone, unconjugated</td>
<td>12787-8</td>
</tr>
<tr>
<td>Z4302</td>
<td>Dihydrocodeine, unconjugated</td>
<td>12785-2</td>
</tr>
</tbody>
</table>

**Method Name**
Gas chromatography with Mass Spectrometry (GC/MS)

---

**18OHCO  Hydroxy corticosterone, 18**

*Esoterix Endocrinology*

**Reporting Name**
18-Hydroxy corticosterone, Serum

**Specimen Type**
Serum

**Specimen Required**

- **Collection Container/Tube:**
  - Preferred: Red top
  - Acceptable: Serum gel

- **Submission Container/Tube:** Plastic vial

- **Specimen Volume:** 3 mL

**Collection Instructions:** Separate serum from cells within 1 hour of collection.

**Specimen Minimum Volume**
Pediatric minimum only: 1.0 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>90 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>48 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

<table>
<thead>
<tr>
<th>Age</th>
<th>Range (ng/dL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premature (26-28 Weeks) Day 4</td>
<td>10-670</td>
</tr>
<tr>
<td>Premature (31-35 Weeks) Day 4</td>
<td>57-410</td>
</tr>
<tr>
<td>Full Term Day 3</td>
<td>31-546</td>
</tr>
<tr>
<td>1-11 Months</td>
<td>5-220</td>
</tr>
<tr>
<td>1 year old</td>
<td>18-155</td>
</tr>
<tr>
<td>2-9 Years</td>
<td>6-85</td>
</tr>
<tr>
<td>10-14 Years</td>
<td>10-72</td>
</tr>
<tr>
<td>Adults</td>
<td>9-58</td>
</tr>
<tr>
<td>Adults 8:00 AM Supine</td>
<td>4-21</td>
</tr>
<tr>
<td>Adults 8:00 AM Upright</td>
<td>5-46</td>
</tr>
</tbody>
</table>

**If age is provided:**

<table>
<thead>
<tr>
<th>Age</th>
<th>Range (ng/dL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premature (26-28 Weeks) Day 4</td>
<td>10-670</td>
</tr>
<tr>
<td>Premature (31-35 Weeks) Day 4</td>
<td>57-410</td>
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<td>Full Term Day 3</td>
<td>31-546</td>
</tr>
<tr>
<td>1-11 Months</td>
<td>5-220</td>
</tr>
<tr>
<td>1 year old</td>
<td>18-155</td>
</tr>
<tr>
<td>2-9 Years</td>
<td>6-85</td>
</tr>
<tr>
<td>10-14 Years</td>
<td>10-72</td>
</tr>
<tr>
<td>Adults</td>
<td>9-58</td>
</tr>
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<td>4-21</td>
</tr>
<tr>
<td>Adults 8:00 AM Upright</td>
<td>5-46</td>
</tr>
</tbody>
</table>

**Day(s) and Time(s) Performed**
Monday

**CPT Code Information**
82542

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYD18</td>
<td>18-Hydroxy corticosterone, Serum</td>
<td>1674-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z0252</td>
<td>18-Hydroxy corticosterone, Serum</td>
<td>1674-1</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

**Method Name**
HPLC Tandem, Mass Spectrometry

---

**HY21AB  Hydroxylase 21 Antibody**

*LabCorp*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Red top

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Frozen

**Reasons for Rejection**
Specimen not frozen

**CPT Code**
83519

**LOINC Code**
17781-6
EMR Interface Order Code
20685

IGGST  Hymenoptera IgG Panel
Viracor Eurofins

Important Note
This is IgG testing. Typically the patient needs IgE testing, in which case see RASTST. Don't order this panel unless the provider specifically orders IgG.
This panel contains:
White-faced hornet IgG
Honey bee IgG
Paper wasp IgG
Yellow hornet IgG
Yellow jacket IgG

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
2 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
Ambient: 7 days
Refrigerated: 4 weeks
Frozen: 1 year

CPT Code
86001 x5

LOINC Code
W-F Hornet 49745-3
Yellow Hornet 49740-4
Yellow Jacket 41229-6

EMR Interface Order Code
71102

UHYOXP  Hyperoxaluria Panel, Urine
Mayo Clinic Laboratories in Rochester

Reporting Name
Hyperoxaluria Panel, U

Useful For
Distinguishing between primary and secondary hyperoxaluria
Distinguishing between primary hyperoxaluria types 1, 2, and 3

Specimen Type
Urine

Specimen Required
Supplies: Urine Tubes, 10 mL (T068)
Container/Tube: Plastic, 10-mL urine tube

Specimen Volume: 10 mL
Collection Instructions:
1. Have patient void the first-morning specimen, then collect specimen within 2 hours of first-morning void. 2. No preservative. 3. Immediately freeze specimen.

Specimen Minimum Volume
1.1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen (preferred)</td>
<td>90 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
• Hyperoxaluria Diagnostic Algorithm

Reference Values
REPORTING/INTERPRETING RESULTS
Reference Intervals (Normal Ranges):

<table>
<thead>
<tr>
<th>Substance</th>
<th>Reference Interval</th>
<th>Age Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLYCOLATE</td>
<td>≤17 years: ≤75 mg/g creatinine</td>
<td>≥18 years: ≤50 mg/g creatinine</td>
</tr>
<tr>
<td>GLYCERATE</td>
<td>≤31 days: ≤75 mg/g creatinine</td>
<td>32 days - 4 years: ≤125 mg/g creatinine</td>
</tr>
<tr>
<td></td>
<td>5 - 10 years: ≤55 mg/g creatinine</td>
<td>≥11 years: ≤25 mg/g creatinine</td>
</tr>
<tr>
<td>OXALATE</td>
<td>≤6 months: ≤400 mg/g creatinine</td>
<td>7 months - 1 year: ≤300 mg/g creatinine</td>
</tr>
<tr>
<td></td>
<td>2 - 6 years: ≤150 mg/g creatinine</td>
<td>7 - 10 years: ≤100 mg/g creatinine</td>
</tr>
<tr>
<td></td>
<td>≥11 years: ≤75 mg/g creatinine</td>
<td></td>
</tr>
<tr>
<td>4-HYDROXY-2-OXOGLUTARATE (HOG)</td>
<td>≤10 mg/g creatinine</td>
<td></td>
</tr>
</tbody>
</table>

Day(s) and Time(s) Performed
Monday, Thursday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82542

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYOX</td>
<td>Hyperoxaluria Panel, U</td>
<td>53710-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>50592</td>
<td>Glycolate</td>
<td>13751-3</td>
</tr>
<tr>
<td>50593</td>
<td>Glycerate</td>
<td>13749-7</td>
</tr>
<tr>
<td>50594</td>
<td>Oxalate</td>
<td>13483-3</td>
</tr>
<tr>
<td>38049</td>
<td>4-hydroxy-2-oxoglutarate</td>
<td>13678-8</td>
</tr>
<tr>
<td>29981</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
<tr>
<td>29984</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

Testing Algorithm
See Hyperoxaluria Diagnostic Algorithm in Special Instructions.
Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Gas Chromatography-Mass Spectrometry (GC-MS)

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- Inborn Errors of Metabolism Test Request (T798)
- Renal Diagnostics Test Request (T830)

HYPNRL  Hypersensitivity Pneumonitis Serology
Baystate Reference Laboratories

Additional Information
This test evaluates ten of the most common antigens associated with HP by immunodiffusion: Aspergillus fumigatus strains 507,515,534, Candida albicans, Penicillium notatum, Pigeon sera, Saccharomonospora vidas, Saccharomonospora rectivirgula, Thermoactinomyces candidus, Thermoactinomyces vulgaris.

Collection Container
Red Serum

Specimen Volume
2 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
24 hours

Methodology
Immunodiffusion

Days and Times Performed
Monday - Friday; Specimen is sent to a reference laboratory.

Turnaround Time
7 - 14 days

Reference Ranges
Negative

LOINC Code
35577-6

EMR Interface Order Code
55650

IBDEX IBD Expanded Panel
LabCorp

Important Note
TEST INCLUDES: Anti-Chitobioside Carbohydrate Antibodies (ACCA), Anti-Laminarilioside Carbohydrate Antibodies (ALCA), Anti-Mannobioside Carbohydrate Antibodies (AMCA), Anti-Saccharomyces cerevisiae Antibodies (gASCA), Atypical perinuclear Antineutrophil Cytoplasmic Antibody (pANCA)

Collection Container
Serum gel or red top tube

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
7 days

Reasons for Rejection
Hemolysis, lipemia, heat-treated, gross contamination

CPT Code
83516 x3, 86255, 86671

EMR Interface Order Code
69232

IBU Ibuprofen (Motrin, Advil, Nuprin), serum
Medtox Laboratories, Inc.

Reporting Name
Ibuprofen (Motrin, Advil, Nuprin)

Specimen Type
Varies

Specimen Required
Submit only 1 of the following specimens:

Plasma
Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 1 mL sodium heparin plasma refrigerated in plastic vial.

Serum
Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum refrigerated in plastic vial.

Specimen Minimum Volume
0.25 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Reference Range: 10.0 - 50.0 ug/mL

Day(s) and Time(s) Performed
Tuesday, Thursday, Saturday
**IGASB  IgA Subclasses, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
IgA Subclasses, S

**Useful For**
Investigation of immune deficiency due to IgA2 deficiency
Evaluating patients with anaphylactic transfusion reactions

**Specimen Type**
Serum

**Specimen Required**

<table>
<thead>
<tr>
<th>Container/Tube:</th>
<th>Preferred: Red top</th>
<th>Acceptable: Serum gel</th>
</tr>
</thead>
</table>

**Specimen Volume:** 1 mL

**Specimen Minimum Volume:** 0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

| IgA | 0-<5 months: 7-37 mg/dL | 5-<9 months: 16-50 mg/dL | 9-<15 months: 27-66 mg/dL | 15-<24 months: 36-79 mg/dL | 2-<4 years: 27-246 mg/dL | 4-<7 years: 34-274 mg/dL | 7-<10 years: 42-295 mg/dL | 10-<13 years: 52-319 mg/dL | 16-<18 years: 60-337 mg/dL | ≥18 years: 61-356 mg/dL |

**Method Name**
Nephelometry

**Secondary ID**
87938

**IGFBP1  IGF Binding Protein-1**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
**SIGG  IgG Albumin Ratio, Blood**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
See Individual Listings

**Methodology**
Immunoturbidimetric

**Days and Times Performed**
Test performed daily

**Turnaround Time**
1 - 4 days

**Reference Ranges**
0.0 - 23.2%

**CPT Code**
83042, 82784

**LOINC Code**
2470-3

**EMR Interface Order Code**
65260

---

**IGGSUB  IgG Subclasses, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
IgG Subclasses, S

**Useful For**
Second-order testing for evaluation of patients with clinical signs and symptoms of humoral immunodeficiency or combined immunodeficiency (cellular and humoral)

**Specimen Type**
Serum

**Advisory Information**
If testing for immunoglobulin (Ig) G4-related diseases, the more appropriate test to order is IGGS4 / Immunoglobulin Subclass IgG4, Serum.

**Specimen Required**

**Patient Preparation:** Fasting preferred but not required

**Container/Tube:**
Preferred: Serum gel
Acceptable: Red top

**Specimen Volume:** 1 mL

**Specimen Minimum Volume**
0.5 mL

---

**CFIGG  IgG Albumin Ratio, CSF**

*Baystate Reference Laboratories*

**Collection Container**
CSF

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.4 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temp: 1 day, Refrigerated: 7 days, Frozen: Not recommended

**Methodology**
Immunoturbidimetric

**Days and Times Performed**
Test performed daily

**Turnaround Time**
1 - 4 days

**Reference Ranges**

**CPT Code**
82042, 82784

**LOINC Code**
2470-3

**EMR Interface Order Code**
46725
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

**TOTAL IgG**

- 0-<5 months: 100-334 mg/dL
- 5-<9 months: 164-588 mg/dL
- 9-<15 months: 246-904 mg/dL
- 15-<24 months: 313-1,170 mg/dL
- 2-<4 years: 295-1,156 mg/dL
- 4-<7 years: 386-1,470 mg/dL
- 7-<10 years: 462-1,682 mg/dL
- 10-<13 years: 503-1,719 mg/dL
- 13-<16 years: 509-1,580 mg/dL
- 16-<18 years: 487-1,327 mg/dL
- ≥18 years: 767-1,590 mg/dL

**IgG1**

- 0-<5 months: 56-215 mg/dL
- 5-<9 months: 102-369 mg/dL
- 9-<15 months: 160-562 mg/dL
- 15-<24 months: 209-724 mg/dL
- 2-<4 years: 158-721 mg/dL
- 4-<7 years: 209-902 mg/dL
- 7-<10 years: 253-1,019 mg/dL
- 10-<13 years: 280-1,030 mg/dL
- 13-<16 years: 289-1,030 mg/dL
- 16-<18 years: 283-772 mg/dL
- ≥18 years: 341-894 mg/dL

**IgG2**

- 0-<5 months: ≤82 mg/dL
- 5-<9 months: ≤89 mg/dL
- 9-<15 months: 24-98 mg/dL
- 15-<24 months: 35-105 mg/dL
- 2-<4 years: 39-176 mg/dL
- 4-<7 years: 44-316 mg/dL
- 7-<10 years: 54-435 mg/dL
- 10-<13 years: 66-502 mg/dL
- 13-<16 years: 82-516 mg/dL
- 16-<18 years: 98-486 mg/dL
- ≥18 years: 171-632 mg/dL

**IgG3**

- 0-<5 months: 7.6-82.3 mg/dL
- 5-<9 months: 11.9-74.0 mg/dL
- 9-<15 months: 17.3-63.7 mg/dL
- 15-<24 months: 21.9-55.0 mg/dL
- 2-<4 years: 17.0-84.7 mg/dL
- 4-<7 years: 10.8-94.9 mg/dL
- 7-<10 years: 8.5-102.6 mg/dL
- 10-<13 years: 11.5-105.3 mg/dL
- 13-<16 years: 20.0-103.2 mg/dL
- 16-<18 years: 31.3-97.6 mg/dL
- ≥18 years: 18.4-106.0 mg/dL

**IgG4**

- 0-<5 months: ≤19.8 mg/dL
- 5-<9 months: ≤20.8 mg/dL
- 9-<15 months: ≤22.0 mg/dL
- 15-<24 months: ≤23.0 mg/dL
- 2-<4 years: 0.4-49.1 mg/dL
- 4-<7 years: 0.8-81.9 mg/dL
- 7-<10 years: 1.0-108.7 mg/dL
- 10-<13 years: 1.0-121.9 mg/dL
- 13-<16 years: 0.7-121.7 mg/dL
- 16-<18 years: 0.3-111.0 mg/dL
- ≥18 years: 2.4-121.0 mg/dL

**Day(s) and Time(s) Performed**

- Monday through Saturday: Continuously

**Test Classification**

- This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions.
- Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**

- 82784
- 82787 x 4

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGGS</td>
<td>IgG Subclasses, S</td>
<td>47289-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>T_IGG</td>
<td>Total IgG</td>
<td>2465-3</td>
</tr>
<tr>
<td>IGG1</td>
<td>IgG 1</td>
<td>2466-1</td>
</tr>
<tr>
<td>IGG2</td>
<td>IgG 2</td>
<td>2467-9</td>
</tr>
<tr>
<td>IGG3</td>
<td>IgG 3</td>
<td>2468-7</td>
</tr>
<tr>
<td>IGG4</td>
<td>IgG 4</td>
<td>2469-5</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: OK
- Gross lipemia: Reject
- Gross icterus: OK

**Method Name**

- Nephelometry

**Forms**

- If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

**Secondary ID**

- 9259

**Testing Algorithm**

- Testing includes total immunoglobulin G (IgG) as well as the 4 subclasses of IgG.
- See Celiac Disease Diagnostic Testing Algorithm in Special Instructions

**Special Instructions**

- Celiac Disease Diagnostic Testing Algorithm

**IGHSOM**

**IGH Somatic Hypermutation Analysis, B-Cell Chronic Lymphocytic Leukemia (B-CLL), Varies**

**Useful For**

- Providing prognostic information in patients with newly diagnosed B-cell chronic lymphocytic leukemia
- This test is not intended for use in providing prognostic information for patient with other B-cell neoplasms or hematopoietic tumors.

**Special Instructions**

- Molecular Hematopathology Patient Information

**Reporting Name**

- IGH Somatic Hypermutation in B-CLL
Specimen Type
Varies

Shipping Instructions
1. Both refrigerated and ambient specimens must arrive within 7 days of collection.
2. Collect and package specimen as close to shipping time as possible.

Necessary Information
1. Molecular Hematopathology Patient Information: B-Cell Chronic Lymphocytic Leukemia (CLL) for IGVH and/or TP53 Somatic Mutation Testing (T711) is required, see Special Instructions. Testing may proceed without the patient information, however, it aids in providing a more thorough interpretation. Ordering providers are strongly encouraged to fill out the form and send with the specimen.
2. If form is not provided, include the following information with the test request: specimen source, pertinent clinical history (ie, CBC results and relevant clinical notes), and clinical or morphologic suspicion.

Specimen Required
Submit only 1 of the following specimens:

**Specimen Type**: Peripheral blood
**Container/Tube**: Preferred: Lavender top (EDTA)
Acceptable: Yellow top (ACD)
**Specimen Volume**: 4 mL
**Collection Instructions**: 1. Invert several times to mix blood.
2. Send specimen in original tube.
3. Label specimen as blood.
**Specimen Stability**: Refrigerated/ Ambient

**Specimen Type**: Bone marrow
**Container/Tube**: Preferred: Lavender top (EDTA)
Acceptable: Yellow top (ACD)
**Specimen Volume**: 2 mL
**Collection Instructions**: 1. Invert several times to mix bone marrow.
2. Send specimen in original tube.
3. Label specimen as bone marrow.
**Specimen Stability**: Refrigerated/ Ambient

**Specimen Type**: Extracted DNA from blood or bone marrow
**Container/Tube**: 1.5- to 2-mL screw-top tube
**Specimen Volume**: Entire specimen
**Collection Instructions**: 1. Label specimen as extracted DNA and indicate specimen source (blood or bone marrow).
2. The required volume of DNA is 50 mcL at a concentration of 20 ng/ mcL
3. Include volume and concentration on tube.
**Specimen Stability**: Frozen (preferred)/Refrigerated

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Varies</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>Moderately to severely clotted</td>
</tr>
</tbody>
</table>

Reference Values
An interpretive report will be provided.

Day(s) and Time(s) Performed
Monday, Wednesday, Friday

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
81263-IGH (immunoglobulin heavy chain locus) (eg, leukemia and lymphoma, B-cell), variable region somatic mutation analysis

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCLL</td>
<td>IGH Somatic Hypermutation in B-CLL</td>
<td>In Process</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
39465 | BCLL Result | No LOINC Needed |
MP005 | Specimen Type | 31208-2 |
19674 | Final Diagnosis | 50398-7 |

Method Name
Polymerase Chain Reaction (PCR) and Next-Generation Sequencing

Secondary ID
89008

Specimen Minimum Volume
Blood: 1 mL
Bone Marrow: 1 mL
Extracted DNA: see Specimen Required

Forms
1. Molecular Hematopathology Patient Information: B-Cell Chronic Lymphocytic Leukemia (CLL) for IGVH and/or TP53 Somatic Mutation Testing (T711) is required, see Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

IMPRAM Imipramine and Desipramine, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 06875

Useful For
Monitoring serum concentration during therapy
Evaluating potential toxicity
The test may also be useful to evaluate patient compliance

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Reporting Name
Imipramine and Desipramine, S
**Specimen Type**
Serum Red

**Specimen Required**

**Container/Tube:** Red top  
**Specimen Volume:** 1 mL  
**Collection Instructions:**  
1. Draw specimen immediately before next scheduled dose (minimum 12 hours after last dose).  
2. Serum must be separated from cells within 2 hours of draw.

**Specimen Minimum Volume**  
0.25 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated</td>
<td>28 days</td>
<td>(preferred)</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject  
- Gross lipemia: Reject  
- Gross icterus: Reject

**Reference Values**

**IMIPRAMINE AND DESIPRAMINE**  
Total therapeutic concentration: 175-300 ng/mL

**DESIPRAMINE ONLY**  
Therapeutic concentration: 100-300 ng/mL  
**Note:** Therapeutic ranges are for specimens drawn at trough (ie, immediately before next scheduled dose). Levels may be elevated in non-trough specimens.

**Day(s) and Time(s) Performed**

Monday through Friday; Varies

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

80335  
G0480 (if appropriate)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMIPR</td>
<td>Imipramine and Desipramine, S</td>
<td>43123-9</td>
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</table>

**Result ID**

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>63508</td>
<td>Imipramine</td>
<td>3690-5</td>
</tr>
<tr>
<td>37121</td>
<td>Desipramine</td>
<td>3531-1</td>
</tr>
<tr>
<td>37122</td>
<td>Imipramine and Desipramine</td>
<td>9627-1</td>
</tr>
</tbody>
</table>

**Forms**

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:  
- Cardiovascular Test Request Form (T724)  
- Therapeutics Test Request (T831)

---

**C1QIC   Immune Complex C1Q**

**LabCorp**

**Collection Container**
Serum gel  
Serum

**Other Acceptable Specimen Types**
Red top

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Frozen

**Methodology**
Enzyme immunoassay (EIA)

**Reference Ranges**
Positive: >10.7 ug Eq/mL

**CPT Code**
86332

**LOINC Code**
4479-2

**EMR Interface Order Code**
45975

**IMMFIX   Immunofixation, Blood**

**Baystate Reference Laboratories**

**Collection Container**
Serum gel  
Serum

**Special Handling Instructions**
Includes IGA, IGG, IGM and Interpretation by Pathologist

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Reasons for Rejection**
Specimen kept at room temperature or preservative added

**Methodology**
Immunoturbidimetric and high resolution electrophoresis

**Days and Times Performed**

Monday - Friday

**Turnaround Time**
2 - 5 days
**UIMFX  Immunofixation, Urine**

*Baystate Reference Laboratories*

**Collection Container**

Urine

Random Urine

**Special Handling Instructions**

Includes Interpretation by Pathologist

**Specimen Volume**

20 mL

**Minimum Specimen Volume**

10 mL

**Transport Temperature**

Refrigerate

**Specimen Stability**

Refrigerated: 7 days

**Reasons for Rejection**

Specimen kept at room temperature or preservative added

**Methodology**

High resolution electrophoresis

**Days and Times Performed**

Monday - Friday

**Turnaround Time**

2 - 5 days

**CPT Code**

86334 and 82784 x 3

**LOINC Code**

25700-6

**EMR Interface Order Code**

46770

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**IGD  Immunoglobulin D (IgD), Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**

Immunoglobulin D (IgD), S

**Useful For**

Providing important information on the humoral immune status.

**Specimen Type**

Serum

**Advisory Information**

MPSS / Monoclonal Protein Studies, Serum should be performed to distinguish between polyclonal and monoclonal IgD.

**Specimen Required**

**Patient Preparation:** Fasting preferred but not required

**Container/Tube:**

Preferred: Red top

Acceptable: Serum gel

**Specimen Volume:** 1 mL

**Specimen Minimum Volume**

0.5 mL

---

**IGA  Immunoglobulin A (IgA)**

*Baystate Reference Laboratories*

**Collection Container**

Serum gel

Serum

**Other Acceptable Specimen Types**

Heparinized plasma or EDTA plasma

**Specimen Volume**

0.6 mL

**Minimum Specimen Volume**

0.2 mL

**Transport Temperature**

Refrigerate

**Specimen Stability**

Room temperature: 8 months, Refrigerated: 8 months, Frozen: 8 months

**Methodology**

Immunoturbidimetric

**Days and Times Performed**

Test performed daily

**Reference Ranges**

<table>
<thead>
<tr>
<th>Age</th>
<th>IMMUNOGLOBULIN A (IgA)</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>0 - 12 months</td>
<td>0 - 83</td>
<td>0 - 83</td>
</tr>
<tr>
<td>1 - 3 years</td>
<td>20 - 100</td>
<td>20 - 100</td>
</tr>
<tr>
<td>4 - 6 years</td>
<td>27 - 195</td>
<td>27 - 195</td>
</tr>
<tr>
<td>7 - 9 years</td>
<td>34 - 305</td>
<td>34 - 305</td>
</tr>
<tr>
<td>10 - 11 years</td>
<td>53 - 204</td>
<td>53 - 204</td>
</tr>
<tr>
<td>12 - 13 years</td>
<td>58 - 358</td>
<td>58 - 358</td>
</tr>
<tr>
<td>14 - 15 years</td>
<td>47 - 249</td>
<td>47 - 249</td>
</tr>
<tr>
<td>16 - 19 years</td>
<td>61 - 348</td>
<td>61 - 348</td>
</tr>
<tr>
<td>20 years+</td>
<td>70 - 400</td>
<td>70 - 400</td>
</tr>
</tbody>
</table>

**CPT Code**

82784

**LOINC Code**

25700-6

**EMR Interface Order Code**

47550

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Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

≤10 mg/dL

Day(s) and Time(s) Performed

Monday through Saturday; Continuously until 3 p.m.

Test Classification

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer’s instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

82784

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGD</td>
<td>Immunoglobulin D (IgD), S</td>
<td>2460-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGD</td>
<td>Immunoglobulin D (IgD), S</td>
<td>2460-4</td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis | OK
Gross lipemia  | Reject
Gross icterus | OK

Method Name

Nephelometry

Secondary ID

9272

IGE  Immunoglobulin E (IgE)

Baystate Reference Laboratories

Collection Container

Serum gel

Serum

Other Acceptable Specimen Types

Heparinized or EDTA plasma

Specimen Volume

2 mL

Minimum Specimen Volume

0.5 mL

Transport Temperature

Refrigerate

Specimen Stability

Room temperature: 24 hours, Refrigerated: 7 days

Methodology

Immunoturbidimetric

Days and Times Performed

Test performed daily

Reference Ranges

<table>
<thead>
<tr>
<th>IMMUNOGLOBULIN E (IgE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>1 - 12 months</td>
</tr>
<tr>
<td>1 - 5 years</td>
</tr>
<tr>
<td>6 - 9 years</td>
</tr>
<tr>
<td>10 years+</td>
</tr>
</tbody>
</table>

CPT Code

82785

EMR Interface Order Code

46700

FLCP  Immunoglobulin Free Light Chains, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name

Immunoglobulin Free Light Chains, S

Useful For

Monitoring serum from patients with monoclonal light chain diseases without a M-spike on protein electrophoresis

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>KFLC</td>
<td>Kappa Free Light Chain, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>LFLC</td>
<td>Lambda Free Light Chain, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>KLR</td>
<td>Kappa/Lambda FLC Ratio</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Testing Algorithm

The following algorithms are available in Special Instructions:
- Laboratory Approach to the Diagnosis of Amyloidosis
- Laboratory Screening Tests for Suspected Multiple Myeloma

Specimen Type

Serum

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 1 mL

Specimen Minimum Volume

0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions

- Laboratory Approach to the Diagnosis of Amyloidosis
- Laboratory Screening Tests for Suspected Multiple Myeloma
Reference Values

KAPPA-FREE LIGHT CHAIN
0.33-1.94 mg/dL

LAMBDA-FREE LIGHT CHAIN
0.57-2.63 mg/dL

KAPPA/LAMBDA FLC RATIO
0.26-1.65

Day(s) and Time(s) Performed
Monday through Saturday; Continuously until 3 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
83883 x 2

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>FLCP</td>
<td>Immunoglobulin Free Light Chains, S</td>
<td>81632-2</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>KFLC</td>
<td>Kappa Free Light Chain, S</td>
<td>80515-0</td>
</tr>
<tr>
<td>KLR</td>
<td>Kappa/Lambda FLC Ratio</td>
<td>80517-6</td>
</tr>
<tr>
<td>LFLC</td>
<td>Lambda Free Light Chain, S</td>
<td>80516-8</td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

Method Name
Nephelometry

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Hematopathology/Cytogenetics Test Request (T726)

Secondary ID
84190

EMR Interface Order Code
47575

BCGR  Immunoglobulin Gene Rearrangement, Blood

Mayo Clinic Laboratories in Rochester

Reporting Name
Immunoglobulin Gene Rearrange, B

Useful For
Determining whether a B-cell or plasma cell population is polyclonal or monoclonal in peripheral blood specimens

Identifying neoplastic cells as having B-cell or plasma cell differentiation

Monitoring for a persistent neoplasm by detecting an immunoglobulin gene rearrangement profile similar to one from a previous neoplastic specimen

Specimen Type
Whole blood

Shipping Instructions
Specimen must arrive within 168 hours of draw.

Specimen Required

Container/Tube:
Preferred: EDTA (lavender top)
Acceptable: ACD (yellow top)

Specimen Volume: 4 mL

Collection Instructions:
1. Invert several times to mix blood.
2. Send specimen in original tube.

Specimen Minimum Volume
1 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Ambient (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions

- Hematopathology Patient Information

Reference Values

An interpretive report will be provided.

Day(s) and Time(s) Performed

Monday through Friday

Test Classification

This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

81261-IGH (Immunoglobulin heavy chain locus) (eg, leukemias and lymphomas B-cell), gene rearrangement analysis to detect abnormal clonal populations; amplified methodology (eg. polymerase chain reaction)

81264-IGK (Immunoglobulin kappa light chain locus) (eg, leukemia and lymphoma, B-Cell) gene rearrangement analysis, evaluation to detect abnormal clonal populations

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCGR</td>
<td>Immunoglobulin Gene Rearrange, B</td>
<td>61113-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reject ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>18229</td>
<td>Final Diagnosis</td>
<td>34574-4</td>
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</tbody>
</table>

Reject Due To

- Gross hemolysis: Reject
- Other: Moderately to severely clotted

Method Name

Genomic DNA Extracted Followed by Polymerase Chain Reaction (PCR)

Forms

1. Hematopathology Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

Secondary ID

83123

IGM  Immunoglobulin M (IgM)

Baystate Reference Laboratories

Collection Container

- Serum gel
- Serum

Other Acceptable Specimen Types

- Heparinized or EDTA plasma

Specimen Volume

- 1 mL

Minimum Specimen Volume

- 0.2 mL

Transport Temperature

- Refrigerate

Specimen Stability

- Room temperature: 2 months, Refrigerated: 4 months, Frozen: 6 months

Methodology

- Immunoturbidimetric

Days and Times Performed

- Test performed daily

Reference Ranges

<table>
<thead>
<tr>
<th>IMMUNOGLOBULIN M (IgM)</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>0 - 12 months</td>
<td>Males 0 - 145, Females 0 - 145 mg/dL</td>
</tr>
<tr>
<td>1 - 3 years</td>
<td>Males 19 - 146, Females 19 - 146 mg/dL</td>
</tr>
<tr>
<td>4 - 6 years</td>
<td>Males 24 - 210, Females 24 - 210 mg/dL</td>
</tr>
<tr>
<td>7 - 9 years</td>
<td>Males 31 - 208, Females 31 - 208 mg/dL</td>
</tr>
<tr>
<td>10 - 11 years</td>
<td>Males 31 - 179, Females 31 - 179 mg/dL</td>
</tr>
<tr>
<td>12 - 13 years</td>
<td>Males 35 - 239, Females 35 - 239 mg/dL</td>
</tr>
<tr>
<td>14 - 15 years</td>
<td>Males 15 - 188, Females 15 - 188 mg/dL</td>
</tr>
<tr>
<td>16 - 19 years</td>
<td>Males 23 - 259, Females 23 - 259 mg/dL</td>
</tr>
<tr>
<td>20 years+</td>
<td>Males 40 - 230, Females 40 - 230 mg/dL</td>
</tr>
</tbody>
</table>

CPT Code

82784

EMR Interface Order Code

47600

IGGS4  Immunoglobulin Subclass IgG4, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name

Immunoglobulin Subclass IgG4, S

Useful For

Supporting the diagnosis of IgG4-related disease

Specimen Type

Serum

Advisory Information

This test only quantitates the IgG4 protein. If quantitation of all IgG subclass types is wanted, order IGGS / IgG Subclasses, Serum.

Specimen Required

- Patient Preparation: Fasting preferred but not required
- Container/Tube: Preferred: Serum gel
- Acceptable: Red top
- Specimen Volume: 1 mL

Specimen Minimum Volume

- 0.5 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

- 0<5 months: ≤19.8 mg/dL
- 5<9 months: ≤20.8 mg/dL
- 9<15 months: ≤22.0 mg/dL
- 15<24 months: ≤23.0 mg/dL
- 2<4 years: 0.4-49.1 mg/dL
- 4<7 years: 0.8-81.9 mg/dL
- 7<10 years: 1.0-108.7 mg/dL
- 10<13 years: 1.0-121.9 mg/dL
- 13<16 years: 0.7-121.7 mg/dL
- 16<18 years: 0.3-111.0 mg/dL
- ≥18 years: 2.4-121.0 mg/dL

Day(s) and Time(s) Performed

- Monday through Saturday; Continuously

Test Classification

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

- 82787

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGGS4</td>
<td>Immunoglobulin Subclass IgG4, S</td>
<td>2469-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGGS4</td>
<td>Immunoglobulin Subclass IgG4, S</td>
<td>2469-5</td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: OK
- Gross lipemia: Reject
- Gross icterus: OK

Method Name

Nephelometry

Secondary ID

84250

TLCU  Immunoglobulin Total Light Chains, Urine

Mayo Clinic Laboratories in Rochester

Reporting Name

Immunoglobulin Total Light Chains, U

Useful For

- Monitoring patients whose urine demonstrates large M-spikes
- Confirming the quantitation of specimens that show M-spikes by electrophoresis
- Detecting urine monoclonal proteins and identification of specimens that need urine protein electrophoresis

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>20 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

- KAPPA TOTAL LIGHT CHAIN: <0.9 mg/dL
- LAMBDA TOTAL LIGHT CHAIN: <0.7 mg/dL
- KAPPA/LAMBDATA RATIO: 0.7-6.2

Day(s) and Time(s) Performed

- Monday through Saturday; Continuously until 3 p.m.

Test Classification

This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

- 83883 x 2
### LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLCU</td>
<td>Immunoglobulin Total Light Chains, U</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>KLTRU</td>
<td>Kappa/Lambda TLC Ratio, U</td>
<td>33559-6</td>
</tr>
<tr>
<td>KTLCU</td>
<td>Kappa Total Light Chain, U</td>
<td>27365-6</td>
</tr>
<tr>
<td>LTLCU</td>
<td>Lambda Total Light Chain, U</td>
<td>27394-6</td>
</tr>
</tbody>
</table>

### Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

### Method Name

KTLCU, LTLCU: Nephelometry

### Special Instructions

- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens

### Urine Preservative Collection Options

**Note:** The addition of preservative or application of temperature controls **must occur within 4 hours of completion** of the collection.

<table>
<thead>
<tr>
<th>Preservative</th>
<th>Acceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient</td>
<td>OK &lt;72 hours</td>
</tr>
<tr>
<td>Refrigerate</td>
<td>Preferred</td>
</tr>
<tr>
<td>Frozen</td>
<td>OK</td>
</tr>
<tr>
<td>50% Acetic Acid</td>
<td>No</td>
</tr>
<tr>
<td>Boric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Diazolidinyl Urea</td>
<td>No</td>
</tr>
<tr>
<td>6M Hydrochloric Acid</td>
<td>No</td>
</tr>
<tr>
<td>6M Nitric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Sodium Carbonate</td>
<td>No</td>
</tr>
<tr>
<td>Thymol</td>
<td>No</td>
</tr>
<tr>
<td>Toluene</td>
<td>No</td>
</tr>
</tbody>
</table>

### Secondary ID

87934

### QIG Immunoglobulins G, A, M

*Baystate Reference Laboratories*

### Collection Container

- Serum gel
- Serum

### Other Acceptable Specimen Types

- Heparinized or EDTA plasma

### Specimen Volume

2 mL

### Minimum Specimen Volume

0.2 mL

### Transport Temperature

Refrigerate

### Specimen Stability

- Room temperature: 2 months, Refrigerated: 4 months, Frozen: 6 months

### Methodology

Immunoturbidimetric

### Days and Times Performed

Test performed daily

### CPT Code

82784

### EMR Interface Order Code

47650
### Reference Ranges — Immunoglobulins G, A, M

<table>
<thead>
<tr>
<th>AGE</th>
<th>IMMUNOGLOBULIN G (IgG)</th>
<th>IMMUNOGLOBULIN A (IgA)</th>
<th>IMMUNOGLOBULIN M (IgM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 12 months</td>
<td>232 - 1411 mg/dL</td>
<td>0 - 83 mg/dL</td>
<td>0 - 145 mg/dL</td>
</tr>
<tr>
<td>1 - 3 years</td>
<td>453 - 916 mg/dL</td>
<td>20 - 100 mg/dL</td>
<td>19 - 146 mg/dL</td>
</tr>
<tr>
<td>4 - 6 years</td>
<td>504 - 1464 mg/dL</td>
<td>27 - 195 mg/dL</td>
<td>24 - 210 mg/dL</td>
</tr>
<tr>
<td>7 - 9 years</td>
<td>572 - 1474 mg/dL</td>
<td>34 - 305 mg/dL</td>
<td>31 - 208 mg/dL</td>
</tr>
<tr>
<td>10 - 11 years</td>
<td>698 - 1560 mg/dL</td>
<td>53 - 204 mg/dL</td>
<td>31 - 179 mg/dL</td>
</tr>
<tr>
<td>12 - 13 years</td>
<td>759 - 1549 mg/dL</td>
<td>58 - 358 mg/dL</td>
<td>35 - 239 mg/dL</td>
</tr>
<tr>
<td>14 - 15 years</td>
<td>716 - 1711 mg/dL</td>
<td>47 - 249 mg/dL</td>
<td>15 - 188 mg/dL</td>
</tr>
<tr>
<td>16 - 19 years</td>
<td>549 - 1584 mg/dL</td>
<td>61 - 348 mg/dL</td>
<td>23 - 259 mg/dL</td>
</tr>
<tr>
<td>20 years+</td>
<td>700 - 1600 mg/dL</td>
<td>40 - 230 mg/dL</td>
<td>40 - 230 mg/dL</td>
</tr>
</tbody>
</table>
## Immunohistochemistry

**Baystate Reference Laboratories**

**Additional Information**
Consultation with pathologist is advised prior to collection

**Unstained Slides**

**Transport Temperature**
Room temperature

**Methodology**
Ventana or DAKO platform

**Days and Times Performed**
Monday - Friday, 8 am - 1 pm; not available on weekends or holidays

**Turnaround Time**
2 - 3 days

**CPT Code**
88341, 88342, 88360

## In Situ Hybridization

**Baystate Reference Laboratories**

**Unstained Slides**

**Transport Temperature**
Room Temperature

**Methodology**
Ventana or DAKO platform

**Days and Times Performed**
Monday - Friday, 8 am - 1 pm; not available on weekends or holidays

**CPT Code**
88365

## Infectious Agent Antigen

**Baystate Reference Laboratories**

**Additional Information**

**Reflex Tests**

**Collection Container**
Other

**Other Acceptable Specimen Types**

**Special Handling Instructions**

**Specimen Volume**
1 mL

**Minimum Specimen Volume**

**Transport Temperature**

## In Situximab Level and Antibody

**Esoterix Endocrinology Laboratory**

**Important Note**
Allow a minimum clotting time of 30 to 60 minutes with serum separation within 2 hours of collection.

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**

**Methodology**
Electrochemiluminescence immunoassay (ECLIA)

**Reference Ranges**

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infliximab drug level</td>
<td>&lt;0.4 µg/mL</td>
</tr>
<tr>
<td>• Result ≤0.4 µg/mL indicates detection of infliximab.</td>
<td></td>
</tr>
<tr>
<td>In the presence of anti-infliximab antibodies, the infliximab drug level reflects the antibody-unbound fraction of infliximab concentration in serum.</td>
<td></td>
</tr>
<tr>
<td>Anti-infliximab antibody</td>
<td>&lt;22 ng/mL</td>
</tr>
<tr>
<td>• Result ≥22 ng/mL indicates detection of anti-infliximab antibodies.</td>
<td></td>
</tr>
</tbody>
</table>

**CPT Code**
80299, 82397

**EMR Interface Order Code**
71134
Influenza A and B Antibody Panel

Mayo Medical Laboratories

Additional Information
Both IgG and IgM will be reported.

Collection Container
Serum gel

Other Acceptable Specimen Types
Red top

Specimen Volume
1 mL

Minimum Specimen Volume
0.5mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
hemolysis, lipemia, gross bacterial contamination

Methodology
Complement fixation (CF)

Days and Times Performed
Tuesday and Friday

Turnaround Time
2-5 days

Reference Ranges
Neg:<1:10

Units of Measure
Titer

CPT Code
86710 x4

LOINC Code
43837-4, 43838-2, 9535-6, 9536-4

EMR Interface Order Code
70728

Influenza Virus A Antibodies, IgG and IgM (Separate Determinations), Serum

Important Note
SFLAB includes both Influenza A and Influenza B testing.

Reporting Name
Influenza Virus A Ab, IgG, IgM, S

Specimen Type
Serum

Specimen Required

Influenza Virus B Antibodies, IgG and IgM (Separate Determinations), Serum

Important Note
SFLAB includes both Influenza A and Influenza B testing.

Reporting Name
Influenza Virus B Ab, IgG, IgM, S
Useful For
Diagnosis of recent infection by influenza virus type B when isolation of the organism by culture is unsuccessful

Specimen Type
Serum

Specimen Required
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.25 mL
Collection Instructions: Indicate influenza virus B.

Specimen Minimum Volume
0.15 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
IgG: <1:10
IgM: <1:10
Reference values apply to all ages.

Day(s) and Time(s) Performed
Tuesday, Friday; 9 a.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86710 x 2

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFLB</td>
<td>Influenza Virus B Ab, IgG, IgM, S</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>5733</td>
<td>Influenza Virus B Ab, IgG</td>
<td>9535-6</td>
</tr>
<tr>
<td>5734</td>
<td>Influenza Virus B Ab, IgM</td>
<td>9536-4</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis Reject
Gross lipemia OK

Method Name
Immunofluorescence

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

Useful For
Aiding in the diagnosis of patients with granulosa cell tumors of the ovary when used in combination with inhibin B

Monitoring of patients with granulosa cell tumors and epithelial mucinous-type tumors of the ovary known to secrete inhibin A

Specimen Type
Serum

Advisory Information
For the initial evaluation of patients suspected of having a granulosa cell tumor of the ovary, order INHAB / Inhibin A and B, Tumor Marker, Serum. If the results of the profile show that either inhibin A or B are elevated, consider monitoring the patient with the individual tests, INHA / Inhibin A, Tumor Marker, Serum or INHB / Inhibin B, Serum.

Specimen Required
Container/Tube:
Preferred: Red top
Acceptable: Serum gel
Specimen Volume: 0.6 mL

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>90 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Males: <2.0 pg/mL
Females
<11 years: <4.7 pg/mL
11-17 years: <97.5 pg/mL
Premenopausal: <97.5 pg/mL
Postmenopausal: <2.1 pg/mL

Day(s) and Time(s) Performed
Monday through Friday; 5 a.m.-12 a.m.
Saturday; 6 a.m.-6 p.m

Test Classification
This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
86336

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>INHA</td>
<td>Inhibin A, Tumor Marker, S</td>
<td>23883-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>INHA</td>
<td>Inhibin A, Tumor Marker, S</td>
<td>23883-2</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis Reject
Gross lipemia OK
**Method Name**
Sequential 2-Step Immunoenzymatic Assay

**Forms**
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

---

**INHBB  Inhibin B, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Inhibin B, S

**Useful For**
Aiding in the diagnosis of granulosa cell tumors and mucinous epithelial ovarian tumors

Monitoring of patients with granulosa cell tumors and epithelial mucinous-type tumors of the ovary known to overexpress inhibin B

As an adjunct to follicle-stimulating hormone testing during infertility evaluation

**Specimen Type**
Serum

**Advisory Information**
For the initial evaluation of patients suspected of having a granulosa cell tumor of the ovary, order INHAB / Inhibin A and B, Tumor Marker, Serum. If the results of the profile show that either inhibin A or B are elevated, consider monitoring the patient with the individual tests, INHA / Inhibin A, Tumor Marker, Serum or INHB / Inhibin B, Serum.

**Specimen Required**

<table>
<thead>
<tr>
<th>Container/Tube:</th>
<th>Preferred: Red top</th>
<th>Acceptable: Serum gel</th>
</tr>
</thead>
</table>

**Specimen Volume:** 0.4 mL

**Specimen Minimum Volume:** 0.2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>90 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

*Males*
- 0-23 months: <430 pg/mL
- 2-4 years: <269 pg/mL
- 5-7 years: <184 pg/mL
- 8-10 years: <214 pg/mL
- 11-13 years: <276 pg/mL
- 14-17 years: <273 pg/mL
- Adults: <399 pg/mL

*Females*
- 0-23 months: <111 pg/mL
- 2-4 years: <44 pg/mL
- 5-7 years: <27 pg/mL
- 8-10 years: <67 pg/mL
- 11-13 years: <120 pg/mL
- 14-17 years: <136 pg/mL

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**INSULN  Insulin**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel

**Specimen Type**
Serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 4 hours, Refrigerated: 2 days, Frozen: months freeze/thaw cycle

**Methodology**
Electrochemiluminescence

**Days and Times Performed**
Test performed daily

**Reference Ranges**
2.6 - 24.9 uIU/mL

**Units of Measure**
uIU/mL
**CPT Code**
83525

**EMR Interface Order Code**
26925

**HINSAB  Insulin Antibodies, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Insulin Abs, S

**Useful For**
Predicting the future development of type 1 diabetes in asymptomatic children, adolescents, and young adults, when used in conjunction with family history, HLA-typing, and other autoantibodies, including GD65S/81596 Glutamic Acid Decarboxylase (GAD65) Antibody Assay, Serum and islet cell antigen 2 (IA-2) antibodies

Differential diagnosis of type 1 versus type 2 diabetes

Evaluating diabetics with insulin resistance in patients with established diabetes (type 1 or type 2)

Investigation of hypoglycemia in nondiabetic subjects

**Specimen Type**
Serum

**Specimen Required**

**Container/Tube:**
Preferred: Red top
Acceptable: Serum gel

**Specimen Volume:** 1.5 mL

**Specimen Minimum Volume**
1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
≤0.02 nmol/L
Reference values apply to all ages.

**Day(s) and Time(s) Performed**
Sunday, Wednesday; 10 p.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
86337

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>INAB</td>
<td>Insulin Abs, S</td>
<td>60463-7</td>
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</tbody>
</table>

**Result ID**
8666

**Test Result Name**
Insulin Abs, S

**Result LOINC Value**
60463-7

**Reject Due To**
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

**Method Name**
Radioimmunoassay (RIA)

**IGFBP2  Insulin Growth Factor Binding Protein 2**

*LabCorp*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
EDTA plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL (Note: This volume does not allow for repeat testing.)

**Transport Temperature**
Frozen

**Specimen Stability**
Room temperature: 1 day, Refrigerated: 3 days, Frozen: 8 days

**Reasons for Rejection**
Heparinized plasma

**CPT Code**
83519

**EMR Interface Order Code**
65270

**IGFBP3  Insulin-Like Growth Factor 1 (IGF1), LC-MS and Insulin-Like Growth Factor-Binding Protein 3 (IGFBP3) Growth Panel, Serum**

*Mayo Clinic Laboratories in Rochester*

**Useful For**
Diagnosing growth disorders
Diagnosing adult growth hormone deficiency
Monitoring of recombinant human growth hormone treatment

Insulin-like growth factor binding protein 3 can be used as a possible adjunct to insulin-like growth factor 1 and growth hormone in the diagnosis and follow-up of acromegaly and gigantism.

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGFMS</td>
<td>IGF-1, LC/MS, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>IGFBP3</td>
<td>IGFBP-3, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Method Name**
IGFMS: Liquid Chromatography-Mass Spectrometry (LC-MS)
IGFBP3: Enzyme-Labeled Chemiluminescent Immunometric Assay
**Reporting Name**  
IGF-1 LC/MS, IGFBP-3 Growth Panel

**Specimen Type**  
Serum

**Necessary Information**  
Indicate patient's age and sex.

**Specimen Required**

**Collection Container/Tube:**  
Preferred: Red top  
Acceptable: Serum gel

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 1 mL

**Collection Instructions:** Spin down promptly. Aliquot into 2 equal portions.

**Specimen Minimum Volume**  
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
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<td>14 days</td>
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**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
</tbody>
</table>

**Reference Values**

**INSULIN-LIKE GROWTH FACTOR 1**

- **Males:**
  - 0-11 months: 18-156 ng/mL  
  - 1 year: 14-203 ng/mL  
  - 2 years: 16-222 ng/mL  
  - 3 years: 22-229 ng/mL  
  - 4 years: 30-236 ng/mL  
  - 5 years: 39-250 ng/mL  
  - 6 years: 47-275 ng/mL  
  - 7 years: 54-312 ng/mL  
  - 8 years: 61-356 ng/mL  
  - 9 years: 67-405 ng/mL  
  - 10 years: 73-456 ng/mL  
  - 11 years: 79-506 ng/mL  
  - 12 years: 84-551 ng/mL  
  - 13 years: 90-589 ng/mL  
  - 14 years: 95-618 ng/mL  
  - 15 years: 99-633 ng/mL  
  - 16 years: 104-633 ng/mL  
  - 17 years: 107-615 ng/mL  
  - 18-22 years: 91-442 ng/mL  
  - 23-25 years: 66-346 ng/mL  
  - 26-30 years: 60-329 ng/mL  
  - 31-35 years: 54-310 ng/mL  
  - 36-40 years: 48-202 ng/mL  
  - 41-45 years: 44-227 ng/mL  
  - 46-50 years: 40-259 ng/mL  
  - 51-55 years: 37-245 ng/mL  
  - 56-60 years: 34-232 ng/mL  
  - 61-65 years: 33-220 ng/mL  
  - 66-70 years: 32-209 ng/mL  
  - 71-75 years: 32-200 ng/mL  
  - 76-80 years: 33-192 ng/mL  
  - 81-85 years: 33-185 ng/mL  
  - ≥91 years: 32-173 ng/mL

- **Females:**
  - 0-11 months: 14-192 ng/mL  
  - 1 year: 23-243 ng/mL  
  - 2 years: 28-256 ng/mL  
  - 3 years: 31-249 ng/mL  
  - 4 years: 33-237 ng/mL  
  - 5 years: 36-234 ng/mL  
  - 6 years: 39-246 ng/mL  
  - 7 years: 44-279 ng/mL  
  - 8 years: 51-334 ng/mL  
  - 9 years: 61-408 ng/mL  
  - 10 years: 73-495 ng/mL  
  - 11 years: 88-585 ng/mL  
  - 12 years: 104-665 ng/mL  
  - 13 years: 120-719 ng/mL  
  - 14 years: 136-729 ng/mL  
  - 15 years: 147-691 ng/mL  
  - 16 years: 153-611 ng/mL  
  - 17 years: 149-509 ng/mL  
  - 18-22 years: 85-370 ng/mL  
  - 23-25 years: 73-320 ng/mL  
  - 26-30 years: 66-303 ng/mL  
  - 31-35 years: 59-279 ng/mL  
  - 36-40 years: 54-258 ng/mL  
  - 41-45 years: 49-290 ng/mL  
  - 46-50 years: 44-227 ng/mL  
  - 51-55 years: 49-217 ng/mL  
  - 56-60 years: 37-208 ng/mL  
  - 61-65 years: 35-201 ng/mL  
  - 66-70 years: 34-194 ng/mL  
  - 71-75 years: 34-187 ng/mL  
  - 76-80 years: 34-182 ng/mL  
  - 81-85 years: 34-177 ng/mL  
  - 86-90 years: 33-175 ng/mL  
  - ≥91 years: 32-173 ng/mL

**Tanner Stage reference ranges:**

- **Males**
  - Stage I: 81-255 ng/mL  
  - Stage II: 106-432 ng/mL  
  - Stage III: 245-511 ng/mL  
  - Stage IV: 223-578 ng/mL  
  - Stage V: 227-518 ng/mL

- **Females**
  - Stage I: 86-323 ng/mL  
  - Stage II: 118-451 ng/mL  
  - Stage III: 258-529 ng/mL  
  - Stage IV: 224-586 ng/mL  
  - Stage V: 188-512 ng/mL


**Note:** Puberty onset (transition from Tanner stage I to Tanner stage II) occurs for boys at a median age of 11.5 (±2) years and for girls at a median age of 10.5 (±2) years. There is evidence that it may occur up to 1 year earlier in obese girls and in African American girls. For boys, there is no definite proven relationship between puberty onset and body weight or ethnic origin. Progression through Tanner stages is variable. Tanner stage V (young adult) should be reached by age 18.

**INSULIN-LIKE GROWTH FACTOR-BINDING PROTEIN 3**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Value Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-7 days</td>
<td>≤0.7 mcg/mL</td>
</tr>
<tr>
<td>8-14 days</td>
<td>0.5-1.4 mcg/mL</td>
</tr>
<tr>
<td>15 days-11 months</td>
<td>unavailable</td>
</tr>
<tr>
<td>1 year</td>
<td>0.7-3.6 mcg/mL</td>
</tr>
<tr>
<td>2 years</td>
<td>0.8-3.9 mcg/mL</td>
</tr>
</tbody>
</table>

86-90 years: 33-179 ng/mL  
> or=91 years: 32-173 ng/mL
3 years: 0.9-4.3 mcg/mL  
4 years: 1.0-4.7 mcg/mL  
5 years: 1.1-5.2 mcg/mL  
6 years: 1.3-5.6 mcg/mL  
7 years: 1.4-6.1 mcg/mL  
8 years: 1.6-6.5 mcg/mL  
9 years: 1.8-7.1 mcg/mL  
10 years: 2.1-7.7 mcg/mL  
11 years: 2.4-8.4 mcg/mL  
12 years: 2.7-8.9 mcg/mL  
13 years: 3.1-9.5 mcg/mL  
14 years: 3.3-10 mcg/mL  
15 years: 3.5-10 mcg/mL  
16 years: 3.4-9.5 mcg/mL  
17 years: 3.2-8.7 mcg/mL  
18 years: 3.1-7.9 mcg/mL  
19 years: 2.9-7.3 mcg/mL  
20 years: 2.9-7.2 mcg/mL  
21-25 years: 3.4-7.8 mcg/mL  
26-30 years: 3.5-7.6 mcg/mL  
31-35 years: 3.5-7.0 mcg/mL  
36-40 years: 3.4-6.7 mcg/mL  
41-45 years: 3.3-6.6 mcg/mL  
46-50 years: 3.3-6.7 mcg/mL  
51-55 years: 3.4-6.8 mcg/mL  
56-60 years: 3.4-6.9 mcg/mL  
61-65 years: 3.2-6.6 mcg/mL  
66-70 years: 3.0-6.2 mcg/mL  
71-75 years: 2.8-5.7 mcg/mL  
76-80 years: 2.5-5.1 mcg/mL  
81-85 years: 2.2-4.5 mcg/mL

Tanner Stages: 
Males  
Stage I: 1.4-5.2 mcg/mL  
Stage II: 2.3-6.3 mcg/mL  
Stage III: 3.1-8.9 mcg/mL  
Stage IV: 3.7-8.7 mcg/mL  
Stage V: 2.6-8.6 mcg/mL  
Females  
Stage I: 1.2-6.4 mcg/mL  
Stage II: 2.8-6.9 mcg/mL  
Stage III: 3.9-9.4 mcg/mL  
Stage IV: 3.3-8.1 mcg/mL  
Stage V: 2.7-9.1 mcg/mL

Note: Puberty onset, ie, the transition from Tanner stage 1 (prepubertal) to Tanner stage 2 (early pubertal), occurs for girls at a median age of 10.5 (±2) years and for boys at a median age of 11.5 (±2) years. There is evidence that it may occur up to 1 year earlier in obese girls and in African-American girls. By contrast, for boys there is no definite proven relationship between puberty onset and body weight or ethnic origin. Progression through Tanner stages is variable. Tanner stage 5 (young adult) should be reached by age 18.

Day(s) and Time(s) Performed  
IGFB3: Monday through Friday; 5 a.m.-3pm., Saturday; 6 a.m.-3pm  
IGFMS: Monday through Friday, Sunday; 12 p.m.

CPT Code Information  
83520-IGFBP3  
84305-IGFMS

LOINC Code Information  
<table>
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<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>IGFGP</td>
<td>IGF-1 LC/MS, IGFBP-3 Growth Panel</td>
<td>In Process</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGFB3</td>
<td>IGFBP-3, S</td>
<td>2483-6</td>
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<tr>
<td>62750</td>
<td>IGF-1, LC/MS, S</td>
<td>2484-4</td>
</tr>
<tr>
<td>35781</td>
<td>Z-score</td>
<td>73561-3</td>
</tr>
</tbody>
</table>

Test Classification  
See Individual Test IDs

SOMATC  Insulin-Like Growth Factor-1, LC-MS, Serum

Mayo Clinic Laboratories in Rochester

Useful For
Evaluation of growth disorders  
Evaluation of growth hormone deficiency or excess in children and adults  
Monitoring of recombinant human growth hormone treatment  
Follow-up of individuals with acromegaly and gigantism

Method Name  
Liquid Chromatography-Mass Spectrometry (LC/MS)

Reporting Name  
IGF-1, LC/MS, S

Specimen Type  
Serum

Necessary Information  
Indicate patient's age and sex.

Specimen Required  
Container/Tube:  
Preferred: Red top  
Acceptable: Serum gel

Specimen Volume: 0.5 mL

Specimen Minimum Volume  
0.3 mL

Specimen Stability Information  
<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
<tr>
<td>Serum</td>
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<tr>
<td></td>
<td>Ambient</td>
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</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>72 hours</td>
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</tr>
</tbody>
</table>

Reject Due To  
Gross hemolysis: Reject  
Gross lipemia: OK  
Gross icterus: OK

Reference Values  
Males:  
0-11 months: 18-156 ng/mL  
1 year: 14-203 ng/mL  
2 years: 16-222 ng/mL  
3 years: 22-229 ng/mL  
4 years: 30-236 ng/mL
<table>
<thead>
<tr>
<th>Age Range</th>
<th>Reference Range</th>
</tr>
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<tbody>
<tr>
<td>5 years</td>
<td>39-250 ng/mL</td>
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<td>6 years</td>
<td>47-275 ng/mL</td>
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<td>7 years</td>
<td>54-312 ng/mL</td>
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<tr>
<td>10 years</td>
<td>73-456 ng/mL</td>
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<td>11 years</td>
<td>79-506 ng/mL</td>
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<tr>
<td>12 years</td>
<td>84-551 ng/mL</td>
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<tr>
<td>13 years</td>
<td>90-589 ng/mL</td>
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<td>14 years</td>
<td>95-618 ng/mL</td>
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<td>15 years</td>
<td>99-633 ng/mL</td>
</tr>
<tr>
<td>16 years</td>
<td>104-633 ng/mL</td>
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<td>17 years</td>
<td>107-615 ng/mL</td>
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<tr>
<td>18-22 years</td>
<td>91-442 ng/mL</td>
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<td>46-50 years</td>
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<td>71-75 years</td>
<td>32-200 ng/mL</td>
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<tr>
<td>76-80 years</td>
<td>33-192 ng/mL</td>
</tr>
<tr>
<td>81-85 years</td>
<td>33-185 ng/mL</td>
</tr>
<tr>
<td>86-90 years</td>
<td>33-179 ng/mL</td>
</tr>
<tr>
<td>≥91 years</td>
<td>32-173 ng/mL</td>
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</tbody>
</table>

**Females:**

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-11 months</td>
<td>14-192 ng/mL</td>
</tr>
<tr>
<td>1 year</td>
<td>23-243 ng/mL</td>
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<tr>
<td>2 years</td>
<td>28-256 ng/mL</td>
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<tr>
<td>3 years</td>
<td>31-249 ng/mL</td>
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<td>4 years</td>
<td>33-237 ng/mL</td>
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<td>34-177 ng/mL</td>
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<tr>
<td>86-90 years</td>
<td>33-175 ng/mL</td>
</tr>
<tr>
<td>≥91 years</td>
<td>32-173 ng/mL</td>
</tr>
</tbody>
</table>

**Tanner Stage reference ranges:**

**Males**

- Stage I: 86-323 ng/mL
- Stage II: 118-451 ng/mL
- Stage III: 258-529 ng/mL
- Stage IV: 224-586 ng/mL
- Stage V: 188-512 ng/mL

**Females**

- Stage I: 86-323 ng/mL
- Stage II: 118-451 ng/mL
- Stage III: 258-529 ng/mL
- Stage IV: 224-586 ng/mL
- Stage V: 188-512 ng/mL


**Note:** Puberty onset (transition from Tanner stage I to Tanner stage II) occurs for boys at a median age of 11.5 (±2) years and for girls at a median age of 10.5 (±2) years. There is evidence that it may occur up to 1 year earlier in obese girls and in African American girls. For boys, there is no definite proven relationship between puberty onset and body weight or ethnic origin. Progression through Tanner stages is variable. Tanner stage V (young adult) should be reached by age 18.

**Day(s) and Time(s) Performed**

Monday through Friday, Sunday; 12 p.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

84305

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>IGFMS</td>
<td>IGF-1, LC/MS, S</td>
<td>2484-4</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>62750</td>
<td>IGF-1, LC/MS, S</td>
<td>2484-4</td>
</tr>
<tr>
<td>35781</td>
<td>Z-score</td>
<td>73561-3</td>
</tr>
</tbody>
</table>

**Forms**

If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

**BLINS  Insulin, Bovine (Beef) IgE**

**Contracted Reference Lab**

**Collection Container**

Serum gel or red top tube

**Serum**

**Specimen Volume**

For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**

0.1 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**

ImmunoCAP

**Turnaround Time**

3-5 days
CPT Code
86003

EMR Interface Order Code
48880

Container
Serum gel or red top tube

**BRINS**  *Insulin, Porcine (Pig) IgE*

*Contracted Reference Lab*

Collection Container
Serum gel or red top tube

Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48885

**Container**
Serum gel or red top tube

**FIL2M**  *Interleukin 2*

*ARUP Laboratories*

**Important Note**
Sample must be spun, separated and frozen within 2 hours of collection

**Reporting Name**
Interleukin 2

**Specimen Type**
Varies

**Specimen Required**
Submit only 1 of the following specimens:

**Serum**
Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

**Plasma**
Draw blood in a green-top (lithium heparin) tube(s), plasma gel tube(s) is acceptable. Separate specimens must be submitted when multiple tests are ordered.

**Specimen Minimum Volume**
0.3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen</td>
<td>365 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis  
- Lipemia  
- Icterus  
- Other Heat-inactivated

**Reference Values**
≤12 pg/mL

**Day(s) and Time(s) Performed**
Monday, Wednesday, Friday

**CPT Code Information**
83520

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIL2M</td>
<td>Interleukin 2</td>
<td>33939-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIL2M</td>
<td>Interleukin 2</td>
<td>33939-0</td>
</tr>
</tbody>
</table>

**Test Classification**
This test was developed and its performance characteristics determined by ARUP Laboratories. The U.S. Food and Drug Administration has not approved or cleared this test; however, FDA clearance or approval is not currently required for clinical use. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions.

**Method Name**
Quantitative Multiplex Bead Assay

**FIL2S**  *Interleukin 2 Receptor (CD25), Soluble*

*ARUP Laboratories*

**Important Note**
Sample must be spun, separated and frozen within 2 hours of collection

**Reporting Name**
IL 2 Receptor (CD25), Soluble

**Specimen Type**
Varies

**Specimen Required**

**Specimen Type:** Serum
Submit only 1 of the following specimens:

### Serum
- **Collection Instructions:** Draw blood in a plain red-top tube(s), serum gel tube is acceptable. Spin down within 2 hours of collection and freeze immediately. Send 1 mL of serum frozen in a plastic vial.

Separate specimens must be submitted when multiple tests are ordered.

### Plasma
- **Collection Instructions:** Draw blood in a green-top (lithium heparin) tube(s), plasma gel tube is acceptable. Spin down within 2 hours of collection and freeze immediately. Send 1 mL lithium heparin plasma frozen in a plastic vial.

Separate specimens must be submitted when multiple tests are ordered.

### Specimen Minimum Volume
- Serum: 1 mL
- Plasma: 1 mL

### Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Plasma</td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Serum</td>
<td>Frozen</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td>Plasma</td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

### Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: OK

### Reference Values
- ≤1033 pg/mL

### Day(s) and Time(s) Performed
- Monday, Wednesday, Friday

### CPT Code Information
- 83520

### LOINC Code Information
- **Test ID** | **Test Order Name** | **Order LOINC Value**
- FIL2S | IL 2 Receptor (CD25), Soluble | 76039-7

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIL2S</td>
<td>IL 2 Receptor (CD25), Soluble</td>
<td>76039-7</td>
</tr>
</tbody>
</table>

### Test Classification
This test was developed and its performance characteristics determined by ARUP Laboratories. The U.S. Food and Drug Administration has not approved or cleared this test; however, FDA clearance or approval is not currently required for clinical use. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions.

### Method Name
Quantitative Multiplex Bead Assay

### Secondary ID
57825
Method Name
Immunoenzymatic Assay

Secondary ID
9335

UIODQ  Iodine, 24 Hour, Urine

Mayo Clinic Laboratories in Rochester

Reporting Name
Iodine, 24 Hr, U

Useful For
Assessment of iodine toxicity or recent exposure in a 24-hour urine collection
Monitoring iodine excretion rate as index of replacement therapy

Specimen Type
Urine

Necessary Information
24-Hour volume is required

Specimen Required

Patient Preparation:
1. High concentrations of gadolinium and iodine are known to interfere with most metals tests. If gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.
2. If this test is used in conjunction with the (131)I uptake test, then specimen collection should begin immediately after the dose of (131)I is given (ie, the patient should void and discard urine just prior to the (131)I dose, and all subsequent urine should be collected for the next 24 hours). The last void should be included in the collection.

Supplies: Urine Tubes, 10 mL (T068)

Container/Tube: Plastic, 10-mL urine tube or clean, plastic aliquot container with no metal cap or glued insert

Specimen Volume: 10 mL

Collection Instructions:
1. Collect urine for 24 hours.
2. Refrigerate specimen within 4 hours of completion of 24-hour collection.
3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>146 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>146 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>146 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens
- Trace Metals Analysis Specimen Collection and Transport

Reference Values
0-17 years: not established
≥18 years: 75-851 mcg/24 hour

Day(s) and Time(s) Performed
Monday, Wednesday, Friday; 5 p.m

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83789

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>UIOD</td>
<td>Iodine, 24 Hr, U</td>
<td>2492-7</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>9549</td>
<td>Iodine, 24 Hr, U</td>
<td>2492-7</td>
</tr>
<tr>
<td>TIME5</td>
<td>Collection Duration</td>
<td>13362-9</td>
</tr>
<tr>
<td>VL23</td>
<td>Urine Volume</td>
<td>3167-4</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

Urine Preservative Collection Options

Note: The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.

<table>
<thead>
<tr>
<th>Preservative</th>
<th>Allowable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient</td>
<td>OK</td>
</tr>
<tr>
<td>Refrigerate</td>
<td>Preferred</td>
</tr>
<tr>
<td>Frozen</td>
<td>OK</td>
</tr>
<tr>
<td>50% Acetic Acid</td>
<td>OK</td>
</tr>
<tr>
<td>Boric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Diazolidinyl Urea</td>
<td>No</td>
</tr>
<tr>
<td>6M Hydrochloric Acid</td>
<td>No</td>
</tr>
<tr>
<td>6M Nitric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Sodium Carbonate</td>
<td>No</td>
</tr>
<tr>
<td>Thymol</td>
<td>No</td>
</tr>
<tr>
<td>Toluene</td>
<td>No</td>
</tr>
</tbody>
</table>

IODINE  Iodine, Serum

Contracted Reference Lab

Collection Container
Plain Royal Blue top tube

Serum

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.4 mL
**FE  Iron**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Heparinized plasma

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 7 days, Refrigerated: 3 weeks, Frozen 2 years

**Reasons for Rejection**
Serum/plasma not separated from cells within 6 hours of collection. Serum hemolyzed.

**Methodology**
Spectrophotometry

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours for routine, 1 hour for stats

**Reference Ranges**
Females: 30-160 ug/dL
Males: 45-160 ug/dL

**Units of Measure**
ug/dL

**CPT Code**
83540

**LOINC Code**
2498-4

**EMR Interface Order Code**
06910

---

**FETIBC  Iron and TIBC**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel
Serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.65 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

---

**CANOR  Ionized Calcium**

*Baystate Reference Laboratories*

**Additional Information**
If pH is <7.2 or > 7.6, a normalized ionized calcium will not be reported

**Collection Container**
Serum gel
Serum

**Special Handling Instructions**
One gel tube, centrifuge ASAP, or one red top microtainer (recommended for inpatients only). Do not aliquot sample from primary tube. Uncentrifuged blood is stable for up to 6 hours at room temperature. Refrigerate sample if it cannot be separated within 6 hours of collection.

**Specimen Volume**
1 ml

**Minimum Specimen Volume**
0.3 mL (No repeat)

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 6 hours unopened, Refrigerated: 5 days unopened

**Reasons for Rejection**
Serum tube opened more than 1.5 hours, EDTA or heparinized sample

**Methodology**
Ion-selective electrode (ISE)

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours for routine, 1 hour for stats

**Reference Ranges**
Male and Female: 113-132 mmol/L

**Critical Results**
<0.80 mmol/L or >1.0 mmol/L

**Units of Measure**
mmol/L

**CPT Code**
83789

**EMR Interface Order Code**
65360
**Reasons for Rejection**
EDTA plasma, Na heprinized plasma or grossly hemolyzed serum

**Methodology**
Spectrophotometry

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
Iron:
- Females: 30-160 ug/dL
- Males: 45-160 ug/dL
UIBC:
- Males and females: 110-370 ug/dL
Iron saturation:
- Males and females: 20-55%

**Units of Measure**
ug/dL

**CPT Code**
83550

**LOINC Code**
50190-8

**EMR Interface Order Code**
06920

---

**UIBC Iron Binding Capacity, Unsaturated**

**Baystate Reference Laboratories**

**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
Plasma (free from hemolysis and lipemia): Li-heparin plasma. (NOTE: Li heparin-plasma values are approximately 6% lower than serum values).

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Reasons for Rejection**
EDTA plasma or grossly hemolyzed

**Methodology**
Spectrophotometry

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
Male and female: 110-370 ug/dL

---

**FESTN Iron Stain**

**Baystate Reference Laboratories**

**Collection Container**
Syringe, Lavender(EDTA)
Bone marrow

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
1 mL

**Days and Times Performed**
7 am - 3 pm

**Turnaround Time**
Daily

**CPT Code**
88313

**LOINC Code**
13513-7

**EMR Interface Order Code**
33650

---

**FET Iron, Liver Tissue**

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
Iron, Liver Ts

**Useful For**
Diagnosis of hemochromatosis using liver tissue specimens

**Testing Algorithm**
See Hereditary Hemochromatosis Algorithm in Special Instructions

**Specimen Type**
Liver Tissue

**Necessary Information**
Patient's date of birth is required to calculate iron index.

**Specimen Required**

- **Supplies:** Metal Free Specimen Vial (T173)
- **Container/Tube:**
  - Preferred: Mayo metal-free specimen vial (blue label)
  - Acceptable: Paraffin block, if not more than 1 or 2 cuts have been made to it for slides
- **Specimen Volume:** 2 mg
- **Collection Instructions:**
  - 1. Two mg of liver tissue is required. This is typically a piece of tissue from a 22-gauge needle biopsy at least 2 cm long. If an 18-gauge needle is used, the tissue must be at least 1 cm in length.
2. Any specimen vial other than a Mayo metal-free vial used should be plastic, leached with 10% nitric acid for 2 days, rinsed with redistilled water, and dried in clean air.

**Additional Information:** Paraffin blocks will be returned 3 days after analysis.

**Specimen Minimum Volume**
- 2 cm (22-gauge needle)
- 1 cm (18-gauge needle)
- 2 mm x 2 mm (punch) 0.3 mg by dry weight

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liver Tissue</td>
<td>Refrigerated (preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**
- Hereditary Hemochromatosis Algorithm

**Reference Values**

**IRON**
- Males: 200-2,400 mcg/g dry weight
- Females: 400-1,600 mcg/g dry weight

**IRON INDEX**
Reference values have not been established for patients that are <13 years of age.
- <1.0 mcmol/g/year (≥13 years)

**Day(s) and Time(s) Performed**
Monday, Wednesday, Friday; 11 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
83540

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FET</td>
<td>Iron, Liver Ts</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>8350</td>
<td>Iron, Liver Ts</td>
<td>57028-3</td>
</tr>
<tr>
<td>7770</td>
<td>Hepatic Iron Index</td>
<td>49061-5</td>
</tr>
</tbody>
</table>

**Reject Due To**
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Method Name**
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

**Secondary ID**
8350

**UFEQ  Iron, Urine, Quant**

**LabCorp to NMS**

**Collection Container**
Jug

**24 hr Urine**

**Specimen Volume**
6 mL

**Minimum Specimen Volume**
2.7 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 30 days, Refrigerated: 30 days, Frozen: 30 days

**Reasons for Rejection**
Not collected in metal free container or metal cap on container

**Methodology**
Spectrometry (ICP/OES)

**Turnaround Time**
1 - 2 weeks

**Units of Measure**
mg/24hrs

**CPT Code**
83540

**EMR Interface Order Code**
06925

**ICA512  Islet Antigen 2 (IA-2) Antibody, Serum**

Mayo Clinic Laboratories in Rochester

**Reporting Name**
IA-2 Ab, S

**Useful For**
Clinical distinction of type 1 from type 2 diabetes mellitus

Identification of individuals at risk of type 1 diabetes (including high-risk relatives of patients with diabetes)

Prediction of future need for insulin treatment in adult-onset diabetic patients

**Specimen Type**
Serum

**Specimen Required**

**Container/Tube:**
Preferred: Red top
Acceptable: Serum gel

**Specimen Volume:** 1.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
≤0.02 nmol/L

Page 401
Reference values apply to all ages.

Day(s) and Time(s) Performed
Tuesday, Friday; 10 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
86341

LOINC Code Information
<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
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<td>IA-2 Ab, S</td>
<td>81155-4</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>89588</td>
<td>IA-2 Ab, S</td>
<td>81155-4</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

Method Name
Radioimmunoassay (RIA)

IHDI  Isocyanate HDI IgE

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48890

Container
Serum gel or red top tube

ITDI  Isocyanate TDI

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48900

Container
Serum gel or red top tube

ISONZD  Isoniazid (INH)

Collection Container
Serum gel or red top tube

Important Note
Serum or plasma should be separated from cells within 2 hours
Collection Container
Red top tube OR Green top (sodium heparin) tube
Serum OR plasma

Specimen Volume
2 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Room temperature

Specimen Stability
Room temp: 3 days
For storage beyond three days, specimen should be refrigerated

Reasons for Rejection
Gel top tube

Methodology
High-pressure liquid chromatography with ultraviolet detection (HPLC/UV)

Reference Ranges
The effective concentration range of isoniazid is dependent on the minimum inhibitory concentration of the pathogen being treated. Toxic range: >20 µg/mL.

CPT Code
80375

LOINC Code
3697-0

EMR Interface Order Code
71153

ISOPRN  Isopropanol
Quest Diagnostics

Collection Container
Red
Whole Blood

Other Acceptable Specimen Types
Gray or green top whole blood

Special Handling Instructions
Serum or plasma sent or opened tube

Specimen Volume
7 mL

Transport Temperature
Room temperature

Specimen Stability
Room temperature: 14 days, Refrigerated: 14 days

Methodology
Chromatography

Turnaround Time
4 hours

Reference Ranges
None detected

CPT Code
84600

EMR Interface Order Code
10565

JAKXB  JAK2 Exon 12 and Other Non-V617F Mutation Detection, Blood
Mayo Clinic Laboratories in Rochester

Reporting Name
JAK2 Exon 12 Mutation Detection, B

Useful For
Second-order testing to aid in the distinction between a reactive cytosis and a myeloproliferative neoplasm, particularly when a diagnosis of polycythemia is being entertained, for use with blood specimens

Testing Algorithm
This is a second-order test that should be used when the test for the JAK2B / JAK2 V617F Mutation Detection, Blood test is negative. The sensitivity of this assay is much less than that of the JAK2B test. This is because the sequencing technique is required to evaluate for many potential mutations. The sensitive JAK2B test should always be performed first, as the JAK2 mutation burden may be very low in some specimens. If the JAK2B test is negative, then this assay should be performed for detection of non-V617F JAK2 mutations.

The following algorithms are available in Special Instructions:
-Myeloproliferative Neoplasm: A Diagnostic Approach to Peripheral Blood Evaluation
-Erythrocytosis Evaluation Testing Algorithm

Specimen Type
Whole blood

Advisory Information
In all cases being evaluated for JAK2 mutation status, the initial test that should be ordered is JAK2B / JAK2 V617F Mutation Detection, Blood, a sensitive assay for detection of the mutation. However, if no JAK2 V617F mutation is found, further evaluation of JAK2 may be clinically indicated.

Additional Testing Requirements

Shipping Instructions
1. Specimen must arrive within 5 days (120 hours) of collection.
2. Draw and package specimen as close to shipping time as possible.

Necessary Information
Date of collection is required.

Specimen Required
Container/Tube:
Preferred: EDTA (lavender top)
Acceptable: ACD (yellow top)
Specimen Volume: 10 mL
Collection Instructions:
1. Invert several times to mix blood.
2. Send specimen in original tube.

Specimen Minimum Volume
4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated</td>
<td>5 days</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>5 days</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
</tbody>
</table>

Special Instructions
- Myeloproliferative Neoplasm: A Diagnostic Approach to Peripheral Blood Evaluation
- Hematopathology Patient Information
- Erythrocytosis Evaluation Testing Algorithm

Reference Values
An interpretive report will be provided.

Day(s) and Time(s) Performed
Monday through Friday

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
0027U-JAK2 (Janus kinase 2) (eg, myeloproliferative disorder), exon 12 sequence and exon 13 sequence, if performed

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAKXB</td>
<td>JAK2 Exon 12 Mutation Detection, B</td>
<td>55300-8</td>
</tr>
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</table>

Result ID  | Test Result Name       | Result LOINC Value |
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<tbody>
<tr>
<td>39467</td>
<td>JAK2 Sequencing Result</td>
<td>55300-8</td>
</tr>
<tr>
<td>20194</td>
<td>Final Diagnosis:</td>
<td>34574-4</td>
</tr>
</tbody>
</table>

Method Name
Mutation Detection in cDNA Using Sanger Sequencing

Secondary ID
89189

Forms
1. Hematopathology Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

JAK2B     JAK2 Mutation Analysis

Baystate Reference Laboratories
Whole blood or bone marrow

Other Acceptable Specimen Types
Bone Marrow

Specimen Volume
4 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Room Temperature or Refrigerated

Specimen Stability
4°C up to 4 days

Reasons for Rejection
Insufficient quantity, wrong tube, mislabeled specimen, sample shared for other testing

Methodology
Real-time PCR with End point fluorescence analysis

Days and Times Performed
Wednesday

Turnaround Time
10 days

CPT Code
81270

EMR Interface Order Code
65075

FJPE     Jalapeno/Chipotle IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
70542

Container
Serum gel or red top tube
**JC Virus, Molecular Detection, PCR, Spinal Fluid**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
JC Virus PCR, CSF

**Useful For**
Aids in diagnosing progressive multifocal leukoencephalopathy due to JC virus (JCV)

This test is not to be used as a diagnostic tool for Creutzfeldt-Jakob disease (CJD).

**Specimen Type**
CSF

**Specimen Required**

**Supplies:** Aliquot Tube, 5 mL (T465)

**Preferred:** 12 x 75-mm screw cap vial (T465)

**Acceptable:** Sterile screw cap vial

**Container/Tube:** Sterile vial

**Specimen Volume:** 0.5 mL

**Collection Instructions:** Do not centrifuge.

**Specimen Minimum Volume**

0.3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

Negative

**Day(s) and Time(s) Performed**

Monday through Friday

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

87798

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
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<tbody>
<tr>
<td>LCJC</td>
<td>JC Virus PCR, CSF</td>
<td>33295-7</td>
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<table>
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<tr>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>JC Virus PCR, CSF</td>
<td>33295-7</td>
</tr>
</tbody>
</table>

**Reject Due To**

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Method Name**

Real-Time Polymerase Chain Reaction (PCR)/DNA Probe Hybridization

---

**Jo 1 Antibodies, IgG, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Jo 1 Ab, IgG, S

**Useful For**
Evaluating patients with signs and symptoms compatible with a connective tissue disease, especially those patients with muscle pain and limb weakness, concomitant pulmonary signs and symptoms, Raynaud phenomenon, and arthritis

Testing for antibodies to Jo 1 is **not useful** in patients with a negative test for antinuclear antibodies

**Testing Algorithm**

See Connective Tissue Disease Cascade (CTDC) in Special Instructions.

**Specimen Type**
Serum

**Specimen Required**

**Container/Tube:**

**Preferred:** Serum gel

**Acceptable:** Red top

**Specimen Volume:** 0.5 mL

**Specimen Minimum Volume**

0.35 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**

• Connective Tissue Disease Cascade (CTDC)

**Reference Values**

<1.0 U (negative)

≥1.0 U (positive)

Reference values apply to all ages.

**Day(s) and Time(s) Performed**

Monday through Saturday; 4 p.m.

**Test Classification**

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**

86235
### JOINS  Johnson Grass IgE

**Contracted Reference Lab**
Baystate Reference Laboratories

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48905

**Container**
Serum gel or red top tube

---

### JFA  Joint Fluid Analysis

**Contracted Reference Lab**
Baystate Reference Laboratories

**Additional Information**
Profile includes: CELLCT, FLDIFF, JFCRY, JFMUC, JFCOLT, JVISC

Refer to individual tests

**Other Acceptable Specimen Types**
Refer to individual tests for specimen requirements and stability.

---

### Special Handling Instructions

Specimen should be transported to the laboratory ASAP after collection.

---

### EMR Interface Order Code

32625

---

### JFCLOT  Joint Fluid Clot

**Baystate Reference Laboratories**

**Collection Container**
Red
Joint fluid

**Special Handling Instructions**
Specimen should be transported to the laboratory ASAP after collection

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
24 Hours

**Methodology**
Observation of clot formation of fluid

**Days and Times Performed**
7 am - 3 pm, 7 Days a week

**Turnaround Time**
1 Day

**CPT Code**
83872

**LOINC Code**
6909-6

**EMR Interface Order Code**
33870

---

### JFCRY  Joint Fluid Crystals

**Baystate Reference Laboratories**

**Collection Container**
Lavender (EDTA)  
Joint fluid

**Special Handling Instructions**
Specimen should be transported to the laboratory ASAP after collection

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate
**Specimen Stability**
72 Hours

**Methodology**
Examination of fluid under bright light and polarized light

**Days and Times Performed**
7 am - 3 pm, 7 Days a week

**Turnaround Time**
1 Day

**Reference Ranges**
None seen

**CPT Code**
89060

**LOINC Code**
38458-6

**EMR Interface Order Code**
33895

**JFMUC  Joint Fluid Mucin Clot**

**Collection Container**
Lavender (EDTA)

**Special Handling Instructions**
Specimen should be transported to the laboratory ASAP after collection

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
24 Hours

**Methodology**
Evaluation of clot formed on reaction of synovial fluid with acetic acid

**Days and Times Performed**
7 am - 3 pm, 7 Days a week

**Turnaround Time**
1 Day

**CPT Code**
83872

**LOINC Code**
6909-6

**EMR Interface Order Code**
33880

**JFVISC  Joint Fluid Viscosity**

**Collection Container**
Lavender (EDTA)

**Special Handling Instructions**
Specimen should be transported to the laboratory ASAP after collection

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
24 Hours

**Days and Times Performed**
7 am - 3 pm, 7 Days a week

**Turnaround Time**
1 Day

**CPT Code**
85810

**EMR Interface Order Code**
33880

**JTC  Joint Tissue Crystals**

**Collection Container**
10% neutral buffered formalin

**Special Handling Instructions**
See "Joint Fluid Crystals" for separate crystal analysis. Crystals cannot be reliably identified within tissue

**Transport Temperature**
Room temperature

**Methodology**
Routine histology processing

**Days and Times Performed**
8 am - 3 pm, Monday-Friday

**Turnaround Time**
3-4 days

**CPT Code**
88305

**JKBBLUE  June/Kentucky Blue Grass IgE**

**Collection Container**
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48910

Container
Serum gel or red top tube

FKL  Kappa and Lambda Light Chains, Free, Blood

Baystate Reference Laboratories

Collection Container
Serum gel

Specimen Volume
1 mL

Minimum Specimen Volume
0.3 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 14 days

Reasons for Rejection
Plasma

Methodology
Turbidimetric

Turnaround Time
Testing done on Monday, Wednesday, and Friday

Reference Ranges
Free Kappa: 3.30-19.40 mg/L
Free Lambda: 5.71-26.30 mg/L
Kappa Lambda Ratio: 0.26-1.65

Units of Measure
mg/L

CPT Code
83883 X 2

KETA  Ketamine, Urine

LabCorp

Collection Container
Urine

Specimen Volume
30 mL

Minimum Specimen Volume
0.6 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Mass spectrometry

CPT Code
80307

EMR Interface Order Code
13860

KIDBN  Kidney Bean IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48505

Container
Serum gel or red top tube
**Patient Instructions**
Keep container refrigerated during collection

**Collection Container**
24 hour urine jug, kept refrigerated during and after collection
24 hour urine
Refrigerate during and after collection period

**Specimen Volume**
Entire 24 hour collection

**Minimum Specimen Volume**
200 mL

**Transport Temperature**
Refrigerated

**Turnaround Time**
7-9 days

**CPT Code**
81003; 82131; 82140; 82436; 82507; 82570; 83735; 83935; 83945; 84105; 84133; 84300; 84392; 84560

**EMR Interface Order Code**
00645

#### KITB  KIT Asp816Val Mutation Analysis, Blood

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
KIT Asp816Val Mutation Analysis, B

**Useful For**
Diagnosing systemic mastocytosis in blood specimens

**Specimen Type**
Whole blood

**Shipping Instructions**
Specimen must arrive within 7 days (168 hours) of draw.

**Necessary Information**
The following information is required:
1. Pertinent clinical history
2. Clinical or morphologic suspicion
3. Date of collection
4. Specimen source

**Specimen Required**

**Container/Tube:**
Preferred: EDTA (lavender top)
Acceptable: ACD-B (yellow top)
Specimen Volume: 4 mL

**Collection Instructions:**
1. Invert several times to mix blood.
2. Send specimen in original tube.
3. Label specimen as blood.

**Specimen Minimum Volume**
Blood: 1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Ambient (preferred)</td>
<td>7 days</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
</tbody>
</table>

**Reference Values**
An interpretive report will be provided indicating the mutation status as positive or negative.

**Day(s) and Time(s) Performed**
Monday through Friday

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
81273-KIT (v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog) (eg, mastocytosis), gene analysis, D816 variant(s)

**Special Instructions**
- Hematopathology Patient Information

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>KITB</td>
<td>KIT Asp816Val Mutation Analysis, B</td>
<td>55201-8</td>
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<tr>
<th>Result ID</th>
<th>Test Result Name</th>
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<tbody>
<tr>
<td>34851</td>
<td>Final Diagnosis:</td>
<td>34574-4</td>
</tr>
</tbody>
</table>

**Reject Due To**
Gross hemolysis | Reject
Other | Moderately to severely clotted

**Method Name**
Allele-Specific Oligonucleotide Polymerase Chain Reaction (PCR)

**Forms**
1. Hematopathology Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

#### KIWI  Kiwi Fruit IgE

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL
Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48915

Container
Serum gel or red top tube

SKB  Kleihauer Betke (Fetal RBC)

Collection Container
Lavender (EDTA)

EDTA Whole blood

Specimen Volume
1 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
24 hours

Reasons for Rejection
Clotted, insufficient specimen

Days and Times Performed
24 hours a day, 7 days a week

Turnaround Time
Daily - available STAT

Reference Ranges
0.00%

CPT Code
85460

LOINC Code
32140-6

EMR Interface Order Code
33075

KNOTT  Knott Prep for Microfilariae

Collection Container
Lavender (EDTA)

Whole Blood

Specimen Volume
4 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Room temperature

Specimen Stability
6 hours

Reasons for Rejection
Specimen transport exceeds 6 hours, specimen collected in inappropriate container

Methodology
Lysis and centrifugation

Days and Times Performed
7 days/week

Turnaround Time
24 hours

SKBAF  Kleihauer Betke (Fetal RBC), Amniotic Fluid

Baystate Reference Laboratories

Collection Container
Syringe

Amniotic fluid

Specimen Volume
2 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Ambient temperature

Specimen Stability
24 hours

Reasons for Rejection
Specimen received on ice

Days and Times Performed
24 hours a day, 7 days a week

Turnaround Time
Daily - available STAT

Reference Ranges
0.00%

CPT Code
0.8546

LOINC Code
32140-6

EMR Interface Order Code
33085

Baystate Reference Laboratories
**Reference Ranges**
No microfilariae observed

**LOINC Code**
17784-0

**EMR Interface Order Code**
59890

---

**KRAS  KRAS**

*Baystate Reference Laboratories*

**Additional Information**
Pathology report must accompany specimen in order for testing to be performed. Specimen should have at least 15% Tumor cellularity.

**Collection Container**
2 H&E stained and 10 unstained PET slides
Paraffin embedded tissue

**Specimen Volume**
10 unstained/2 H&E

**Transport Temperature**
Room Temperature

**Specimen Stability**
30 days at room temperature

**Reasons for Rejection**
Mislabeled specimens, insufficient quantity of tumor cells.

**Methodology**
Real-time PCR

**Days and Times Performed**
Tuesdays and Thursdays

**Turnaround Time**
10 days

**CPT Code**
81275, 81276

---

**LACOS  Lacosamide, Serum**

*Contracted Reference Lab*

**Collection Container**
Red top tube, Green top (Na hep) tube or Lavender (EDTA) top tube
NO GEL TUBES
Serum or plasma

**Specimen Volume**
0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 105 days

**Reasons for Rejection**
Specimen collected in a gel barrier tube

**CPT Code**
80339

---

**EMR Interface Order Code**
67568

**LDH  Lactate dehydrogenase (LDH)**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
EDTA and Heparinized Plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Reasons for Rejection**
Hemolysis

**Methodology**
Lactate to Pyruvate; Photometric rate

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours for routine, 1 hour for stats

**Reference Ranges**
Males and females:
0-3 Days: 290-775 U/L
4-9 days: 545-2000 U/L
10 days-1 year: 180-430 U/L
2 years+: 94-250 U/L

**Units of Measure**
U/L

**CPT Code**
83615

**EMR Interface Order Code**
07050

---

**LDHISO  Lactate dehydrogenase (LDH) Isoenzymes Electrophoresis**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel
Serum

**Special Handling Instructions**
2 mL serum from a red top tube or gel tube; divided into 2 tubes each containing 1 mL.

**Specimen Volume**
2 mL
Minimum Specimen Volume
0.75 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 7 days Refrigerated: 3 days, Frozen: unacceptable

Reasons for Rejection
Mild or gross hemolysis, prolonged contact with cells, specimen refrigerated more than 3 days.

Methodology
LDH: Photometric Rate, ISO: Electrophoresis Densitometry

CPT Code
83625, 83615

EMR Interface Order Code
07100

LDI  Lactate Dehydrogenase (LDH) Isoenzymes, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 07110

Reporting Name
Lactate Dehydrogenase Isoenzymes, S

Useful For
Investigating a variety of diseases involving the heart, liver, muscle, kidney, lung, and blood
Differentiating heart-synthesized lactate dehydrogenase (LD) from liver and other sources
Investigating unexplained causes of LD elevations
Detection of macro-LD

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
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<tbody>
<tr>
<td>LD</td>
<td>Lactate Dehydrogenase (LD), S</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>LDI</td>
<td>LD Isoenzymes, S</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Specimen Type
Serum

Necessary Information
Patient's age is required.

Specimen Required
Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 2 mL divided into 2 tubes each containing 1 mL

Specimen Minimum Volume
0.75 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Ambient (preferred)</td>
<td>7 days</td>
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<tr>
<td></td>
<td>Refrigerated</td>
<td>48 hours</td>
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</table>

Reference Values

LACTATE DEHYDROGENASE (LD)
1-30 days: 135-750 U/L
31 days-11 months: 180-435 U/L
1-3 years: 160-370 U/L
4-6 years: 145-345 U/L
7-9 years: 143-290 U/L
10-12 years: 120-293 U/L
13-15 years: 110-283 U/L
16-17 years: 105-233 U/L
≥18 years: 122-222 U/L

LD ISOENZYMES
I (fast band): 17.5-28.3%
II: 30.4-36.4%
III: 19.2-24.8%
IV: 9.6-15.6%
V (slow band): 5.5-12.7%

Day(s) and Time(s) Performed
LD: Monday through Sunday; Continuously
LD isoenzymes: Monday, Wednesday, Friday; 10 a.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions.
Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
83615-LD
83625-LD isoenzymes

LOINC Code Information

<table>
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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
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<td>LD_I</td>
<td>Lactate Dehydrogenase Isoenzymes, S</td>
<td>42929-0</td>
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<th>Result LOINC Value</th>
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<tbody>
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<td>Lactate Dehydrogenase (LD), S</td>
<td>14804-9</td>
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<tr>
<td>305</td>
<td>LD Isoenzymes, S</td>
<td>49279-3</td>
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<td>2282</td>
<td>I, Heart</td>
<td>2536-1</td>
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<td>2283</td>
<td>II</td>
<td>2539-5</td>
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<td>2285</td>
<td>III</td>
<td>2542-9</td>
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<tr>
<td>2286</td>
<td>IV</td>
<td>2545-2</td>
</tr>
<tr>
<td>2287</td>
<td>V, Liver</td>
<td>2548-6</td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis  Reject
Gross lipemia    OK

Method Name
LDI: Electrophoresis Densitometry
LD: Photometric Rate

Forms
Biochemical Genetics Patient Information (T602) in Special Instructions
Special Instructions

• Biochemical Genetics Patient Information

CFLDH  Lactate dehydrogenase (LDH), CSF

Baystate Reference Laboratories

Collection Container
CSF

Cerebral Spinal Fluid

Specimen Volume
0.3 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Reasons for Rejection
Hemolysis

Methodology
Lactate to Pyruvate; Photometric rate

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges
Male and female: 50 - 100 U/L

Units of Measure
U/L

CPT Code
83615

LOINC Code
60024-7

EMR Interface Order Code
07075

LACTIC  Lactic Acid

Baystate Reference Laboratories

Collection Container
Gray (sodium fluoride/potassium oxalate)

Plasma

Special Handling Instructions
Should be resting quietly in bed immediately before specimen is drawn. Venous specimens should be obtained without the use of a tourniquet or immediately after the tourniquet has been applied. Plasma must be separated from cells within 90 minutes of collection

Specimen Volume
1 mL

Minimum Specimen Volume
0.1mL

Specimen Stability
Room temperature: 8 hours, Refrigerated: 14 days

Reasons for Rejection
Specimen not spun and separated within 90 minutes. Plasma sample at room temperature > 8 hours.

Methodology
Lactate oxidase; enzymatic

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges
Female and Male: 0.5-2.2 mmol/L

Critical Results: >5.0 mmol/L

Units of Measure
mmol/L

CPT Code
83605

LOINC Code
2524-7

EMR Interface Order Code
07035

CFLACT  Lactic Acid, CSF

Baystate Reference Laboratories

Collection Container
CSF

Cerebral Spinal Fluid
FLACT  Lactic Acid, Fluid

Baystate Reference Laboratories

Collection Container
Fluid
Identify source of body fluid

Special Handling Instructions
Specimen on ice

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
On ice

Reasons for Rejection
Specimen not on ice, RBC's present

Methodology
Lactate oxidase; enzymatic

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mmol/L

CPT Code
83605

LOINC Code
2520-5

EMR Interface Order Code
12475

FELACT  Lactoferrin, Fecal by ELISA

ARUP Laboratories

Reporting Name
Lactoferrin, Fecal by ELISA

Specimen Type
Fecal

Specimen Required
Preferred Specimen Type: Unpreserved stool
Supplies: Sterile stool container
Container/Tube: Sterile stool container
Specimen Volume: 5 g
Specimen Stability Information: Refrigerated
Collection Instructions: 5 grams fresh, unpreserved stool or stool preserved in Cary-Blair transport media (Agar Swab is not acceptable), shipped refrigerate in a plastic leak-proof container.

Specimen Minimum Volume
1 gm

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Reason</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>NA</td>
</tr>
<tr>
<td>Thawing</td>
<td>Cold OK; Warm reject</td>
</tr>
<tr>
<td>Lipemia</td>
<td>NA</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>Preservative other than Cary-Blair</td>
</tr>
</tbody>
</table>

Reference Values

Negative

Day(s) and Time(s) Performed
Sunday through Saturday

CPT Code Information
83630

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLACF</td>
<td>Lactoferrin, Fecal by ELISA</td>
<td>40703-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLACF</td>
<td>Lactoferrin, Fecal by ELISA</td>
<td>40703-1</td>
</tr>
</tbody>
</table>

Method Name
Qualitative Enzyme-Linked Immunosorbent Assay
**LACTOL  Lactose Tolerance**

*Baystate Reference Laboratories*

Call Lab for Instructions

**Transport Temperature**
Refrigerate

**Methodology**
Hexokinase

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**CPT Code**
82591

**EMR Interface Order Code**
12125

---

**LAMB  Lamb IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48925

**Container**
Serum gel or red top tube

---

**LAMOT  Lamotrigine**

*LabCorp*

**Collection Container**
Red top tube

EDTA and sodium heparin also acceptable

Gel tube not acceptable

1 mL serum or plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days (any temperature)

**CPT Code**
80175

**EMR Interface Order Code**
04560

---

**LATEX  Latex IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL
PBPRO  Lead Protoporphyrin Profile

LabCorp

Additional Test Codes
Synonyms: Lead and Protoporphyrin (ZPP)
Test includes: Lead,blood:zinc protoporphyrin

Collection Container
Tan-top lead free
Whole Blood

Other Acceptable Specimen Types
Trace Metal tube with EDTA

Special Handling Instructions
Submit original metal free tube, does not have to be protected from light

Specimen Volume
7 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Room temperature

Specimen Stability
Room temperature: 5 days, Refrigerated: 7 days

Reasons for Rejection
Specimen clotted; frozen specimen; hemolyzed specimen; icteric specimen

Methodology
Lead by atomic absorption spectrometry (AAS), ZPP by fluorometry

CPT Code
83655 84202

LOINC Code
5671-3

EMR Interface Order Code
07161

UPBQ  Lead, 24 Hour, Urine

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 07135

Reporting Name
Lead, 24 Hr, U

Useful For
Detecting clinically significant lead exposure in 24-hour specimens

Specimen Type
Urine

Necessary Information
24 Hour volume is required.

DLDL  LDL Cholesterol, Direct

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Refrigerated: 7 days

Methodology
Homogeneous colorimetric assay

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges

<table>
<thead>
<tr>
<th>LDL CHOLESTEROL (Direct)</th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 - 19 years</td>
<td>&lt; 110</td>
<td>&lt; 110</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td>20 years +</td>
<td>&lt; 130</td>
<td>&lt; 130</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

CPT Code
83721

LOINC Code
18262-6

EMR Interface Order Code
04515
Specimen Required

Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Supplies: Urine Tubes, 10 mL (T068)
Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert
Submission Container/Tube: Plastic, 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert

Specimen Volume: 10 mL

Collection Instructions:
1. Collect urine for 24 hours.
2. Refrigerate specimen within 4 hours of completion of 24-hour collection.
3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume
2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens
- Trace Metals Analysis Specimen Collection and Transport

Reference Values
0-17 years: not established
≥18 years: <1 mcg/24 hour

Day(s) and Time(s) Performed
Monday through Saturday; 7 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83655

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBU</td>
<td>Lead, 24 Hr, U</td>
<td>5677-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>31085</td>
<td>Lead, 24 Hr, U</td>
<td>5677-0</td>
</tr>
<tr>
<td>TM83</td>
<td>Collection Duration</td>
<td>13382-9</td>
</tr>
<tr>
<td>VL84</td>
<td>Urine Volume</td>
<td>3167-4</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
ARAVA  Leflunomide Metabolite

Contracted Reference Lab

Collection Container
Red top tube NO GEL
Serum

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Frozen

Specimen Stability
Room temp: NA, Refrigerated: NA, Frozen: 6 months

Reasons for Rejection
Collected in a gel barrier tube, gross hemolysis, lipemia or icterus, not separated and frozen within 45 minutes

CPT Code
80375

EMR Interface Order Code
58925

LEGAG  Legionella Antigen

Baystate Reference Laboratories

Additional Information
Detects Legionella pneumophilia, serotype 1

Collection Container
Sterile sealed container or yellow BD urine tube
Random Urine

Specimen Volume
3 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
24 hours

Reasons for Rejection
Specimen received in a gray top BD tube or any container/tube with additives. Specimens stored at room temperature for more than 24 hours

Methodology
Lateral flow

Days and Times Performed
7 days/week

Turnaround Time
10 days

Reference Ranges
Negative for Legionella

LOINC Code
77684-9

EMR Interface Order Code
59910

LEGBC  Legionella Blood Culture

Baystate Reference Laboratories

Collection Container
Adults and children 5 years and older: One 10 mL Isolator tube
Infants and children less than 5 years: One 1.5 mL Isolator tube
Whole Blood

Special Handling Instructions
Bring to laboratory immediately

Specimen Volume
1 mL Isolator tube

Transport Temperature
Room Temperature

Reasons for Rejection
Insufficient specimen, specimen transport greater than 12 hours, specimen refrigerated

Days and Times Performed
7 days/week

Turnaround Time
10 days

Reference Ranges
Negative for Legionella

LOINC Code
593-4

EMR Interface Order Code
59910

LEGAB  Legionella pneumophila (Legionnaires Disease), Antibody, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Legionella Pneumophilia Ab, S

Useful For
Evaluation of possible legionellosis (Legionnaires disease, Pontiac fever, extrapulmonary legionella infection caused by Legionella pneumophilia)

Specimen Type
Serum

Specimen Required

Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Submission Container/Tube: Aliquot tube

Specimen Volume: 0.5 mL
**LEISH**  *Leishmaniasis (Visceral) Antibody, Serum*

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Leishmaniasis (Visceral) Ab, S

**Useful For**
Diagnosis of active visceral leishmaniasis

**Specimen Type**
Serum

**Specimen Required**

<table>
<thead>
<tr>
<th>Container/Tube:</th>
<th>Preferred: Serum gel</th>
<th>Acceptable: Red top</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Volume:</td>
<td>0.2 mL</td>
<td></td>
</tr>
</tbody>
</table>

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmuNoCAP
**LENTIL**  *Lentil IgE*

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Required**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48935

**Container**
Serum gel or red top tube

---

**LEPTIN**  *Leptin*

*Esoterix Endocrinology*

**Reporting Name**
Leptin

**Specimen Type**
Serum

**Specimen Required**

**Specimen Volume**
1 mL

**Collection Instructions:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

**Note:** EDTA (lavender-top) plasma is an acceptable alternate.

---

**LEPTOM**  *Leptospira, IgM, Serum*

*Mayo Clinic Laboratories in Rochester*

**Secondary ID**
65183

**Useful For**
Aids in the diagnosis of leptospirosis

**Method Name**
Enzyme-Linked Immunoassay Dot (Immunodot)

**Reporting Name**
Leptospira, IgM, S
Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.3 mL
Collection Instructions: Serum should be collected according to standard practices. Acute and convalescent specimens obtained to determine seroconversion should be collected 2 or more weeks apart.

Specimen Minimum Volume
0.1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: Reject

Reference Values
Negative

Day(s) and Time(s) Performed
Monday, Wednesday, Friday; 9 a.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86720

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEPDT</td>
<td>Leptospira, IgM, S</td>
<td>23201-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>65183</td>
<td>Leptospira, IgM, S</td>
<td>23201-7</td>
</tr>
</tbody>
</table>

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

**LETTUC  Lettuce IgE**

*Contracted Reference Lab*

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49625

Container
Serum gel or red top tube

**LNL  Leukemia Lymphoma Evaluation**

*Baystate Reference Laboratories*

Additional Information
Flow cytometric analysis with a panel of cell surface makers. The appropriate panel is chosen based on clinical information, specimen type, and cellular characteristics such as morphology. This test is applicable in cases of acute lymphoblastic leukemia, acute myelogenous leukemia, and lymphoproliferative disorders. Additional testing, such as morphologic examination, intracellular markers, additional surface markers, or molecular/cytogenetics studies may be performed at an additional charge to the patient to further classify the process, if warranted and sufficient cells are available. All evaluations include an interpretative report by a hematopathologist.

Collection Container
Green top sodium heparin or lithium heparin (preferred), Lavender top (acceptable)

10 mL Green top sodium heparin or lithium heparin (preferred), Lavender top (acceptable)

Special Handling Instructions
Flow Cytometry laboratory must receive specimen within 48 hours of collection. Must supply diagnosis and other pertinent clinical information including age, specimen type, collection date, time, WBC, and leukocyte differential. Please specify the morphologic type of leukemia/lymphoma if known. Processing of sample may be cancelled by hematopathologist, if appropriate, to avoid unnecessary testing.

Specimen Volume
10 mL Green top sodium heparin or lithium heparin (preferred), Lavender top (acceptable)

Minimum Specimen Volume
5 mL Green top sodium heparin or lithium heparin (preferred), Lavender top (acceptable)

Transport Temperature
Room Temperature

Specimen Stability
Transport specimen to the Flow Cytometry at BMC Laboratory as soon as possible.

Methodology
Direct fluorescent antibody (DFA) using monoclonal antibodies and flow cytometry.
Days and Times Performed
Draw anytime. Test performed day shift Monday - Saturday; specimens received late in the day may be processed and analyzed the following day.

Turnaround Time
13 days

Reference Ranges
Written interpretation by pathologist included with report.

CPT Code
88184 (acute, chronic, or abbreviated evaluation); 88185 (x17 abbreviated evaluation); 88185 (x24 chronic evaluation); 88185 (X25 acute evaluation); 88189 (acute, chronic, or abbreviated evaluation)

EMR Interface Order Code
69408

Specimen Processing
Place specimen and requisition in flow cytometry room temperature box in LCRI and call 24709 (if after hours (1800), weekends, or holiday page flow cytometry on-call tech at 47044 or supervisor at 24706).

LAD1 Leukocyte Adhesion Deficiency Type 1, CD11a/CD18 and CD11b/CD18 Complex Immunophenotyping, Blood

Reporting Name
Leukocyte Adhesion Def. Type 1, B

Useful For
Aids in the diagnosis of leukocyte adhesion deficiency syndrome type 1, primarily in patients younger than 18 years of age
CD11a, CD11b, and CD18 phenotyping

Specimen Type
Whole Blood EDTA

Shipping Instructions
Specimens are required to be received in the laboratory weekdays and by 4 p.m. on Friday. Draw and package specimen as close to shipping time as possible.

It is recommended that specimens arrive within 24 hours of draw.

Samples arriving on the weekend and observed holidays may be canceled.

Necessary Information
Date and time of draw and physician name and phone number are required.

Specimen Required
For serial monitoring, we recommend that specimen draws be performed at the same time of day.

Container/Tube: Lavender top (EDTA)
Specimen Volume: 5 mL
Collection Instructions: Send specimen in original tube. Do not aliquot.

Specimen Minimum Volume
2 mL

Specimen Stability Information
<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood</td>
<td>Ambient</td>
<td>72 hours</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
</tbody>
</table>

Reference Values
Normal (reported as normal or absent expression for each marker)

Day(s) and Time(s) Performed
Monday through Friday
Do not send specimen after Thursday. Specimen must be received by 10 a.m. on Friday.

Test Classification
This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
88184
88185 x 2

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAD1</td>
<td>Leukocyte Adhesion Def. Type 1, B</td>
<td>94266-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>81155</td>
<td>Leukocyte Adhesion Deficiency</td>
<td>94268-0</td>
</tr>
<tr>
<td>430</td>
<td>CD11a</td>
<td>94267-2</td>
</tr>
<tr>
<td>388</td>
<td>CD11b</td>
<td>94265-6</td>
</tr>
<tr>
<td>431</td>
<td>CD18</td>
<td>69052-9</td>
</tr>
<tr>
<td>432</td>
<td>LAD Interpretation</td>
<td>69052-9</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis: Reject
Gross lipemia: Reject

Method Name
Flow Cytometric Immunophenotyping
Includes evaluation of markers CD11a/CD18 and CD11b/CD18.

LEVTIR Levetiracetam

Baystate Reference Laboratories

Additional Information
The serum or plasma must be separated from the cells within 2 hours after collection to prevent false elevations

Collection Container
Red
Serum

Other Acceptable Specimen Types
Heparinized or EDTA plasma
Specimen Volume
1 mL
Minimum Specimen Volume
0.3 mL
Transport Temperature
Refrigerate
Reasons for Rejection
Collected in gel barrier tube
Methodology
Immunoassay
Days and Times Performed
Tuesday and Friday
Turnaround Time
1 - 4 days
Reference Ranges
A therapeutic range for this test has not been well defined, therefore a therapeutic range will not report with the result
CPT Code
80177
EMR Interface Order Code
07610

LILAC  Lilac Tree IgE

Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum
Other Acceptable Specimen Types
Red top
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
LOINC Code
6162-2
EMR Interface Order Code
48945
Container
Serum gel or red top tube

LMBN  Lima Bean IgE

Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
48510
Container
Serum gel or red top tube

LIME  Lime IgE

Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
LOINC Code
68624
EMR Interface Order Code
48945
Container
Serum gel or red top tube
## LINS  Linseed IgE

**Contracted Reference Lab**

Collection Container
- Serum gel or red top tube

Specimen Volume
- For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
- 0.1 mL

Transport Temperature
- Refrigerated

Specimen Stability
- Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
- ImmunoCAP

Turnaround Time
- 3-5 days

CPT Code
- 86003

EMR Interface Order Code
- 68628

Container
- Serum gel or red top tube

## LIP  Lipase

**Baystate Reference Laboratories**

### Additional Information
Li Heparinized plasma lipase activity may be 15% lower than serum

Collection Container
- Serum gel

Other Acceptable Specimen Types
- Li Heparinized Plasma

Specimen Volume
- 1 mL

Minimum Specimen Volume
- 0.1 mL

Transport Temperature
- Refrigerate

Specimen Stability
- Refrigerated: 14 days

Methodology
- Colorimetric

Days and Times Performed
- Test performed daily

Turnaround Time
- 24 hours

CPT Code
- 83690

EMR Interface Order Code
- 13525

### Reference Ranges
- 13-60 U/L

### Units of Measure
- U/L

## FLIP  Lipase Fluid

**Baystate Reference Laboratories**

Collection Container
- Fluid

Specimen Volume
- 1 mL

Transport Temperature
- Refrigerate

Methodology
- Colorimetric

Days and Times Performed
- Test performed daily

Turnaround Time
- 24 hours

CPT Code
- 83690

EMR Interface Order Code
- 13525

## LASA  Lipid Associated Sialic Acid

**LabCorp**

Collection Container
- Gel barrier or red top tube

Specimen Volume
- 1 mL

Minimum Specimen Volume
- 0.2 mL

Transport Temperature
- Refrigerated

Specimen Stability
- Refrigerated: 14 days; Frozen: 14 days

Methodology
- Colorimetric

Days and Times Performed
- Test performed daily

Turnaround Time
- 24 hours for routine, 1 hour for stats

CPT Code
- 84275

EMR Interface Order Code
- 07275
### Lipid Panel

**Baystate Reference Laboratories**

#### Important Note
This Panel includes: Cholesterol, Triglycerides, HDL, LDL (calc) and Non-HDL Cholesterol (calc)

#### Additional Information
Patient should be on stable diet 2 weeks prior to collection of blood and should fast for 12-14 hours before collection of the specimen

#### Collection Container
- Serum gel
- Serum

#### Other Acceptable Specimen Types
- Heparinized Plasma

#### Special Handling Instructions
Patient should be on a stable diet 2 weeks prior to collection of blood. 12-14 hours of fasting is required.

#### Specimen Volume
- 1 mL

<table>
<thead>
<tr>
<th>Minimum Specimen Volume</th>
<th>0.8 mL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport Temperature</td>
<td>Refrigerated</td>
</tr>
<tr>
<td>Specimen Stability</td>
<td>Refrigerated: 7 days</td>
</tr>
<tr>
<td>Methodology</td>
<td>See individual test listings</td>
</tr>
<tr>
<td>Days and Times Performed</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time</td>
<td>24 hours</td>
</tr>
<tr>
<td>CPT Code</td>
<td>80061</td>
</tr>
<tr>
<td>LOINC Code</td>
<td>24331-1</td>
</tr>
<tr>
<td>EMR Interface Order Code</td>
<td>14371</td>
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</table>
## Reference Ranges — Lipid Panel

<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CHOLESTEROL (CHOL)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 - 19 years</td>
<td>&lt; 170</td>
<td>&lt; 170</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td>20 years +</td>
<td>&lt; 200</td>
<td>&lt; 200</td>
<td>mg/dL</td>
</tr>
<tr>
<td><strong>TRIGLYCERIDES (TRIG)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 - 9 years:</td>
<td>Acceptable</td>
<td>&lt; 75</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Borderline</td>
<td>75-99</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>&gt; 99</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td>10 - 19 years:</td>
<td>Acceptable</td>
<td>&lt; 90</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Borderline</td>
<td>90 - 129</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>&gt; 129</td>
<td>mg/dL</td>
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<tr>
<td></td>
<td>20 years +:</td>
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<td></td>
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<td>High</td>
<td>200 - 499</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Very High</td>
<td>&gt; 499</td>
<td>mg/dL</td>
</tr>
<tr>
<td><strong>HDL CHOLESTEROL (HDL)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 - 19 years</td>
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<td>&gt; 45</td>
<td>mg/dL</td>
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<tr>
<td></td>
<td>20 years +</td>
<td>&gt; 39</td>
<td>&gt; 39</td>
<td>mg/dL</td>
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<td><strong>LDL CHOLESTEROL (calc)</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>0 - 19 years</td>
<td>0 - 109</td>
<td>0 - 109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20 years +</td>
<td>0 - 130</td>
<td>0 - 130</td>
<td></td>
</tr>
<tr>
<td><strong>NON-HDL CHOLESTEROL (calc)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0-19 years:</td>
<td>Acceptable</td>
<td>&lt; 120</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Borderline</td>
<td>120 - 144</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High</td>
<td>&gt; 144</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td>20 years +:</td>
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<td>&lt; 160</td>
<td>mg/dL</td>
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<tr>
<td></td>
<td></td>
<td>Borderline</td>
<td>160 - 189</td>
<td>mg/dL</td>
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<tr>
<td></td>
<td></td>
<td>High</td>
<td>190 - 219</td>
<td>mg/dL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Very High</td>
<td>&gt; 219</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
**NFLIP  Lipid Panel, Non-Fasting**

*Baystate Reference Laboratories*

**Additional Information**
Patient does not have to be fasting

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Heparinized Plasma

**Special Handling Instructions**
Patient should be on a stable diet 2 weeks prior to collection of blood. Fasting not required.

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.8 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Methodology**
See individual test listings

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
Cholesterol:
- 0-19 years: 1-170 mg/dL
- >20 years: 0-200 mg/dL

HDL:
- All ages: >40 mg/dL
- Non-HDL cholesterol:
  - 0-19 years: 0-139 mg/dL
  - >20 years: 0-160 mg/dL

**Units of Measure**
mg/dL

**CPT Code**
82465; 83718

**LOINC Code**
24331-1

---

**EMR Interface Order Code**
14960

---

**LIPIDR  Lipid Panel, Reflex To Direct LDL**

*Baystate Reference Laboratories*

**Important Note**
This Panel includes: Cholesterol, Triglycerides, HDL, LDL (calc), Non-HDL Cholesterol (calc), and Cholesterol/HDL Ratio (calc). If Triglycerides is > 400 mg/dL, a Direct LDL will be automatically reflexed at an additional charge.

**Reflex Tests**
If Triglycerides is > 400 mg/dL, a DLDL (Direct LDL) will be automatically reflexed at an additional charge

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Heparinized Plasma

**Special Handling Instructions**
Patient should be on a stable diet 2 weeks prior to collection of blood. 12-14 hours hours of fasting is required.

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.8 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Methodology**
See individual test listings

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**CPT Code**
80061

**EMR Interface Order Code**
66802
<table>
<thead>
<tr>
<th>Reference Ranges — Lipid Panel, Reflex To Direct LDL</th>
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<tbody>
<tr>
<td><strong>CHOLESTEROL (CHOL)</strong></td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>0 - 19 years</td>
</tr>
<tr>
<td>20 years +</td>
</tr>
</tbody>
</table>

<p>| <strong>TRIGLYCERIDES (TRIG)</strong>                     |</p>
<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
</table>
| 0 - 9 years:
  Acceptable | < 75 | < 75 | mg/dL |
  Borderline | 75-99 | 75-99 | mg/dL |
  High | > 99 | > 99 | mg/dL |
| 10 - 19 years:
  Acceptable | < 90 | < 90 | mg/dL |
  Borderline | 90 - 129 | 90 - 129 | mg/dL |
  High | > 129 | > 129 | mg/dL |
| 20 years +:
  Acceptable | < 150 | < 150 | mg/dL |
  Borderline | 150 - 199 | 150 - 199 | mg/dL |
  High | 200 - 499 | 200 - 499 | mg/dL |
  Very High | > 499 | > 499 | mg/dL |

<p>| <strong>HDL CHOLESTEROL (HDL)</strong>                    |</p>
<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 19 years</td>
<td>&gt; 45</td>
<td>&gt; 45</td>
<td>mg/dL</td>
</tr>
<tr>
<td>20 years +</td>
<td>&gt; 39</td>
<td>&gt; 39</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

<p>| <strong>LDL CHOLESTEROL (calc)</strong>                   |</p>
<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 19 years</td>
<td>&lt; 110</td>
<td>&lt; 110</td>
<td>mg/dL</td>
</tr>
<tr>
<td>20 years +</td>
<td>&lt; 130</td>
<td>&lt; 130</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

<p>| <strong>NON-HDL CHOLESTEROL (calc)</strong>               |</p>
<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
</table>
| 0-19 years:
  Acceptable | < 120 | < 120 | mg/dL |
  Borderline | 120 - 144 | 120 - 144 | mg/dL |
  High | > 144 | > 144 | mg/dL |
| 20 years +:
  Acceptable | < 160 | < 160 | mg/dL |
  Borderline | 160 - 189 | 160 - 189 | mg/dL |
  High | 190 - 219 | 190 - 219 | mg/dL |
  Very High | > 219 | > 219 | mg/dL |

<p>| <strong>CHOLESTEROL/HDL RATIO (calc)</strong>             |</p>
<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 years +</td>
<td>&lt; 5.0</td>
<td>&lt; 5.0</td>
<td></td>
</tr>
</tbody>
</table>
**LPA  Lipoprotein (a), Serum**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 07260

**Reporting Name**
Lipoprotein (a), S

**Useful For**
Cardiovascular disease (CVD) risk refinement in patients with moderate or high risk based on conventional risk factors

**Specimen Type**
Serum

**Specimen Required**

**Patient Preparation:** Fasting-overnight (12-14 hours)
**Collection Container/Tube:**
- Preferred: Serum gel
- Acceptable: Red top
**Submission Container/Tube:** Plastic vial
**Specimen Volume:** 1 mL

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
≤30 mg/dL
Values >30 mg/dL may suggest increased risk of coronary heart disease.

For SI unit Reference Values, see [https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html](https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html)

**Day(s) and Time(s) Performed**
Monday through Saturday; Continuously

**Test Classification**
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**
83695

**LOINC Code Information**

<table>
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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIPA</td>
<td>Lipoprotein (a), S</td>
<td>10835-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>LIPA</td>
<td>Lipoprotein (a), S</td>
<td>10835-7</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis \(\rightarrow\) Reject
- Gross lipemia \(\rightarrow\) Reject
- Gross icterus \(\rightarrow\) Reject

---

**LIPO  Lipoprotein Metabolism Profile, Serum**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 07225

**Necessary Information**

**Patient's age and sex are required.**

**Specimen Required**

**Patient Preparation:**
1. Fasting-overnight (12-14 hours)
2. Patient must not consume any alcohol for 24 hours before the specimen is drawn.
**Collection Container/Tube:**
- Preferred: Serum gel
- Acceptable: Red top
**Submission Container/Tube:** Plastic vial
**Specimen Volume:** 5 mL

**Forms**
If not ordering electronically, complete, print, and send a Cardiovascular Test Request Form (T724) with the specimen.

**Useful For**
Diagnosing dyslipoproteinemia

Quantitation of cholesterol and triglycerides in very-low-density lipoprotein (VLDL), LDL, HDL, and chylomicrons

Identification of LpX

Classifying hyperlipoproteinemias (lipoprotein phenotyping)

Evaluating patients with abnormal lipid values (cholesterol, triglyceride, HDL, LDL)

Quantifying lipoprotein a (Lp[a]) cholesterol

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCS</td>
<td>Cholesterol, Total, CDC, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>TRIGC</td>
<td>Triglycerides, CDC, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>APLBS</td>
<td>Apolipoprotein B, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>HDLS</td>
<td>HDL, Cholesterol, CDC, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>LMP1</td>
<td>Lipoprotein Metabolism Profile 1</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Special Instructions**
- Lipids and Lipoproteins in Blood Plasma (Serum)

**Method Name**
Ultracentrifugation/Electrophoresis/Automated Enzymatic/Colorimetric Analysis
**Reporting Name**
Lipoprotein Metabolism Profile

**Specimen Type**
Serum

**Specimen Minimum Volume**
2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>60 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
</tbody>
</table>

**Reference Values**

<table>
<thead>
<tr>
<th>Age</th>
<th>2-9 years</th>
<th>10-17 years</th>
<th>&gt;18 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Cholesterol (mg/dL)</strong></td>
<td>****</td>
<td></td>
<td>****</td>
</tr>
<tr>
<td>High: ≥200</td>
<td></td>
<td></td>
<td>High: ≥240</td>
</tr>
<tr>
<td><strong>Triglycerides (mg/dL)</strong></td>
<td>****</td>
<td>****</td>
<td>****</td>
</tr>
<tr>
<td>Acceptable: &lt;75</td>
<td></td>
<td>Borderline high: 75-99</td>
<td>Borderline high: 90-129</td>
</tr>
<tr>
<td>High: ≥100</td>
<td></td>
<td></td>
<td>High: ≥130</td>
</tr>
<tr>
<td>Normal: &lt;150</td>
<td></td>
<td>Borderline high: 150-199</td>
<td>Borderline high: 200-499</td>
</tr>
<tr>
<td>High: ≥150</td>
<td></td>
<td>Very high: ≥240</td>
<td>Very high: ≥500</td>
</tr>
</tbody>
</table>

| LDL Cholesterol (mg/dL) | **** | *** | *** |
| Acceptable: <110 |  | Borderline high: 110-129 | Borderline high: 130-159 |
| High: ≥130 |  |  | High: 160-189 |
| Very high: ≥190 |  |  | Very high: ≥240 |

| LDL Triglycerides (mg/dL) | ≤ 50 | ≤ 50 |
| Apolipoprotein B (mg/dL) | **** | *** | *** |
| Acceptable: <90 |  | Borderline high: 90-109 | Borderline high: 100-119 |
| High: ≥110 |  |  | High: ≥130 |
| Normal: <150 |  | Borderline high: 150-199 | Borderline high: 200-499 |
| High: ≥150 |  | Very high: ≥240 | Very high: ≥500 |

| HDL Cholesterol (mg/dL) | **** | *** | *** |
| Low: <40 |  | Borderline low: 40-45 | Males: ≥40 |
| Acceptable: > 45 |  |  | Females: ≥50 |

| VLDL Cholesterol (mg/dL) | <30 | <30 |
| VLDL Triglycerides (mg/dL) | <90 | <120 |
| Beta VLDL Cholesterol (mg/dL) | <15 | <15 |
| Beta VLDL Triglycerides (mg/dL) | <15 | <15 |

| Chylomicron Cholesterol | Undetectable | Undetectable |
| Chylomicron Triglycerides | Undetectable | Undetectable |
| Lp(a) cholesterol | <5 | <5 |
| LpX | Undetectable | Undetectable |

Reference values have not been established for patients that are <2 years of age.

*National Cholesterol Education Program (NCEP)
**Expert Panel on Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents
***National Lipid Association

**Day(s) and Time(s) Performed**
Monday through Saturday; 4 p.m.

**Test Classification**
This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a
manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

80061-Lipid panel (includes: HDL [CPT Code 83718], total cholesterol [CPT Code 82465], and triglycerides [CPT Code 84478])

82172-Apolipoprotein B

83700-Lp(a) cholesterol electrophoresis

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMPP</td>
<td>Lipoprotein Metabolism Profile</td>
<td>In Process</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCS</td>
<td>Cholesterol, Total, CDC, S</td>
<td>2093-3</td>
</tr>
<tr>
<td>HDLS</td>
<td>HDL Cholesterol, CDC, S</td>
<td>2085-9</td>
</tr>
<tr>
<td>TRIGC</td>
<td>Triglycerides, CDC, S</td>
<td>2571-8</td>
</tr>
<tr>
<td>APLBS</td>
<td>Apolipoprotein B, S</td>
<td>1884-6</td>
</tr>
<tr>
<td>2839</td>
<td>LDL Cholesterol</td>
<td>2089-1</td>
</tr>
<tr>
<td>2840</td>
<td>LDL Triglycerides</td>
<td>3046-0</td>
</tr>
<tr>
<td>2844</td>
<td>VLDL cholesterol</td>
<td>2091-7</td>
</tr>
<tr>
<td>2847</td>
<td>VLDL triglycerides</td>
<td>3047-8</td>
</tr>
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<td>2847</td>
<td>Beta VLDL Cholesterol</td>
<td>66499-5</td>
</tr>
<tr>
<td>2843</td>
<td>Beta VLDL triglycerides</td>
<td>3045-2</td>
</tr>
<tr>
<td>2855</td>
<td>Chylomicron cholesterol</td>
<td>34467-1</td>
</tr>
<tr>
<td>2856</td>
<td>Chylomicron triglycerides</td>
<td>35363-1</td>
</tr>
<tr>
<td>2849</td>
<td>Lp(a) Cholesterol</td>
<td>35388-8</td>
</tr>
<tr>
<td>23924</td>
<td>LpX</td>
<td>42178-4</td>
</tr>
<tr>
<td>23937</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
</tbody>
</table>

**LI Lithium**

*Baystate Reference Laboratories*

**Additional Information**

Draw immediately before next oral dose or 10-12 hours after last dose

**Collection Container**

Serum gel

Serum, *Na heparin* is also acceptable.

**Special Handling Instructions**

Specimen must be separated from cells within 4 hours of collection

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.2 mL

**Transport Temperature**

Refrigerate

**Specimen Stability**

Room temperature: 1 day, Refrigerated: 7 days, Frozen: 6 months

**Methodology**

Colorimetric

**Days and Times Performed**

Test performed daily

**Turnaround Time**

24 hours for routine, 1 hour for stats

**Reference Ranges**

0.6 - 1.2 mmol/L

**Critical Results**

>1.4 mmol/L

**Units of Measure**

mmol/L

**CPT Code**

80178

**EMR Interface Order Code**

07250

**ALKM Liver/Kidney Microsome Type 1 Antibodies, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**

Liver/Kidney Microsome Type 1 Ab, S

**Useful For**

Evaluation of patients with liver disease of unknown etiology

Evaluation of patients with suspected autoimmune hepatitis

**Specimen Type**

Serum

**Specimen Required**

**Container/Tube:**

Preferred: Serum gel

Acceptable: Red top

**Specimen Volume:** 0.5 mL

**Specimen Minimum Volume**

0.4 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

≤20.0 Units (negative)

20.1-24.9 Units (equivocal)

≥25.0 Units (positive)

Reference values apply to all ages.

**Day(s) and Time(s) Performed**

Monday, Wednesday, Friday

**Test Classification**

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**

86376

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LKM</td>
<td>Liver/Kidney Microsome Type 1 Ab, S</td>
<td>32220-6</td>
</tr>
</tbody>
</table>
Submit only 1 of the following specimens:

**Plasma:**
- **Specimen Type:** Plasma
- **Container/Tube:** Green Top
- **Specimen Volume:** 2 mL
- **Collection Instructions:** Draw blood in a green-top sodium heparin tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL of plasma refrigerated in a plastic vial.

**Serum:**
- **Specimen Type:** Serum
- **Container/Tube:** Red
- **Specimen Volume:** 2 mL
- **Collection Instructions:** Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**
0.6 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: Plasma gel tube, Serum gel tube

**Reference Values**
- **Reference Range:** 50.0 - 240.0 ng/mL
- **Day(s) and Time(s) Performed**
  - Monday, Tuesday, Thursday, and Friday

**CPT Code Information**
- **CPT Code:** 80346
- **G0480 (if appropriate)**

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LORAZ</td>
<td>Lorazepam (Ativan)</td>
<td>59703-9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1123</td>
<td>Lorazepam (Ativan)</td>
<td>59703-9</td>
</tr>
</tbody>
</table>

**Method Name**
- Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

**Medtox Laboratories, Inc.**

**Reporting Name**
Lorazepam (Ativan)

**Specimen Type**
Varies

**Specimen Required**

---

**Enzyme-Linked Immunosorbent Assay (ELISA)**

**Forms**
- If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Client Test Request (T728) with the specimen.

**Secondary ID**
80387

---

**Lobster IgE**

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
- Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
- ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48950

**Container**
Serum gel or red top tube

---

**Ludioamil**

**LabCorp**

**Additional Information**
- Trough levels are most reproducible

**Collection Container**
Red

Serum
Other Acceptable Specimen Types
Heparinized Plasma

Special Handling Instructions
Separate serum/plasma from cells within 2 hours of collection

Specimen Volume
4 mL
Minimum Specimen Volume
0.5 mL
Transport Temperature
Refrigerate
Specimen Stability
Room temperature: 3 days, Refrigerated: 2 weeks,

Reasons for Rejection
Collected in a gel barrier tube

Methodology
Liquid chromatography/tandem mass spectrometry (LC/MS-MS)

CPT Code
80335/G0480
LOINC Code
3735-8
EMR Interface Order Code
07350

LACBRL  Lupus Anticoagulant Panel
Baystate Reference Laboratories

Additional Information
If screen is positive, additional testing will be performed.

Collection Container
Light Blue
Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 3 mL, Whole blood: 8.1 mL
Minimum Specimen Volume
Platelet poor plasma: 2 mL, Whole blood: 5.4 mL
Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours
Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old
Methodology
Clot based assay

Days and Times Performed
Wednesday

Turnaround Time
2 - 7 Days

Reference Ranges
Negative

Units of Measure
Second/Ratio

CPT Code
85663; 85730

EMR Interface Order Code
65750

LH  Luteinizing Hormone (LH)
Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
EDTA or Heparinized plasma

Specimen Volume
1 mL
Minimum Specimen Volume
0.3 mL

Transport Temperature
Refrigerate
Specimen Stability
Room temperature: 5 days, Refrigerated: 14 days, Frozen: 6 months freeze/thaw cycle:1

Methodology
Electrochemiluminescence immunoassay (ECLIA)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
Females:
1 month - 12 months: 0.0 - 0.4 mIU/mL
1 - 5 years: 0.0 - 0.5 mIU/mL
6 - 10 years: 0.0 - 3.1 mIU/mL
11 - 13 years: 0.0 - 11.9 mIU/mL
14 - 17 years: 0.5 - 41.7 mIU/mL
Females post puberty:
Follicular: 2.4 - 12.6 mIU/mL
Ovulation: 14.0 - 95.6 mIU/mL
Luteal: 1.0 - 11.4 mIU/mL
Postmenopausal: 7.7 - 58.5 mIU/mL
Males:
1 - 5 years: 0.2 - 2.8 mIU/mL
6 - 10 years: 0.4 - 3.8 mIU/mL
11 - 13 years: 0.4 - 4.6 mIU/mL
14 - 17 years: 1.5 - 12.9 mIU/mL
18+ years: 1.5 - 12.4 mIU/mL

Units of Measure
mIU/mL

CPT Code
83002
LYMC6  Lyme C6 Antibody

Baystate Reference Laboratories

Collection Container
Gel
Gel serum

Other Acceptable Specimen Types
Red top serum

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
7 days refrigerated

Reasons for Rejection
Specimens not centrifuged within 24 hours, specimens older than 7 days.

Methodology
EIA

Reference Ranges
Negative

LOINC Code
57916-9

EMR Interface Order Code
27000

LYMEWB  Lyme Disease Antibody, Immunoblot, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Lyme Disease Ab, Immunoblot, S

Useful For
Aids in the diagnosis of systemic Lyme disease

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.75 mL

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
IgG: Negative
IgM: Negative
Reference values apply to all ages

Day(s) and Time(s) Performed
Monday through Friday; 9 a.m.
Saturday, Sunday; Varies

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86617 x 2

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LYWB</td>
<td>Lyme Disease Ab, Immunoblot, S</td>
<td>18203-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>5744</td>
<td>IgG Immunoblot</td>
<td>6320-6</td>
</tr>
<tr>
<td>2992</td>
<td>IgG detected against:</td>
<td>13502-0</td>
</tr>
<tr>
<td>23931</td>
<td>IgM Immunoblot</td>
<td>6321-4</td>
</tr>
<tr>
<td>23932</td>
<td>IgM detected against:</td>
<td>13503-8</td>
</tr>
<tr>
<td>6241</td>
<td>Interpretation</td>
<td>12781-1</td>
</tr>
</tbody>
</table>

Testing Algorithm
See Acute Tick-Borne Disease Testing Algorithm in Special Instructions.

Special Instructions
- Acute Tick-Borne Disease Testing Algorithm

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
<tr>
<td>Other</td>
<td>Heat-inactivated specimen</td>
</tr>
</tbody>
</table>

Method Name
Immunoblot Microarray

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Microbiology Test Request (T244)

Secondary ID
9535

LPCRF  Lyme Disease PCR, Non Blood

LabCorp

Collection Container
Sterile vial
Spinal fluid or synovial fluid
**PBORB**  *Lyme DNA by PCR, Blood*  
*LabCorp*

**Important Note**
Sample cannot be shared with other tests

**Collection Container**
Lavender top (EDTA) tube  
Whole blood

**Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**CPT Code**
87476

**EMR Interface Order Code**
66062

---

**LPANT**  *Lymphocyte Proliferation to Antigens, Blood*  
*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Lymphocyte Proliferation, Antigens

**Useful For**
Assessing T-cell function in patients on immunosuppressive therapy, including solid-organ transplant patients

Evaluating patients suspected of having impairment in cellular immunity

Evaluation of T-cell function in patients with primary immunodeficiencies, either cellular (DiGeorge syndrome, T-negative severe combined immunodeficiency: SCID, etc) or combined T- and B-cell immunodeficiencies (T- and B-negative SCID, Wiskott Aldrich syndrome, ataxia telangiectasia, common variable immunodeficiency, among others) where T-cell function may be impaired

Evaluation of T-cell function in patients with secondary immunodeficiency, either disease related or iatrogenic

Evaluation of recovery of T-cell function and competence following bone marrow transplantation or hematopoietic stem cell transplantation

**Specimen Type**
WB Sodium Heparin

**Advisory Information**

**Shipping Instructions**
Specimens are required to be received in the laboratory weekdays and by 4 p.m. on Friday. Draw and package specimen as close to shipping time as possible. Ship specimen overnight in an Ambient Shipping Box-Critical Specimens Only (T668) following the instructions in the box.

It is recommended that specimens arrive within 24 hours of draw.

Samples arriving on the weekend and observed holidays may be canceled.

**Necessary Information**

1. Date and time of draw and ordering physician name and phone number are required.
2. Specify "Antigen" to differentiate from "Mitogen" testing. This information is required.

**Specimen Required**
This test should not be ordered for patients younger than 3 months of age unless there is a clinical history of candidiasis. See the Cautions section for additional information.

For serial monitoring, we recommend that specimen draws be performed at the same time of day. See Cautions section.

**Supplies:** Ambient Shipping Box-Critical Specimens Only (T668)  
**Container/Tube:** Green top (sodium heparin)

**Specimen Volume:**
- <3 months: 1 mL  
- 3-24 months: 3 mL  
- 25 months-18 years: 5 mL  
- >18 years: 20 mL

**Collection Instructions:** Send specimen in original tube. Do not aliquot.

**Blood Volume Recommendations Based on Absolute Lymphocyte Count (ALC)**

<table>
<thead>
<tr>
<th>Antigen Only</th>
<th>Blood Volume for Minimum CA and TT Only</th>
<th>Blood Volume for Full Assay</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;0.5</td>
<td>&gt;18.5 cc</td>
<td>&gt;40 cc</td>
</tr>
<tr>
<td>0.5-1.0</td>
<td>18.5 cc</td>
<td>40 cc</td>
</tr>
<tr>
<td>1.1-1.5</td>
<td>8.5 cc</td>
<td>20 cc</td>
</tr>
<tr>
<td>1.6-2.0</td>
<td>6.0 cc</td>
<td>12 cc</td>
</tr>
<tr>
<td>2.1-3.0</td>
<td>4.5 cc</td>
<td>10 cc</td>
</tr>
<tr>
<td>3.1-4.0</td>
<td>3.0 cc</td>
<td>6 cc</td>
</tr>
<tr>
<td>4.1-5.0</td>
<td>2.5 cc</td>
<td>5 cc</td>
</tr>
<tr>
<td>&gt;5.0</td>
<td>2.0 cc</td>
<td>4 cc</td>
</tr>
</tbody>
</table>
Mitogen and Antigen

<table>
<thead>
<tr>
<th>ALC</th>
<th>Blood Volume for Minimum of Each Assay</th>
<th>Blood Volume for Full Assay</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;0.5</td>
<td>&gt;28 cc</td>
<td>&gt;60 cc</td>
</tr>
<tr>
<td>0.5-1.0</td>
<td>28 cc</td>
<td>60 cc</td>
</tr>
<tr>
<td>1.1-1.5</td>
<td>12 cc</td>
<td>30 cc</td>
</tr>
<tr>
<td>1.6-2.0</td>
<td>8.5 cc</td>
<td>20 cc</td>
</tr>
<tr>
<td>2.1-3.0</td>
<td>6.5 cc</td>
<td>15 cc</td>
</tr>
<tr>
<td>3.1-4.0</td>
<td>4.5 cc</td>
<td>10 cc</td>
</tr>
<tr>
<td>4.1-5.0</td>
<td>3.5 cc</td>
<td>8 cc</td>
</tr>
<tr>
<td>&gt;5.0</td>
<td>2.5 cc</td>
<td>6 cc</td>
</tr>
</tbody>
</table>

Specimen Minimum Volume
<6 years: 1 mL; 6-18 years: 2 mL; Adults (>18 years): 6 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB Sodium Heparin</td>
<td>Ambient</td>
<td>48 hours</td>
<td>GREEN TOP/HEP</td>
</tr>
</tbody>
</table>

Reference Values
Viability of lymphocytes at day 0: ≥75.0%
Maximum proliferation of Candida albicans as % CD45: ≥5.7%
Maximum proliferation of Candida albicans as % CD3: ≥3.0%
Maximum proliferation of tetanus toxoid as % CD45: ≥5.2%
Maximum proliferation of tetanus toxoid as % CD3: ≥3.3%

Day(s) and Time(s) Performed
Monday through Friday
Do not send specimen after Thursday.

Test Classification
This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
86353
86353 (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPAGF</td>
<td>Lymphocyte Proliferation, Antigens</td>
<td>69042-0</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value
---|------------------|-------------------|
32325 | Interpretation | 69052-9 |
32326 | Viab of Lymphs at Day 0 | 33193-4 |
32327 | Max Prolif of CA as % CD45 | 69014-9 |
32328 | Max Prolif of CA as % CD3 | 69015-6 |
32329 | Max Prolif of TT as % CD45 | 69016-4 |
32330 | Max Prolif of TT as % CD3 | 69029-7 |
32331 | Antigen Comment | 48767-8 |

Reject Due To

Gross hemolysis | Reject
Gross lipemia | Reject

Method Name
Flow Cytometry

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separate</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGSTM</td>
<td>Additional Flow Stimulant, LPAGF</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm
If insufficient peripheral blood mononuclear cells (PBMCs) are isolated from the patient’s sample due to low WBC counts or specimen volume received, selected dilutions or stimulants may not be tested at the discretion of the laboratory to ensure the most reliable results. Testing with 1 stimulant will always be performed. When adequate specimen is available for both stimulants to be tested, an additional test ID will be reflexed and billed separately.

Secondary ID
60592

LPMIT Lymphocyte Proliferation to Mitogens, Blood

Mayo Clinic Laboratories in Rochester

Reporting Name
Lymphocyte Proliferation, Mitogens

Useful For
Assessing T-cell function in patients on immunosuppressive therapy, including solid-organ transplant patients
Evaluating patients suspected of having impairment in cellular immunity
Evaluation of T-cell function in patients with primary immunodeficiencies, either cellular (DiGeorge syndrome, T-negative severe combined immunodeficiency: SCID, etc) or combined T- and B-cell immunodeficiencies (T- and B-negative SCID, Wiskott Aldrich syndrome, ataxia telangiectasia, common variable immunodeficiency, among others) where T-cell function may be impaired
Evaluation of T-cell function in patients with secondary immunodeficiency, either disease related or iatrogenic
Evaluation of recovery of T-cell function and competence following bone marrow transplantation or hematopoietic stem cell transplantation

Specimen Type
WB Sodium Heparin

Advisory Information

Shipping Instructions
Specimens are required to be received in the laboratory weekdays and by 4 p.m. on Friday. Draw and package specimen as close to shipping time as possible. Ship specimen overnight in an Ambient Shipping Box-Critical Specimens Only (T668 following the instructions in the box).
It is recommended that specimens arrive within 24 hours of draw.
Specimens arriving on the weekend may be canceled.
Necessary Information

1. Date and time of draw and ordering physician name and phone number are required.
2. Specify "Mitogen" to differentiate from "Antigen" testing. This information is required.

Specimen Required

For serial monitoring, we recommend that specimen draws be performed at the same time of day.

Supplies: Ambient Shipping Box-Critical Specimens Only (T668)
Container/Tube: Green top (sodium heparin)
Specimen Volume:
<3 months: 1 mL
3 months-5 years: 2 mL
6-18 years: 3 mL
>18 years: 10 mL
Collection Instructions: Send specimen is original tube. Do not aliquot.

Blood Volume Recommendations Based on Absolute Lymphocyte Count (ALC)

<table>
<thead>
<tr>
<th>Mitogen Only</th>
<th>Blood Volume for Minimum PHA Only</th>
<th>Blood Volume for Minimum PHA and PWM</th>
<th>Blood Volume for Full Assay</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALC</td>
<td>&lt;0.5</td>
<td>&gt;8.5 cc</td>
<td>&gt;22 cc</td>
</tr>
<tr>
<td></td>
<td>0.5-1.0</td>
<td>6.5 cc</td>
<td>8.5 cc</td>
</tr>
<tr>
<td></td>
<td>1.1-1.5</td>
<td>3.0 cc</td>
<td>4.0 cc</td>
</tr>
<tr>
<td></td>
<td>1.6-2.0</td>
<td>2.0 cc</td>
<td>2.5 cc</td>
</tr>
<tr>
<td></td>
<td>2.1-3.0</td>
<td>1.5 cc</td>
<td>2.0 cc</td>
</tr>
<tr>
<td></td>
<td>3.1-4.0</td>
<td>1.0 cc</td>
<td>1.5 cc</td>
</tr>
<tr>
<td></td>
<td>4.1-5.0</td>
<td>0.8 cc</td>
<td>1.0 cc</td>
</tr>
<tr>
<td></td>
<td>&gt;5.0</td>
<td>0.5 cc</td>
<td>0.8 cc</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mitogen and Antigen</th>
<th>Blood Volume for Minimum of Each Assay</th>
<th>Blood Volume for Full Assay</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALC</td>
<td>&lt;0.5</td>
<td>&gt;28 cc</td>
</tr>
<tr>
<td></td>
<td>0.5-1.0</td>
<td>28 cc</td>
</tr>
<tr>
<td></td>
<td>1.1-1.5</td>
<td>12 cc</td>
</tr>
<tr>
<td></td>
<td>1.6-2.0</td>
<td>8.5 cc</td>
</tr>
<tr>
<td></td>
<td>2.1-3.0</td>
<td>6.5 cc</td>
</tr>
<tr>
<td></td>
<td>3.1-4.0</td>
<td>4.5 cc</td>
</tr>
<tr>
<td></td>
<td>4.1-5.0</td>
<td>3.5 cc</td>
</tr>
<tr>
<td></td>
<td>&gt;5.0</td>
<td>2.5 cc</td>
</tr>
</tbody>
</table>

Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB Sodium Heparin</td>
<td>Ambient</td>
<td>48 hours</td>
<td>GREEN TOP/HEP</td>
</tr>
</tbody>
</table>

Reference Values

Viability of lymphocytes at day 0: ≥75.0%
Maximum proliferation of phytohemagglutinin as % CD45: ≥49.9%
Maximum proliferation of phytohemagglutinin as % CD3: ≥58.5%
Maximum proliferation of pokeweeds mitogen as % CD45: ≥4.5%

Maximum proliferation of pokeweeds mitogen as % CD3: ≥3.5%
Maximum proliferation of pokeweeds mitogen as % CD19: ≥3.9%

Day(s) and Time(s) Performed
Monday through Friday
Do not send specimen after Thursday.

Test Classification

This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

86353
86353 (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPGMF</td>
<td>Lymphocyte Proliferation, Mitogens</td>
<td>69018-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>32317</td>
<td>Interpretation</td>
<td>69052-9</td>
</tr>
<tr>
<td>32318</td>
<td>Viab of Lymphs at Day 0</td>
<td>33193-4</td>
</tr>
<tr>
<td>32321</td>
<td>Max Prolif of PWM as % CD45</td>
<td>69019-8</td>
</tr>
<tr>
<td>32322</td>
<td>Max Prolif of PWM as % CD3</td>
<td>69020-6</td>
</tr>
<tr>
<td>32323</td>
<td>Max Prolif of PWM as % CD19</td>
<td>69037-0</td>
</tr>
<tr>
<td>32319</td>
<td>Max Prolif of PHA as % CD45</td>
<td>69038-8</td>
</tr>
<tr>
<td>32320</td>
<td>Max Prolif of PHA as % CD3</td>
<td>57741-1</td>
</tr>
<tr>
<td>32324</td>
<td>Mitogen Comment</td>
<td>48767-8</td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis
- Gross lipemia

Method Name
Flow Cytometry

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGSTM</td>
<td>Additional Flow Stimulant, LPGMF</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm

If insufficient peripheral blood mononuclear cells (PBMCs) are isolated from the patient's sample due to low WBC counts or specimen volume received, selected dilutions or stimulants may not be tested at the discretion of the laboratory to ensure the most reliable results. Testing with 1 stimulant will always be performed. When adequate specimen is available for both stimulants to be tested, an additional test ID will be reflexed and billed separately.

Secondary ID
60591

LMCAB Lymphocytic Choriomeningitis Antibody

Baystate Reference Laboratories

Additional Information

- Reflex Tests

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<table>
<thead>
<tr>
<th><strong>LGVAB</strong></th>
<th>Lymphogranuloma Venereum Antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LabCorp</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Additional Information</strong></td>
<td>Testing referred to Focus Diagnostics Inc</td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Serum gel</td>
</tr>
<tr>
<td></td>
<td>Serum</td>
</tr>
<tr>
<td><strong>Other Acceptable Specimen Types</strong></td>
<td>Red top</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>1 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td>0.5 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerated</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>14 days</td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
<td>5 - 7 days</td>
</tr>
<tr>
<td><strong>CPT Code</strong></td>
<td>86631 x 008, 86632 x 004</td>
</tr>
<tr>
<td><strong>LOINC Code</strong></td>
<td>30204-2</td>
</tr>
<tr>
<td><strong>EMR Interface Order Code</strong></td>
<td>52200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>LSD</strong></th>
<th>Lysergic Acid Diethylamide (LSD), Blood</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LabCorp</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Red Top</td>
</tr>
<tr>
<td></td>
<td>Serum</td>
</tr>
<tr>
<td><strong>Other Acceptable Specimen Types</strong></td>
<td>Heparinized Plasma</td>
</tr>
<tr>
<td><strong>Special Handling Instructions</strong></td>
<td>Separate serum or plasma from cells within 2 hours of collection. Submit serum or plasma in a plastic transport tube. Protect from light.</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>7 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td>3 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerate</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>Room temperature: unacceptable, Refrigerated: 2 weeks Frozen: 6 months</td>
</tr>
<tr>
<td><strong>Reasons for Rejection</strong></td>
<td>Collected in a gel barrier tube. Not refrigerated.</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>Immunoassay (IA), liquid chromatography/tandem mass spectrometry</td>
</tr>
<tr>
<td><strong>CPT Code</strong></td>
<td>80307</td>
</tr>
<tr>
<td><strong>EMR Interface Order Code</strong></td>
<td>07375</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ULSDR</strong></th>
<th>Lysergic Acid Diethylamide (LSD), Urine, Random</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LabCorp</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Additional Information</strong></td>
<td>LSD is detectable in urine for up to 5 days</td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Urine</td>
</tr>
<tr>
<td></td>
<td>Random Urine</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>5 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td>1 mL</td>
</tr>
</tbody>
</table>
**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 7 days, Refrigerated: 7 days, Frozen: 7 months

**Methodology**
Immunooassay

**Days and Times Performed**
Monday – Friday

**Turnaround Time**
5 - 14 days

**CPT Code**
80307

**EMR Interface Order Code**
07385

---

**LEP  Lysosomal Enzyme Panel**

*LabCorp*

**Additional Information**
- Acid Sphingomyelinase
- Alpha-fucosidase
- Alpha-galactosidase
- Alpha-Iduronidase
- Alpha-mannosidase
- Alpha-N-acetylgalactosaminidase
- Aspartylglucosaminidase
- Arylsulfatase A
- Beta-glucosidase
- Beta-galactosidase
- Beta-mannosidase
- Beta-hexosaminidase
- B-hexosaminidase, %A
- Galactocerebrosidase

**Collection Container**
Green top (sodium heparin)

Whole Blood

**Special Handling Instructions**
Collect samples Monday - Thursday only
Sample must arrive in Referral Lab same day of draw
Keep at room temperature

**Specimen Volume**
7 mL

**Minimum Specimen Volume**
3 ml

**Transport Temperature**
Room temperature

**Reasons for Rejection**
Specimen spun, not protected from extremes in temperature, not received within 24 hours of collection
Hemolysis; icterus; lipemia; bacterial contamination

**CPT Code**
82657

**EMR Interface Order Code**
71485

---

**LYZYM  Lysozyme (Muramidase), Plasma**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Lysozyme (Muramidase), P

**Useful For**
Confirming marked increases in the granulocyte or monocyte pools as in granulocytic or monocytic leukemias, myeloproliferative disorders, and malignant histiocytosis

Following the course of therapy in cases of chronic granulocytic or chronic monocytic leukemias

**Specimen Type**
Plasma EDTA

**Specimen Required**
- **Collection Container/Tube:** Lavender top (EDTA)
- **Submission Container/Tube:** Plastic vial
- **Specimen Volume:** 2 mL

**Collection Instructions:**
1. Centrifuge and transfer plasma to a Â plastic vial within 2 hours of collection.
2. Freeze immediately after transferring.

**Specimen Minimum Volume**
1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
≥12 months: 2.7-9.4 mcg/mL
Reference values have not been established for patients who are <12 months of age.

**Day(s) and Time(s) Performed**
Monday through Friday

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
85549

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUR</td>
<td>Lysozyme (Muramidase), P</td>
<td>2589-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUR</td>
<td>Lysozyme (Muramidase), P</td>
<td>2589-0</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: OK
- Gross lipemia: OK

**Method Name**
Turbidimetric
Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- Hematopathology/Cytogenetics Test Request (T726)
- Benign Hematology Test Request Form (T755)

**MCNT**  Macadamia Nut IgE

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
00585

**Container**
Serum gel or red top tube

**MAGRBC**  Magnesium, RBC

*LabCorp*

**Important Note**
Centrifuge tube within 45 minutes of collection and separate as much plasma from cells as possible. Send the plasma and the original collection tube with RBCs to the laboratory.

**Collection Container**
Green-top (heparin) tube, lavender-top (EDTA) tube, royal blue-top (EDTA) tube, or tan-top lead-free tube (SEE ORDERING NOTE)

Submit plasma and RBC's in original tube to chemistry laboratory.

**Specimen Volume**
1 mL Red blood cells, RBC's (From proper tube type)

**Minimum Specimen Volume**
0.2 mL Red blood cells, RBC's (From proper tube type)

**Transport Temperature**
Room temperature

**Specimen Stability**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Room temperature</td>
<td>14 days</td>
</tr>
<tr>
<td>Refrigerated</td>
<td>14 days</td>
</tr>
<tr>
<td>Frozen</td>
<td>14 days</td>
</tr>
<tr>
<td>Freeze/thaw cycles</td>
<td>Stable x3</td>
</tr>
</tbody>
</table>

**Methodology**
Atomic absorption spectrometry (AAS); inductively-coupled plasma/mass spectrometry (ICP/MS)

**Reference Ranges**
4.2–6.8 mg/dL

**CPT Code**
83735

**Cause for rejection**
Serum or plasma specimen
### UMGR  Magnesium, Urine

**Baystate Reference Laboratories**

**Collection Container**
Urine

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 3 days, Refrigerated: 3 days, Frozen 1 year

**Methodology**
Spectrophotometric; xylidyl blue

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Units of Measure**
mEq/L

**CPT Code**
83735

**LOINC Code**
19124-7

**EMR Interface Order Code**
07460

---

### UMGQ  Magnesium, Urine, Quantitative

**Baystate Reference Laboratories**

**Collection Container**
Jug

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 3 days, Refrigerated: 3 days, Frozen 1 year

**Methodology**
Spectrophotometric; xylidyl blue

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Units of Measure**
mEq/24Hr

**CPT Code**
83735

**LOINC Code**
19124-7

**EMR Interface Order Code**
07460

---

### MAL  Malaria Smear

**Baystate Reference Laboratories**

**Additional Information**
The laboratory will report the presence of Plasmodium sp. (malaria), Babesia and Trypanosomes. Please call Microbiology at 413-322-4122 if other blood parasites are suspected.

**Collection Container**
Lavender (EDTA)

**Special Handling Instructions**
Transport to the laboratory within 2 hours, 1 hour preferred

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
3 mL

**Transport Temperature**
Room temperature

**Specimen Stability**
Smears should be prepared within 1 hour of collection, no longer than 2 hours.

**Reasons for Rejection**
If other blood specimens are being collected, a separate lavender tube must be collected. This tube cannot be shared.

**Days and Times Performed**
7 days/week

**Turnaround Time**
4-24 hours

**Reference Ranges**
No blood parasites observed on thin and thick smears.

**LOINC Code**
24429-3

**EMR Interface Order Code**
52250

---

### MLT  Malt IgE

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48955

Container
Serum gel or red top tube

Necessary Information

24-Hour volume is required.

Specimen Required

Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Supplies: Urine Tubes, 10 mL (T068)

Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert

Submission Container/Tube: Plastic, 10-mL urine tube or clean, plastic aliquot container with no metal cap or glued insert

Specimen Volume: 10 mL

Collection Instructions:
1. Collect urine for 24 hours.
2. Refrigerate specimen within 4 hours of completion of 24-hour collection.
3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions

- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens
- Trace Metals Analysis Specimen Collection and Transport

Reference Values

<4.0 mcg/specimen

Reference values have not been established for patients that are <18 years of age.

Day(s) and Time(s) Performed

Tuesday, Friday; 8 a.m.

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

83785

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MNU</td>
<td>Manganese, 24 Hr, U</td>
<td>8203-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8080</td>
<td>Manganese, 24 Hr, U</td>
<td>8203-2</td>
</tr>
<tr>
<td>TM26</td>
<td>Collection Duration</td>
<td>13362-9</td>
</tr>
<tr>
<td>VL24</td>
<td>Urine Volume</td>
<td>3167-4</td>
</tr>
</tbody>
</table>
Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Dynamic Reaction Cell-Inductively Coupled Plasma-Mass Spectrometry (DRC-ICP-MS)

Urine Preservative Collection Options
Note: The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.

<table>
<thead>
<tr>
<th>Preservative</th>
<th>Acceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient</td>
<td>OK</td>
</tr>
<tr>
<td>Refrigerate</td>
<td>Preferred</td>
</tr>
<tr>
<td>Frozen</td>
<td>OK</td>
</tr>
<tr>
<td>50% Acetic Acid</td>
<td>No</td>
</tr>
<tr>
<td>Boric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Diazolidnyl Urea</td>
<td>No</td>
</tr>
<tr>
<td>6M Hydrochloric Acid</td>
<td>No</td>
</tr>
<tr>
<td>6M Nitric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Sodium Carbonate</td>
<td>No</td>
</tr>
<tr>
<td>Thymol</td>
<td>No</td>
</tr>
<tr>
<td>Toluene</td>
<td>No</td>
</tr>
</tbody>
</table>

MANGO  Mango IgE
Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
48960
Container
Serum gel or red top tube

MAPLE  Maple Tree/Box Elder IgE
Contracted Reference Lab
Collection Container
Serum gel or red top tube
Serum
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
68392
Container
Serum gel or red top tube

QSMAR  Marijuana with Conf, Oral Fluid
Contracted Reference Lab
Reflex Tests
If positive, will reflex to confirmations at an additional charge
Collection Container
Oral-Eze container
Oral fluid
Specimen Volume
3 mL
Minimum Specimen Volume
2 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 72 hr Refrigerated: 7 days Frozen: 30 days with swab removed
Reasons for Rejection
Not submitted in Oral-Eze device, no swab (unless frozen)
Days and Times Performed
Daily
Turnaround Time
4 days
CPT Code
80307
EMR Interface Order Code
71185
Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.
**MMP9  Matrix Metalloproteinase 9**

*Pan Laboratories*

**Collection Container**
Serum gel or red top tubes
Serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Frozen

**Specimen Stability**
Room temp: 4 hours
Refrigerated: 24 hours
Frozen: 30 days

**CPT Code**
83520

**LOINC Code**
Pending assignment

**EMR Interface Order Code**
70941

---

**MFESCU  Meadow Fescue IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48970

**Container**
Serum gel or red top tube

---

**QMDMA  MDMA/MDA, Qnt, Urine**

*Contracted Reference Lab*

**Collection Container**
Urine cup or tube
Urine

**Specimen Volume**
20 mL

**Minimum Specimen Volume**
5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**Reasons for Rejection**
Preserved samples

**Days and Times Performed**
Daily

**Turnaround Time**
1 – 3 days

**CPT Code**
80359/G0480

**EMR Interface Order Code**
70853

---

**MEASM  Measles (Rubeola) Antibodies, IgM, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Measles (Rubeola) Ab, IgM, S

**Useful For**
Determining acute-phase infection with rubeola (measles) virus using IgM antibody testing
Aiding in the identification of nonimmune individuals through IgM antibody testing

**Specimen Type**
Serum

**Specimen Required**

**Container/Tube:**
Preferred: Serum gel
Acceptable: Red top

**Specimen Volume**
0.5 mL

**Specimen Minimum Volume**
0.2 mL

---

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

Negative
Reference values apply to all ages.

Day(s) and Time(s) Performed

Monday through Saturday; 9 a.m.

Test Classification

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

86765

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROM</td>
<td>Measles (Rubeola) Ab, IgM, S</td>
<td>35276-5</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name                  | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>80979</td>
<td>Measles (Rubeola) Ab, IgM, S</td>
<td>35276-5</td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: Gross reject
- Gross lipemia: Gross reject
- Other: Heat-inactivated specimen

Method Name

Immunofluorescence Assay (IFA)

Forms

If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

RUBEOL  Measles (Rubeola) Antibody, IgG

Baystate Reference Laboratories

Collection Container

Gel

Gel serum

Other Acceptable Specimen Types

Red top serum

Specimen Volume

1 mL

Minimum Specimen Volume

0.5 mL

Transport Temperature

Refrigerate

Specimen Stability

5 days refrigerated

Reasons for Rejection

Specimens not centrifuged within 24 hours, specimens older than 5 days.

Methodology

EIA

LOINC Code

35275-7

EMR Interface Order Code

54550

MEADPH  Measles (Rubeola) PCR

Baystate Reference Laboratories

Important Note

This testing is for symptomatic patients only and will be sent to the MA Dept of Public Health. Before placing order, provider must contact the state epidemiologist at 1-617-983-6800. Completed state submission form must accompany specimens.

Measles IgM on serum and Measles PCR on nasopharyngeal swab at the discretion of the MDPH.

EMR Interface Order Code

71386

MECD11  Meconium Drug Panel 11, Reflex Confirmations

LabCorp

Additional Information

Specimens from different voidings may be pooled if necessary

Collection Container

Other

Meconium

Specimen Volume

5 grams

Minimum Specimen Volume

1 gram

Transport Temperature

Refrigerate

Methodology

Imunoassay; Confirmation of positives by Mass Spectrometry (MS)

Turnaround Time

1 - 2 weeks

CPT Code

80307

EMR Interface Order Code

67894

MECP2  MECP2 Gene, Full Gene Analysis, Varies

Mayo Clinic Laboratories in Rochester

Useful For

Diagnosis of Rett syndrome or other MECP2-related disorders

Method Name

Polymerase Chain Reaction (PCR) Followed by DNA Sequence Analysis and Gene Dosage Analysis by Multiplex Ligation-Dependent Probe Amplification (MLPA)
Reporting Name
MECP2 Gene, Full Gene Analysis

Specimen Type
Varies

Shipping Instructions
Specimen preferred to arrive within 96 hours of draw.

Specimen Required

Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant.

Specimen Type: Whole blood

Container/Tube:
Preferred: Lavender top (EDTA) or yellow top (ACD)
Acceptable: Any anticoagulant

Specimen Volume: 3 mL

Collection Instructions:
1. Invert several times to mix blood.
2. Send specimen in original tube.

Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Ambient (preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated by Mayo Clinic Laboratories for test suitability.

Reference Values
An interpretive report will be provided.

Day(s) and Time(s) Performed
Performed weekly, varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
81302-MECP2 (methyl CpG binding protein 2) (eg, Rett syndrome) gene analysis; full sequence analysis
81304-MECP2 (methyl CpG binding protein 2) (eg, Rett syndrome) gene analysis; duplication/deletion variants

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECPZ</td>
<td>MECP2 Gene, Full Gene Analysis</td>
<td>94229-2</td>
</tr>
</tbody>
</table>

Special Instructions

- Molecular Genetics: Congenital Inherited Diseases Patient Information
- Informed Consent for Genetic Testing
- Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm
- Informed Consent for Genetic Testing (Spanish)

Secondary ID
35484

Forms
1. New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. Molecular Genetics: Congenital Inherited Diseases Patient Information (T521) in Special Instructions
3. If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request (T732) with the specimen.

Testing Algorithm
See Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm in Special Instruction.

UMELQ  Melanin, Urine

LabCorp

Collection Container
Urine

24 Hour urine

Special Handling Instructions
Protect specimen from light and freeze

Specimen Volume
4 mL

Minimum Specimen Volume
2.5 mL

Transport Temperature
Freeze

Specimen Stability
Room temperature: unstable, Refrigerated: unstable

Reasons for Rejection
Refrigerated, room temperature samples or samples exposed to light

Methodology
Colorimetry

CPT Code
81005

LOINC Code
2607-0
EMR Interface Order Code
65440

MELATN  Melatonin, Plasma

NMS Labs

Specimen Required

Specimen Type: Plasma
Container/Tube:
Preferred: (Lavender top) EDTA
Acceptable: (pink top) EDTA
Specimen volume: 3 mL
Collection instructions: Draw blood in EDTA (lavender top) tube(s). Spin down and send 1 mL of plasma refrigerated in a plastic vial.

Secondary ID
75386

Method Name
High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)

Reporting Name
Melatonin, Plasma

Specimen Type
Plasma EDTA

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Refrigerated (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

Hemolysis  Mild reject; Gross reject
Lipemia    Mild reject; Gross reject
Icterus    NA
Other      Polymer gel separation tube (SST or PST)

Reference Values
Reporting limit determined each analysis.

Units: ng/mL

Day(s) and Time(s) Performed
Monday â€“ Sunday

CPT Code Information
80375

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMELA</td>
<td>Melatonin, Plasma</td>
<td>11055-1</td>
</tr>
</tbody>
</table>

MELONS  Melon/Cantalope/Honeydew IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Type
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48975

Container
Serum gel or red top tube

DEMROL  Meperidine (Demerol) and Normeperidine, serum

Medtox Laboratories, Inc.

Additional Test Codes
EMR Interface Order Code: 05476

Reporting Name
Meperidine (Demerol)

Specimen Type
Varies

Specimen Required

Submit only 1 of the following specimens:

Plasma
Draw blood in a green-top (sodium heparin) tube(s). Plasma gel tube is not acceptable. Spin down and send 3 mL of sodium heparin plasma refrigerated in a plastic vial.

Serum
Draw blood in a plain red-top tube(s). Serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.
Specimen Minimum Volume
0.6 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th></th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td></td>
</tr>
<tr>
<td>Lipemia</td>
<td></td>
</tr>
<tr>
<td>Icterus</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

Meperidine:
Reference Range: 400 - 700 ng/ml

Normeperidine: No reference range provided

Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information
80362

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMEP</td>
<td>Meperidine (Demerol)</td>
<td>68314-4</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1132</td>
<td>Meperidine</td>
<td>73934-2</td>
</tr>
<tr>
<td>Z1159</td>
<td>Normeperidine</td>
<td>73933-4</td>
</tr>
</tbody>
</table>

Method Name
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

QMEP  Meperidine, Quant, Urine

Contracted Reference Lab

Additional Information
Includes Meperidine and Normeperidine

Urine

Specimen Volume
20 mL

Minimum Specimen Volume
7 mL

Transport Temperature
Refrigerated

Specimen Stability
7 days

Reasons for Rejection
Preserved samples

Methodology
Mass spectrometry

Days and Times Performed
Daily

Turnaround Time
2 days

Reference Ranges
< 100 ng/mL

CPT Code
80362 (G0480)

LOINC Code
3747-3, 3869-5

EMR Interface Order Code
70262

MPHBRB  Mephobarbital and Phenobarbital, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 07500

Reporting Name
Mephobarbital and Phenobarbital, S

Useful For
Monitoring of mephobarbital and phenobarbital therapy

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBARS</td>
<td>Mephobarbital, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>PHBRS</td>
<td>Phenobarbital, S</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Specimen Type
Serum Red

Specimen Required

Collection Container/Tube: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1.2 mL

Collection Instructions:
1. Draw blood immediately before next scheduled dose.
2. Within 2 hours of collection, the specimen must be centrifuged and the serum aliquoted into a plastic vial.

Specimen Minimum Volume
0.7 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

MEPHOBARBITAL
Therapeutic range: 1.0-7.0 mcg/mL
Toxic concentration: ≥15.0 mcg/mL

PHENOBARBITAL
Therapeutic range
Children: 15.0-30.0 mcg/mL
Adults: 20.0-40.0 mcg/mL
Toxic concentration: ≥60.0 mcg/mL

**Day(s) and Time(s) Performed**
Wednesday; 12 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
80345
G0480 (if appropriate)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEPHS</td>
<td>Mephobarbital and Phenobarbital, S</td>
<td>In Process</td>
</tr>
</tbody>
</table>

**Result ID**

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>89706</td>
<td>Mephobarbital, S</td>
<td>3750-7</td>
</tr>
<tr>
<td>84582</td>
<td>Phenobarbital, S</td>
<td>3948-7</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: Reject
- Gross lipemia: OK
- Gross icterus: OK

**Method Name**
Gas Chromatography-Mass Spectrometry (GC-MS)

**Forms**
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

---

**MEPROB  Meprobamate**

*LabCorp*

**Collection Container**
Red

**Serum**

**Other Acceptable Specimen Types**
EDTA plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.4 mL

**Transport Temperature**
Room temperature

**Reasons for Rejection**
Collected in a gel barrier tube

**Methodology**
Gas Chromatography

**Days and Times Performed**
Sunday - Friday

**Turnaround Time**
3 - 6 days

---

**CPT Code**
80369/G0480

**EMR Interface Order Code**
07550

**IMUR  Mercaptopurine (6-MP, Purinethol)**

*Medtox Laboratories, Inc.*

**Reporting Name**
Mercaptopurine (6-MP, Purinethol)

**Specimen Type**
Varies

**Specimen Required**
Submit only 1 of the following specimens:

**Plasma**
Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial.

**Serum**
Draw blood in a plain, red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**
0.3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

**Reference Values**

Units: ng/mL

Mercaptopurine may be administered as an antineoplastic or may be present as a metabolite of the immunosuppressant drug azathioprine. Therapeutic and toxic ranges have not been established. Usual therapeutic doses of either mercaptopurine or azathioprine produce 6-mercaptopurine serum concentrations of less than 1000 ng/mL.

**Day(s) and Time(s) Performed**
Monday through Sunday

**CPT Code Information**
80375
LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMERC</td>
<td>Mercaptopurine (6-MP, Purinethol)</td>
<td>11242-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1190</td>
<td>6-Mercaptopurine</td>
<td>11242-5</td>
</tr>
</tbody>
</table>

Method Name
High Performance Liquid Chromatography with Ultraviolet Detection (HPLC-UV)

UHGW  Mercury, 24 Hour, Urine

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 07580

Reporting Name
Mercury, 24 Hr, U

Useful For
Detecting mercury toxicity in 24-hour urine specimens

Specimen Type
Urine

Necessary Information

24 Hour volume is required.

Specimen Required

Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Supplies: Urine Tubes, 10 mL (T068)
Collection Container/Tube: Clean, plastic urine container with no metal cap or glued insert
Submission Container/Tube: Plastic, 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert
Specimen Volume: 10 mL

Collection Instructions:
1. Collect urine for 24 hours.
2. Refrigerate specimen within 4 hours of completion of 24-hour collection.
3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume
2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens

Reference Values
0-17 years: not established
≥18 years: <2 mcg/24 hour
Toxic concentration: >50 mcg/24 hour
The concentration at which toxicity is expressed is widely variable between patients. 50 mcg/24 hour is the lowest concentration at which toxicity is usually apparent.

Day(s) and Time(s) Performed
Monday through Saturday; 7 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83825

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HGU</td>
<td>Mercury, 24 Hr, U</td>
<td>6693-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8592</td>
<td>Mercury, 24 Hr, U</td>
<td>6693-6</td>
</tr>
<tr>
<td>TM5</td>
<td>Collection Duration</td>
<td>13362-9</td>
</tr>
<tr>
<td>VL3</td>
<td>Urine Volume</td>
<td>3167-4</td>
</tr>
</tbody>
</table>

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

Urine Preservative Collection Options
Note: The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.

<table>
<thead>
<tr>
<th>Preservative</th>
<th>Container Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient</td>
<td>No</td>
</tr>
<tr>
<td>Refrigerate</td>
<td>Preferred</td>
</tr>
<tr>
<td>Frozen</td>
<td>OK</td>
</tr>
<tr>
<td>50% Acetic Acid</td>
<td>OK</td>
</tr>
<tr>
<td>Boric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Diazolidinyl Urea</td>
<td>No</td>
</tr>
<tr>
<td>6M Hydrochloric Acid</td>
<td>OK</td>
</tr>
<tr>
<td>6M Nitric Acid</td>
<td>OK</td>
</tr>
<tr>
<td>Sodium Carbonate</td>
<td>No</td>
</tr>
<tr>
<td>Thymol</td>
<td>No</td>
</tr>
<tr>
<td>Toluene</td>
<td>OK</td>
</tr>
</tbody>
</table>

HG  Mercury, Blood

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 07575

Reporting Name
Mercury, B
Useful For
Detecting mercury toxicity

Specimen Type
Whole blood

Specimen Required

Patient Preparation: High concentrations of gadolinium and iodine are
known to interfere with most metals tests. If either gadolinium- or
iodine-containing contrast media has been administered, a specimen
should not be collected for 96 hours.

Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace
element blood collection tube (T183)

Specimen Volume: Full tube

Collection Instructions:
1. See Trace Metals Analysis Specimen Collection and Transport in
Special Instructions for complete instructions.
2. Send specimen in original tube.

Additional Information: If ordering the trace element blood collection
tube from BD, order catalog #368381.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Trace Metals Analysis Specimen Collection and Transport

Reference Values
Normal: 0-9 ng/mL
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday; 2 p.m.

Test Classification
This test was developed and its performance characteristics
determined by Mayo Clinic in a manner consistent with CLIA
requirements. This test has not been cleared or approved by the U.S.
Food and Drug Administration.

CPT Code Information
83825

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HG</td>
<td>Mercury, B</td>
<td>5685-3</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value
-----------|------------------|-------------------|
8618       | Mercury, B      | 5685-3            |

Reject Due To
Gross hemolysis | OK
Gross lipemia | OK
Gross icterus | OK

Method Name
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

---

**UHGCR**

**Mercury/Creatinine Ratio, Random, Urine**

**Mayo Clinic Laboratories in Rochester**

Specimen Required

Only orderable as part of profile. See HGCR / Mercury/Creatinine
Ratio, Random, Urine or HMCRU / Heavy Metal/Creatinine Ratio, with
Reflex, Urine.

Secondary ID
48546

Useful For
Detecting mercury toxicity in random urine specimens

Special Instructions
- Trace Metals Analysis Specimen Collection and Transport

Method Name
Only orderable as part of profile. See HGCR / Mercury/Creatinine
Ratio, Random, Urine or HMCRU / Heavy Metal/Creatinine Ratio, with
Reflex, Urine.

Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

Reporting Name
Mercury/Creatinine Ratio, U

Specimen Type
Urine

Specimen Minimum Volume
3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test
suitability.

Reference Values
Only orderable as part of profile. See HGCR / Mercury/Creatinine
Ratio, Random, Urine or HMCRU / Heavy Metal/Creatinine Ratio, with
Reflex, Urine.

Day(s) and Time(s) Performed
Monday through Friday; 7 p.m.

Test Classification
This test was developed and its performance characteristics
determined by Mayo Clinic in a manner consistent with CLIA
requirements. This test has not been cleared or approved by the U.S.
Food and Drug Administration.

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HGRC</td>
<td>Mercury/Creatinine Ratio, U</td>
<td>13465-0</td>
</tr>
</tbody>
</table>
MESCAL  Mescaline

**LabCorp**

**Additional Information**
If the screen is Positive then the confirmation will be performed

**Collection Container**
Red
Serum

**Special Handling Instructions**
Separate serum/plasma from cells within 2 hours of collection. Send in plastic transport tube.

**Specimen Volume**
6 mL

**Minimum Specimen Volume**
1.2 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 14 days, Refrigerated: 14 days, Frozen 14 days

**Reasons for Rejection**
Collected in a gel barrier tube

**Methodology**
Gas Chromatography

**Days and Times Performed**
Wednesdays

**Turnaround Time**
3 days

**CPT Code**
80323/G0480

**EMR Interface Order Code**
07600

**UMETR  Metanephrines, Fractionated, Random, Urine**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Metanephrines, Fract., Random, U

**Useful For**
A second-order screening test for the presumptive diagnosis of pheochromocytoma in patients with nonepisodic hypertension

Confirming positive plasma metanephrine results in patients with nonepisodic hypertension

---

### Test Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCTU</td>
<td>Creatinine Conc</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>METAU</td>
<td>Metanephrines, Fractionated, U</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Specimen Type

Urine

### Specimen Required

**Supplies:** Urine Tubes, 10 mL (T068)

**Patient Preparation:** Tricyclic antidepressants and labetalol and sotalol (beta blockers) may elevate levels of metanephrines. If clinically feasible, these medications should be discontinued at least 1 week before collection.

**Collection Container/Tube:** Clean, plastic urine collection container

**Submission Container/Tube:** Plastic urine tube (T068)

**Specimen Volume:** 5 mL

**Collection Instructions:**
1. Collect a random urine specimen.
2. No preservative.

### Specimen Minimum Volume

3 mL

### Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

### Reference Values

**METANEPHRINE/CREATININE**

**Normotensives**

- 0-2 years: 82-418 mcg/g creatinine
- 3-8 years: 65-332 mcg/g creatinine
- 9-12 years: 41-209 mcg/g creatinine
- 13-17 years: 30-154 mcg/g creatinine
- ≥18 years: 29-158 mcg/g creatinine

**NORMETANEPHRINE/CREATININE**

**Males**

- Normotensives
  - 0-2 years: 121-946 mcg/g creatinine
  - 3-8 years: 92-718 mcg/g creatinine
  - 9-12 years: 53-413 mcg/g creatinine
  - 13-17 years: 37-286 mcg/g creatinine
  - 18-29 years: 53-190 mcg/g creatinine
  - 30-39 years: 60-216 mcg/g creatinine
  - 40-49 years: 69-247 mcg/g creatinine
  - 50-59 years: 78-282 mcg/g creatinine
  - 60-69 years: 89-322 mcg/g creatinine
  - ≥70 years: 102-367 mcg/g creatinine

**Females**

- Normotensives
  - 0-2 years: 121-946 mcg/g creatinine
  - 3-8 years: 92-718 mcg/g creatinine
  - 9-12 years: 53-413 mcg/g creatinine
  - 13-17 years: 37-286 mcg/g creatinine
  - 18-29 years: 81-330 mcg/g creatinine
  - 30-39 years: 93-379 mcg/g creatinine
  - 40-49 years: 107-436 mcg/g creatinine
  - 50-59 years: 122-500 mcg/g creatinine
  - 60-69 years: 141-574 mcg/g creatinine
  - ≥70 years: 161-659 mcg/g creatinine
TOTAL METANEPHRINE/CREATININE

Males
Normotensives
0-2 years: 241-1,272 mcg/g creatinine
3-8 years: 186-980 mcg/g creatinine
9-12 years: 110-582 mcg/g creatinine
13-17 years: 78-412 mcg/g creatinine
18-29 years: 96-286 mcg/g creatinine
30-39 years: 106-316 mcg/g creatinine
40-49 years: 117-349 mcg/g creatinine
50-59 years: 130-386 mcg/g creatinine
60-69 years: 143-427 mcg/g creatinine
≥70 years: 159-472 mcg/g creatinine

Females
Normotensives
0-2 years: 241-1,272 mcg/g creatinine
3-8 years: 186-980 mcg/g creatinine
9-12 years: 110-582 mcg/g creatinine
13-17 years: 78-412 mcg/g creatinine
18-29 years: 131-467 mcg/g creatinine
30-39 years: 147-523 mcg/g creatinine
40-49 years: 164-585 mcg/g creatinine
50-59 years: 184-655 mcg/g creatinine
60-69 years: 206-733 mcg/g creatinine
≥70 years: 230-821 mcg/g creatinine

Day(s) and Time(s) Performed
Monday through Friday; 4 p.m.

Test Classification
This test was developed and its performance characteristics determined by Laboratory Medicine and Pathology, Mayo Clinic. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83835

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>METAR</td>
<td>Metanephrines, Fract., Random, U</td>
<td>68317-7</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>21546</td>
<td>Metanephrine/Creatinine</td>
<td>9645-3</td>
</tr>
<tr>
<td>RCTU</td>
<td>Creatinine Conc</td>
<td>2161-8</td>
</tr>
<tr>
<td>21547</td>
<td>Normetanephrine/Creatinine</td>
<td>13783-6</td>
</tr>
<tr>
<td>21548</td>
<td>Total Metanephrine/Creatinine</td>
<td>13771-1</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
RCTU: Enzymatic Colorimetric Assay
METAU: Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS) Stable Isotope Dilution Analysis

Forms
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

QMETH Methadone Metabolite, Qnt, Urine

Contracted Reference Lab
Baystate Reference Laboratories

Collection Container
Urine cup or tube
Urine

Specimen Volume
20 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerate

Specimen Stability
7 days

Reasons for Rejection
Preserved samples

Days and Times Performed
Daily

Turnaround Time
1 – 3 days

CPT Code
80358/G0480

EMR Interface Order Code
70856

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

UMETH Methadone Screen, Urine

Baystate Reference Laboratories

Additional Information
Positive results are presumptive only.
Cutoff value: 300 ng/ml

Collection Container
Urine
Random Urine

Specimen Volume
20 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Kinetic interaction od microparticles in a solution (KIMS)

Days and Times Performed
Screening test performed daily

Turnaround Time
24 hours

Reference Ranges
Non detected

CPT Code
80307
LOINC Code
19552-9

EMR Interface Order Code
11525

**QSMETH  Methadone with Conf, Oral Fluid**

*Contracted Reference Lab*

**Reflex Tests**
If positive, will reflex to confirmations at an additional charge

**Collection Container**
Oral-Eze container
Oral fluid

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 72 hr Refrigerated: 7 days Frozen: 30 days with swab removed

**Reasons for Rejection**
Not submitted in Oral-Eze device, no swab (unless frozen)

**Days and Times Performed**
Daily

**Turnaround Time**
4 days

**CPT Code**
80307

**EMR Interface Order Code**
71067

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

**BMETH  Methadone, Blood**

*LabCorp*

**Collection Container**
Red
Serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 2 weeks, Refrigerated: 2 weeks, Frozen: 2 weeks

**Reasons for Rejection**
Collected in a gel barrier tube

**Methodology**
Liquid chromatography/tandem mass spectrometry (LC/MS-MS)

**Days and Times Performed**
Wednesday and Friday

**Turnaround Time**
3 days

**CPT Code**
80358/G0480

**EMR Interface Order Code**
60140

**UMETHZ  Methadone, Urine, Screen with Confirmation**

*Baystate Reference Laboratories*

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

**Additional Information**
Threshold value: 300 ng/ml
The following drugs may cause a false positive urine Methadone Screen result: tramadol, quetiapine, methotrimeprazine.
This tests will reflex to a confirmation if screen is positive

**Reflex Tests**
UMTCNF (Methadone Confirmation, Urine)

**Collection Container**
Urine
Random Urine

**Specimen Volume**
10 mL

**Minimum Specimen Volume**
6 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Methodology**
Kinetic interaction of microparticles in a solution (KIMS)

**Reference Ranges**
Non detected

**CPT Code**
80307

**LOINC Code**
3773-9

**EMR Interface Order Code**
11527
**QMTAMP**  Methamphetamine D/L Isomers, Urine

*Contracted Reference Lab*

**Collection Container**
Urine cup or tube

**Urine**

**Specimen Volume**
20 mL

**Minimum Specimen Volume**
5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Days and Times Performed**
Daily

**Turnaround Time**
1 – 3 days

**CPT Code**
80374/G0480

**EMR Interface Order Code**
10555

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

---

**METHAN**  Methanol

*Quest Diagnostics*

**Additional Information**
DO NOT OPEN VACUTAINER TUBE

**Collection Container**
Red

**Serum**

**Other Acceptable Specimen Types**
UNOPENED Lavender, Green or Gray top tubes are also acceptable.

**Special Handling Instructions**
DO NOT OPEN VACUTAINER TUBE. Do not use alcohol containing products to clean the venipuncture site (use betadine). One full tube is sufficient for methanol, isopropanol, and ethylene glycol analysis.

**Specimen Volume**
7 mL

**Transport Temperature**
Room temperature

**Reasons for Rejection**
Opened or spun vacutainer

**Turnaround Time**
4 hours

**CPT Code**
84600

**EMR Interface Order Code**
70859

---

**MHGB**  Methemoglobin

*Baystate Reference Laboratories*

**Collection Container**
Green

**Whole Blood**

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
On ice

**Specimen Stability**
Room temperature: unstable, Refrigerated: 4 hours

**Reasons for Rejection**
Sample other than heparinized whole blood. Refrigerated more than 4 hours, sample frozen.

**Days and Times Performed**
Test performed daily

**Turnaround Time**
1 hour

**Reference Ranges**
0.4 - 1.5 %

**Units of Measure**
%

**CPT Code**
83050

**EMR Interface Order Code**
07725

---

**MTRX**  Methotrexate

*Baystate Reference Laboratories*

**Additional Information**
Collect sample at any time Assay is performed in-house on day shift only. If we receive sample by 1430, test will be performed same day After 1430, cannot guarantee same day results

**Collection Container**
Red

**Serum**

**Other Acceptable Specimen Types**
Heparinized or EDTA plasma

**Special Handling Instructions**
Protect specimen from light
Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room Temperature: 1 day, Refrigerated: 2 weeks

Reasons for Rejection
Serum or plasma sample not protected from light > 24 hours. Sample collected in a gel barrier tube.

Methodology
Immunocassay, fluorescence polarization immunoassay (FPIA)/enzyme immunoassay (EIA)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
umol/L

CPT Code
80299

EMR Interface Order Code
07750

CELNTN Methsuximide (Celontin) as Desmethylmethsuximide
Medtox Laboratories, Inc.

Additional Test Codes
EMR Interface Order Code: 04685

Specimen Required
Submit only 1 of the following specimens:

Plasma
Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial.

Serum
Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

Method Name
Gas Chromatography/Flame Ionization Detection (GC-FID)

Reporting Name
Methsuximide (Celontin)

Specimen Type
Varies

Specimen Minimum Volume
0.25 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
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<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
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</table>

Reject Due To

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis NA</td>
</tr>
<tr>
<td>Lipemia NA</td>
</tr>
<tr>
<td>Icterus NA</td>
</tr>
<tr>
<td>Other NA</td>
</tr>
</tbody>
</table>

Reference Values
10.0 - 40.0 ug/mL

Methsuximide measured as desmethylmethsuximide.

Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information
80339

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMETX</td>
<td>Methsuximide (Celontin)</td>
<td>3801-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1107</td>
<td>Methsuximide</td>
<td>3801-8</td>
</tr>
</tbody>
</table>

MDMA Methyleneoxymethamphetamine (MDMA)
LabCorp

Additional Information
MDMA will be canceled if Amphetamine screen in house is negative. Ecstasy is generally detectable in urine for up to 24 hours.

Collection Container
Urine

Random Urine

Specimen Volume
20 mL

Transport Temperature
Refrigerate

Specimen Stability
Room Temperature: unstable, Refrigerated: 1 month, Frozen 1 month

Methodology
Mass Spectrometry (MS)

CPT Code
80359/G0480

EMR Interface Order Code
05485
MTHFRB  Methylenetetrahydrofolate Reductase (MTHFR C677T)
Baystate Reference Laboratories

Collection Container
Lavender top (EDTA)
Whole Blood

Specimen Volume
3 mL

Transport Temperature
Refrigerated or room temperature

Specimen Stability
4° C up to 4 days

Reasons for Rejection
Shared specimen for other testing; wrong tube, mislabeled specimens, insufficient quantity

Methodology
Real-time PCR with Thermal Melt analysis

Days and Times Performed
Tuesday

Turnaround Time
10 days

CPT Code
81291

EMR Interface Order Code
33215

MGLUT  Methylglutaconic Acid, Plasma
Kennedy Institute For Handicapped Children

Collection Container
Green
Plasma

Other Acceptable Specimen Types
Heparinized plasma

Specimen Volume
2 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Freeze

CPT Code
83921

EMR Interface Order Code
14560

UMGLUQ  Methylglutaconic Acid, Urine
Kennedy Institute For Handicapped Children

Collection Container
Urine

24 hour collection

Other Acceptable Specimen Types
Random Urine

Specimen Volume
5 mL

Transport Temperature
Freeze

CPT Code
83921

EMR Interface Order Code
28525

MMAQ  Methylmalonic Acid, Quantitative, Serum
Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 07800

Reporting Name
Methylmalonic Acid, QN, S

Useful For
Evaluating children with signs and symptoms of methylmalonic acidemia
Evaluating individuals with signs and symptoms associated with a variety of causes of cobalamin (vitamin B12) deficiency

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Red top
Acceptable: Serum gel
Specimen Volume: 1.5 mL

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>48 days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>48 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>48 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
≤0.40 nmol/mL

Day(s) and Time(s) Performed
Monday through Friday; Continuously until noon

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83921
**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>MMAS</td>
<td>Methylmalonic Acid,QN,S</td>
<td>13964-2</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>80289</td>
<td>Methylmalonic Acid,QN,S</td>
<td>13964-2</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Forms**
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Benign Hematology Test Request (T755)
- Inborn Errors of Metabolism Test Request (T798)

**UMMAQ Methylmalonic Acid, Quantitative, Urine**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 05415

**Reporting Name**
Methylmalonic Acid, QN, U

**Useful For**
- Evaluating children with signs and symptoms of methylmalonic acidemia
- Evaluating individuals with signs and symptoms associated with a variety of causes of cobalamin deficiency

**Specimen Type**
Urine

**Specimen Required**

- **Patient Preparation:** Overnight fast required
- **Supplies:** Urine Tubes, 10 mL (T068)
- **Container/Tube:** Plastic, 10-mL urine tube (T068)
- **Specimen Volume:** 4 mL
- **Collection Instructions:** Collect second-voided specimen after an overnight fast.

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
\(< 3.60 \text{ mmol/moL creatinine}\)

**Day(s) and Time(s) Performed**
Monday through Friday; Continuous until noon

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
80360 (G0480)

---

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>MMAU</td>
<td>Methylmalonic Acid,QN,U</td>
<td>25116-5</td>
</tr>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>80290</td>
<td>Methylmalonic Acid,QN,U</td>
<td>25116-5</td>
</tr>
</tbody>
</table>

**Reject Due To**
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Forms**
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- Benign Hematology Test Request Form (T755)
- Inborn Errors of Metabolism Test Request (T798)

**QMET Methylphenidate Metabolite, Urine**

*Contracted Reference Lab*

**Additional Information**
Includes Ritalinic Acid

**Specimen Volume**
20 mL

**Minimum Specimen Volume**
5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Methodology**
Mass spectrometry

**Days and Times Performed**
Daily

**Turnaround Time**
2 days

**Reference Ranges**
\(< 100 \text{ ng/mL}\)

**CPT Code**
80360 (G0480)
METPH  Methylphenidate, Serum

Medtox Laboratories, Inc.

**Reporting Name**
Methylphenidate (Ritalin)

**Specimen Type**
Varies

**Specimen Required**
Submit only 1 of the following specimens:

- **Plasma**
  Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and freeze immediately. Send 2 mL of sodium heparin plasma frozen in a plastic vial on dry ice.

- **Serum**
  Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and freeze immediately. Send 2 mL serum frozen in a plastic vial on dry ice.

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

**Reference Values**
Reference Range: 5.0 - 20.0 ng/mL

**Day(s) and Time(s) Performed**
Tuesday and Thursday

**CPT Code Information**
80360

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RIT</td>
<td>Methylphenidate (Ritalin)</td>
<td>3807-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1121</td>
<td>Methylphenidate (Ritalin)</td>
<td>3807-5</td>
</tr>
</tbody>
</table>

**Method Name**
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

---

**METPRY  Methylprylon**

LabCorp

**Collection Container**
Red

**Other Acceptable Specimen Types**
EDTA or Sodium fluoride plasma

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
0.7 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room Temperature: undetermined, Refrigerated: undetermined, Frozen: undetermined

**Reasons for Rejection**
Collected in gel barrier tube

**Methodology**
Gas Chromatography (GC)

**Turnaround Time**
3 days

**CPT Code**
80368/G0480

**EMR Interface Order Code**
07825

**MEX  Mexiletine, Serum**

Mayo Clinic Laboratories in Rochester

**Additional Test Codes**
EMR Interface Order Code: 07850

**Specimen Required**

**Patient Preparation:** Samples should only be collected after patient has been receiving mexiletine for at least 3 days. Trough concentrations should be collected just before administration of the next dose.

**Collection Container/Tube:** Red top

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 1.5 mL

**Collection Instructions:**
1. Samples should only be collected after patient has been receiving mexiletine for at least 3 days.
2. Draw blood immediately before next scheduled dose.
3. Centrifuge within 2 hours of draw and aliquot to remove serum from spun RBCs.

**Forms**
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

**Secondary ID**
9245
Useful For
Assessing achievement of optimal therapeutic concentrations
Assessing potential toxicity

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Reporting Name
Mexiletine, S

Specimen Type
Serum Red

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: Reject
- Gross icterus: OK

Reference Values
- Trough Value: 0.5-2.0 mcg/mL: Therapeutic concentration
- >2.0 mcg/mL: Toxic concentration

Day(s) and Time(s) Performed
Monday through Saturday

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80299

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEX</td>
<td>Mexiletine, S</td>
<td>40779-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>9245</td>
<td>Mexiletine, S</td>
<td>40779-1</td>
</tr>
</tbody>
</table>

CERAM  MI-Heart Ceramides, Plasma

Mayo Clinic Laboratories in Rochester

Secondary ID
606777

Useful For
Evaluation for risk of major adverse cardiovascular events within the next 1 to 5 years

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Reporting Name
MI-Heart Ceramides, P

Specimen Type
Plasma EDTA

Specimen Required

Patient Preparation: Patients should not be receiving Intralipid because it may cause false-elevations in measured ceramides
Collection Container/Tube: Lavender top (EDTA)
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL
Collection Instructions: Centrifuge, aliquot at least 1 mL of plasma and freeze within 8 hours.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>24 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>8 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: OK
- Gross icterus: OK

Reference Values
- MI-Heart Ceramide Risk Score:
  - 0-2 Lower risk
  - 3-6 Moderate risk
  - 7-9 Increased risk
  - 10-12 Higher risk
- Ceramide (16:0): 0.19-0.36 mcmol/L
- Ceramide (18:0): 0.05-0.14 mcmol/L
- Ceramide (24:1): 0.65-1.65 mcmol/L
- Ceramide (16:0)/(24:0): <0.11
- Ceramide (18:0)/(24:0): <0.05
- Ceramide (24:1)/(24:0): <0.45

Reference values have not been established for patients who are <18 years of age.

Note: Ceramide (24:0) alone has not been independently associated with disease and will not be reported.

Day(s) and Time(s) Performed
Tuesday; 7 a.m.
Friday; 7 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
0119U

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<td>CERAM</td>
<td>MI-Heart Ceramides, P</td>
<td>93883-7</td>
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<tr>
<td>Result ID</td>
<td>Test Result Name</td>
<td>Result LOINC Value</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>42434</td>
<td>MI-Heart Ceramide Risk Score</td>
<td>93876-1</td>
</tr>
<tr>
<td>42428</td>
<td>Ceramide (16:0)</td>
<td>93882-9</td>
</tr>
<tr>
<td>42429</td>
<td>Ceramide (18:0)</td>
<td>93881-1</td>
</tr>
<tr>
<td>42430</td>
<td>Ceramide (24:1)</td>
<td>93880-3</td>
</tr>
<tr>
<td>42431</td>
<td>Ceramide (16:0)/(24:0) ratio</td>
<td>93879-5</td>
</tr>
<tr>
<td>42432</td>
<td>Ceramide (18:0)/(24:0) ratio</td>
<td>93878-7</td>
</tr>
<tr>
<td>42433</td>
<td>Ceramide (24:1)/(24:0) ratio</td>
<td>93877-9</td>
</tr>
</tbody>
</table>

**Forms**

If not ordering electronically, complete, print, and send a Cardiovascular Test Request Form (T724) with the specimen.

**URMALB  Microalbumin, Urine**

*Baystate Reference Laboratories*

**Collection Container**

Urine
Random Urine

**Other Acceptable Specimen Types**

24 hour collection

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.2 mL

**Transport Temperature**

Refrigerate

**Specimen Stability**

Room temperature: 7 days, Refrigerated: 1 month

**Methodology**

Immuno-turbidimetric

**Days and Times Performed**

Test performed daily

**Turnaround Time**

24 hours

**Reference Ranges**

0 - 20 mg/L

**Units of Measure**

mg/gm

**CPT Code**

82043; 82570

**LOINC Code**

14957-5

**EMR Interface Order Code**

27051

**MAALGN  Milk Component Panel**

*Contracted Reference Lab*

**Important Note**

Test includes: Alpha Lactalbumin IgE, Beta Lactoglobulin IgE, and Casein IgE

**Collection Container**

Serum gel or red top tube
1 mL serum

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.6 mL serum

**Transport Temperature**

Refrigerated

**Specimen Stability**

14 days room temp or refrigerated, 3 months frozen

**CPT Code**

86008 x3

**EMR Interface Order Code**

69472

**WMILK  Milk IgE**

*Contracted Reference Lab*

**Collection Container**

Serum gel or red top tube

Serum

**Specimen Volume**

For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**

0.1 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**

ImmunoCAP

**Turnaround Time**

3-5 days

**CPT Code**

86003

**EMR Interface Order Code**

48980
**AMA Mitochondrial (M2) Antibody**

*LabCorp*

**Additional Information**
The presence of mitochondrial antibodies can be used in conjunction with clinical findings and other laboratory tests to aid in the diagnosis of primary biliary cirrhosis (PBC).

**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
Red top

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**Reasons for Rejection**
Gross hemolysis; Gross lipemia

**Methodology**
Enzyme linked immunosorbent assay (ELISA)

**CPT Code**
83516

**LOINC Code**
17284-1

**EMR Interface Order Code**
45400

---

**MTDEAF Mitochondrial Deafness (MTA1555G)**

*Baylor Miraca Genetics Laboratory*

**Additional Information**
Order HLTEST

**Reflex Tests**
This is a reflex test only - if CONN26 (GJB2) is negative, MTDEAF will be performed.

**Collection Container**
Lavender top (EDTA)

**Special Handling Instructions**
Requisition must accompany sample

**Specimen Volume**
4 mL

**Minimum Specimen Volume**
3 mL

**Transport Temperature**
Ambient

**Specimen Stability**
72 hours

**Reasons for Rejection**
Gross hemolysis

**CPT Code**
81401 x2

**EMR Interface Order Code**
67020

---

**RASTMO Mold IgE Panel**

*Contracted Reference Lab*

**Important Note**
TEST INCLUDES: Cladosporium herbarium, Aspergillus fumigatus, Mucor racemosus, Candida albicans, Alternaria tenuis

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003 x5

**EMR Interface Order Code**
49365

---

**TRPR Monitoring RPR Titer**

*Baystate Reference Laboratories*

**Additional Information**
Note: This tests should only be ordered on patients with previously positive screening results to monitor treatment. For Syphilis screening please see test code SYPH.

**Collection Container**
Gel

**Other Acceptable Specimen Types**
Red top serum

**Specimen Volume**
3 mL
Minimum Specimen Volume
1.5 ml

Transport Temperature
Refrigerate

Specimen Stability
5 days refrigerated

Reasons for Rejection
Specimens not centrifuged within 24 hours, specimens older than 5 days.

Methodology
Flocculation

EMR Interface Order Code
67844

MONO Monospot Test
Baystate Reference Laboratories

Collection Container
Gel
Gel serum

Other Acceptable Specimen Types
Red top serum

Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
5 days refrigerated

Reasons for Rejection
Specimens not centrifuged within 24 hours, specimens older than 5 days.

Methodology
Latex agglutination

Reference Ranges
Negative

LOINC Code
5213-4

EMR Interface Order Code
52275

SMORPH Morphine Confirmation, Serum
Medtox Laboratories, Inc.

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

Method Name
Gas Chromatography/Mass Spectrometry (GC/MS)

Reporting Name
Morphine, Serum

Specimen Minimum Volume
2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
Hemolysis NA
Lipemia NA
Icterus NA
Other NA

Reference Values
Report Limit: 1 ng/mL
Reference Range: 21 – 65 ng/mL

Day(s) and Time(s) Performed
Monday through Sunday

Test Classification
In-house validated method

CPT Code Information
80361

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMORS</td>
<td>Morphine, Serum</td>
<td>74131-4</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
<table>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Z4769</td>
<td>Morphine</td>
<td>74131-4</td>
</tr>
</tbody>
</table>

MCEDAR Mountain Cedar Tree IgE
Conrad Reference Lab

Collection Container
Serum gel or red top tube

Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated
**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48985

**Container**
Serum gel or red top tube

---

**MOUSE Mouse Epithelia IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49665

**Container**
Serum gel or red top tube

---

**MUCOSR Mucopolysaccharides Screen, Random, Urine**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 07885

**Reporting Name**
Mucopolysaccharides Screen, (MPS), U

**Useful For**
Preferred screening test for mucopolysaccharidoses

---

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPSQN</td>
<td>Mucopolysaccharides (MPS), QN, U</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>MPSQL</td>
<td>Mucopolysaccharides, (MPS), QL, U</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Specimen Type**
Urine

**Necessary Information**
Patient's age is required.

**Specimen Required**

**Supplies:** Urine Tubes, 10 mL (T068)

**Container/Tube:** Plastic, 10-mL urine tube (T068)

**Specimen Volume:** 3 mL

**Collection Instructions:**
1. Collect a random urine specimen (early morning preferred).
2. Immediately freeze specimen.

**Specimen Minimum Volume**
2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen</td>
<td>365 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

**MPS, QUANTITATIVE**

<table>
<thead>
<tr>
<th>Age/Period</th>
<th>Reference Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 months</td>
<td>≤33.0 mg/mmol creatinine</td>
</tr>
<tr>
<td>5-18 months</td>
<td>≤31.0 mg/mmol creatinine</td>
</tr>
<tr>
<td>19 months-2 years</td>
<td>≤24.0 mg/mmol creatinine</td>
</tr>
<tr>
<td>3-5 years</td>
<td>≤16.0 mg/mmol creatinine</td>
</tr>
<tr>
<td>6-10 years</td>
<td>≤12.0 mg/mmol creatinine</td>
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<tr>
<td>11-14 years</td>
<td>≤10.0 mg/mmol creatinine</td>
</tr>
<tr>
<td>&gt;14 years</td>
<td>≤6.5 mg/mmol creatinine</td>
</tr>
</tbody>
</table>

**MPS, QUALITATIVE**

An interpretive report will be provided.

**Day(s) and Time(s) Performed**

MPS, quantitative: Varies

MPS, qualitative: Varies

**CPT Code Information**

83864
82542

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPSSC</td>
<td>Mucopolysaccharides Screen, (MPS), U</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>84318</td>
<td>Mucopolysaccharides, (MPS), QL, U</td>
<td>2398-6</td>
</tr>
<tr>
<td>81473</td>
<td>Mucopolysaccharides (MPS), QN, U</td>
<td>46132-7</td>
</tr>
</tbody>
</table>

**Reject Due To**

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.
Method Name
MPSQL: Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
MPSQN: Spectrophotometry (SP)

Special Instructions
- Biochemical Genetics Patient Information
- Newborn Screening Act Sheet Mucopolysaccharidoses Type I: Decreased Alpha-L-Iduronidase
- Newborn Screen Follow-up for Mucopolysaccharidosis Type I

Secondary ID
84464

Forms
1. Biochemical Genetics Patient Information (T602) in Special Instructions
2. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

Testing Algorithm
See Newborn Screen Follow-up for Mucopolysaccharidosis Type I in Special Instructions.

For more information, see Newborn Screening Act Sheet Mucopolysaccharidosis Type I: Decreased Alpha-L-Iduronidase in Special Instructions.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

Test Name
UMUCOQ Mucopolysaccharides, Quantitative, Urine

Mayo Clinic Laboratories in Rochester

Important Note
For screening test, with quantitative and qualitative results, use order code MUCOSR.

Additional Test Codes
EMR Interface Order Code: 07890

Reporting Name
Mucopolysaccharides (MPS), QN, U

Useful For
Monitoring patients with mucopolysaccharidosis who have had bone marrow transplants or are receiving enzyme therapy

Specimen Type
Urine

Advisory Information
The preferred test to screen for mucopolysaccharides (MPS) is MPSSC / Mucopolysaccharides (MPS) Screen, Urine, which includes both the quantitative analysis of total glycosaminoglycans and qualitative liquid chromatography-tandem mass spectrometry analysis of the specific sulfates.

Necessary Information
Patient's age is required.

Supplies: Urine Tubes, 10 mL (T068)
Container/Tube: Plastic, 10-mL urine tube (T068)
Specimen Volume: 2 mL
Collection Instructions: Collect a random urine specimen (early morning preferred).

Specimen Minimum Volume
1.5 mL

Specimen Stability Information
<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen (preferred)</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>15 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
0-4 months: ≤53.0 mg/mmol creatinine
5-18 months: ≤31.0 mg/mmol creatinine
19 months-2 years: ≤24.0 mg/mmol creatinine
3-5 years: ≤16.0 mg/mmol creatinine
6-10 years: ≤12.0 mg/mmol creatinine
11-14 years: ≤10.0 mg/mmol creatinine
>14 years: ≤6.5 mg/mmol creatinine

Day(s) and Time(s) Performed
Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83864

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPSQN</td>
<td>Mucopolysaccharides (MPS), QN, U</td>
<td>46132-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>81473</td>
<td>Mucopolysaccharides (MPS), QN, U</td>
<td>46132-7</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Spectrophotometry (SP)

Secondary ID
81473

Special Instructions
- Biochemical Genetics Patient Information

Forms
1. Biochemical Genetics Patient Information (T602) in Special Instructions.
2. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.
**MUCOR  Mucor racemosus IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48990

**Container**
Serum gel or red top tube

**MUGWRT  Mugwort IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48990

**Container**
Serum gel or red top tube

**MSPR  Multiple Sclerosis Profile**

*Baystate Reference Laboratories*

**Collection Container**
Serum (gel) and CSF fluid

**Serum and CSF**

**Other Acceptable Specimen Types**
Heparinized or EDTA plasma

**Special Handling Instructions**
Serum must be collected within 24 hours of CSF.

**Specimen Volume**
1 mL Serum and 1 mL CSF

**Minimum Specimen Volume**
0.5 mL Serum and 0.5 mL CSF

**Transport Temperature**
Refrigerate

**Reasons for Rejection**
Excessive contamination of CSF by red blood cells

**Methodology**
Immunoturbidometric

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**CPT Code**
82040, 82784 (X2), 82042, 82042, 82784

**EMR Interface Order Code**
46950

**Container**
Serum gel or red top tube

**MUMDPH  Mumps Testing MDPH**

*Baystate Reference Laboratories*

**Important Note**
This testing is for symptomatic patients only and will be sent to the MA Dept of Public Health. Before placing order, provider must contact the state epidemiologist at 1-617-983-6800. Completed state submission form must accompany specimens. Mumps IgM on serum and Mumps PCR on buccal swab at the discretion of the MDPH.

**EMR Interface Order Code**
70891

**MUMPSM  Mumps Virus Antibody, IgM, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Mumps Ab, IgM, S

**Useful For**
Laboratory diagnosis of mumps virus infection

**Specimen Type**
Serum
Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 1 mL

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Negative
Index value 0.00-0.79 = negative
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Friday; 4 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions.
Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86735

LOINC Code Information

<table>
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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>MMPM</td>
<td>Mumps Ab, IgM, S</td>
<td>6478-2</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUMP1</td>
<td>Mumps Ab, IgM, S</td>
<td>6478-2</td>
</tr>
<tr>
<td>DEXM</td>
<td>Index Value</td>
<td>25419-3</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis: Reject
Gross lipemia: Reject
Other: Heat-inactivated specimen

Method Name
Enzyme Immunoassay (EIA)

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

MUSPBX Muscle Biopsy
Baystate Reference Laboratories

Collection Container
Gel
Gel serum

Other Acceptable Specimen Types
Red top serum

Specimen Volume
5 mL

Transport Temperature
Refrigerate

Specimen Stability
7 days refrigerated

Reasons for Rejection
Specimens not centrifuged within 24 hours, specimens older than 7 days.

Methodology
EIA

LOINC Code
7966-5

EMR Interface Order Code
52285

MURINE Murine Typhus Antibody, IgG
LabCorp

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
Red top
Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
5 days

Reasons for Rejection
Lipemic, hemolized or bacterially contaminated samples

Methodology
Indirect fluorescent antibody (IFA)

Days and Times Performed
Monday thru Friday

Turnaround Time
3-5 days

CPT Code
86757

LOINC Code
5324-9

EMR Interface Order Code
04265

MUSPBX Muscle Biopsy
Baystate Reference Laboratories

Additional Information
EM lab must be notified 24 hours in advance. Consultation with neuropathologist required
Collection Container
Glutaraldehyde solution

Skeletal muscle

**Special Handling Instructions**

Histochemistry (1): Submit fresh on a muscle biopsy clamp wrapped in saline soaked gauze.

Electron microscopy (2): Submit fresh on a muscle biopsy clamp wrapped in saline soaked gauze.

Enzyme studies (3): Unstretched wrapped in saline soaked gauze.

**Specimen Volume**

At least 2 x 1 x 0.5 cm segment for each test type ordered

**Minimum Specimen Volume**

At least 2 x 1 x 0.5 cm segment for each test type ordered

**Transport Temperature**

On ice

**Specimen Stability**

Transport specimen to the EM laboratory within 2 hours

**Reasons for Rejection**

Mishandling of specimen during collection and processing, such as frozen, dried out, and exposed to extreme heat

**Methodology**

Histochemistry, immunohistochemistry, light microscopy, electron microscopy as ordered by neuropathologist

**Turnaround Time**

2 - 21 days depending on additional studies

**CPT Code**

88305, 88313, 88319, 88341, 88342, 88348

---

**MUSK  Muscle-Specific Kinase (MuSK) Autoantibody, Serum**

*Mayo Clinic Laboratories in Rochester*

**Useful For**

Diagnosis of autoimmune muscle-specific kinase (MuSK) myasthenia gravis

Second-order test to aid in the diagnosis of autoimmune myasthenia gravis when first-line serologic tests are negative

Establishing a quantitative baseline value for MuSK antibodies that allows comparison with future levels if weakness is worsening

**Testing Algorithm**

See Myasthenia Gravis Evaluation with MuSK Reflex Algorithm in Special Instructions.

**Special Instructions**

- Myasthenia Gravis Evaluation with MuSK Reflex Algorithm

**Reporting Name**

MuSK Autoantibody, S

**Specimen Type**

Serum

**Specimen Volume**

1.5 mL

**Specimen Minimum Volume**

1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

**Reference Values**

≤0.02 nmol/L

**Day(s) and Time(s) Performed**

Monday through Friday; 6 a.m.

**Test Classification**

This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

83519

**LOINC Code Information**

<table>
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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>MUSK</td>
<td>MuSK Autoantibody, S</td>
<td>51716-9</td>
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<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>64277</td>
<td>MuSK Autoantibody, S</td>
<td>51716-9</td>
</tr>
</tbody>
</table>

**Method Name**

Radioimmunoassay (RIA)

**Secondary ID**

64277

**Forms**

If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request (T732) with the specimen.

---

**MUSHRM  Mushroom IgE**

*Contracted Reference Lab*

**Collection Container**

Serum gel or red top tube

**Specimen Type**

Serum

**Specimen Volume**

For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**

0.1 mL

**Transport Temperature**

Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
00530

Container
Serum gel or red top tube

MUSTRD  Mustard IgE
Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
00530

Container
Serum gel or red top tube

HISTAG  MVista Histoplasma Ag Quantitative,
Serum

MiraVista Diagnostics

Reporting Name
MVista Histoplasma Ag, S

Specimen Type
Serum

Specimen Required
Specimen Type: Serum
Container/Tube: Red or SST

Specimen Volume: 2 mL
Collection Instructions: Draw blood in a plain red-top tube(s). (Serum gel tube is acceptable.) Spin down and send 2 mL serum refrigerate in a plastic vial

Specimen Minimum Volume
1.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

Reference interval: None Detected

Results reported as ng/mL in 0.4 – 19.0 ng/mL range

Results above the limit of detection, but below 0.4 ng/mL are reported as ‘Positive, Below the Limit of Quantitation’.

Results above 19.0 ng/mL are reported as ‘Positive, Above the Limit of Quantitation’.

Day(s) and Time(s) Performed
Monday through Friday

CPT Code Information
87385

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>FHIST</td>
<td>MVista Histoplasma Ag, S</td>
<td>51753-2</td>
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<th>Result ID</th>
<th>Test Result Name</th>
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<tbody>
<tr>
<td>Z1711</td>
<td>Result:</td>
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<tr>
<td>Z1035</td>
<td>Interpretation</td>
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Reject Due To

<table>
<thead>
<tr>
<th>Category</th>
<th>Reason</th>
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</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>NA</td>
</tr>
<tr>
<td>Lipemia</td>
<td>NA</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>Specimen that is too viscous to pipette. Tissue, biopsy, sputum, bronchial aspirate, FNA, bone marrow aspirate, stool or samples in transport media, fixative or Isolator tubes.</td>
</tr>
</tbody>
</table>

Test Classification

This test was developed and its performance characteristics determined by MiraVista Diagnostics. It has not been cleared or approved by the FDA; however, FDA clearance or approval is not currently required for clinical use. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions.

Method Name
Enzyme Immunoassay (EIA)

Secondary ID
90018
Important Note
Can also be ordered on adult patients.

Additional Test Codes
ACHBI

Useful For
Recommended for initial investigation of patients presenting at less than age 20 with a defect of neuromuscular transmission

Confirming that a recently acquired neurological disorder has an autoimmune basis

Distinguishing acquired myasthenia gravis from congenital myasthenic syndromes (persistently seronegative)

Providing a quantitative baseline for future comparisons in monitoring clinical course and response to immunomodulatory treatment

Profile Information

Test ID Reporting Name Available Separately Always Performed
MGPI-MG Pediatric Interpretation, S No Yes
ARBI-ACh Receptor (Muscle) Binding Ab Yes Yes
ARMO-ACh Receptor (Muscle) Modulating Ab No Yes

Testing Algorithm
See Myasthenia Gravis: Pediatric Diagnostic Algorithm in Special Instructions.

Special Instructions
• Myasthenia Gravis: Pediatric Diagnostic Algorithm

Method Name
Radioimmunoassay (RIA)

Reporting Name
MG Eval, Pediatric

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Red top
Acceptable: Serum gel

Specimen Volume: 2 mL

Additional Information: Patient should have no general anesthetic or muscle-relaxant drugs in the previous 24 hours.

Specimen Minimum Volume
1.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis | Reject
Gross lipemia | Reject
Gross icterus | Reject

Reference Values

ACh RECEPTOR (MUSCLE) BINDING ANTIBODY ≤0.02 nmol/L

ACh RECEPTOR (MUSCLE) MODULATING ANTIBODIES 0-20% (reported as __% loss of AChR)

Day(s) and Time(s) Performed

ACh receptor (muscle) binding antibody:
Monday through Friday; 11 a.m., 6 p.m., 10 p.m.
Saturday: 6 a.m.
Sunday: 6 a.m., 10 a.m.

ACh receptor (muscle) modulating antibodies:
Monday through Thursday; 2 p.m.
Saturday: 8 a.m.

Test Classification
See Individual Test IDs

CPT Code Information

83519 x 2

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>MGP1</td>
<td>MG Eval, Pediatric</td>
<td>53705-0</td>
</tr>
</tbody>
</table>

Result ID Test Result Name Result LOINC Value
8338 ACh Receptor (Muscle) Binding Ab 11034-6
8879 ACh Receptor (Muscle) Modulating Ab 30192-9
34275 MG Pediatric Interpretation, S 69048-7

Forms

If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request (T732) with the specimen.

MYCPHN Mycophenolate

Baystate Reference Laboratories

Collection Container
Red

Serum

Other Acceptable Specimen Types
EDTA plasma, serum from a gel barrier tube

Specimen Volume
1 mL

Minimum Specimen Volume
0.2mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 8 hours, Refrigerated: 7 days, Frozen: 11 months

Methodology
Enzymatic
Days and Times Performed
Monday - Friday
Turnaround Time
1 - 3 days
Reference Ranges
1.5 - 3.9 ug/mL
Units of Measure
ug/mL
CPT Code
80180
EMR Interface Order Code
09260

MGEN  Mycoplasma genitalium, Urine

LabCorp

Patient Instructions
Patient should not have voided at least one hour before collection. Collect 20-30 mL of first-void urine in a sterile urine cup. Do not cleanse genital area prior to collection.

Collection Container
Aptima Urine Transport Tube
Add urine to the Aptima Combo 2 Urine Collection tube, so volume is between the two black lines on the tube.

CPT Code
87798 x2
EMR Interface Order Code
69940

UMYPCR  Mycoplasma hominis, Molecular Detection, PCR, Varies

Mayo Clinic Laboratories in Rochester

Important Note
Test includes identification of Mycoplasma hominis, Ureaplasma urealyticum and U parvum.

Reporting Name
Mycoplasma hominis PCR

Useful For
Rapid, sensitive, and specific identification of Mycoplasma hominis from synovial fluid, genitourinary, reproductive, lower respiratory sources, pleural/chest fluid, pericardial fluid, and wound specimens

This test is not intended for medicolegal use.

Specimen Type
Varies

Necessary Information
Specimen source is required.

Specimen Required

The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Mycoplasma hominis DNA is not likely.

Submit only 1 of the following specimens:

Supplies:
-M4-RT (T605)
-Culturette (BBL Culture Swab) (T092)

Specimen Type: Swab
Sources: Vaginal, cervix, urethra, urogenital, chest/mediastinal; bronchus (donor swab); or upper respiratory sources (only infants <3 months: nasopharynx, nose, throat)

Container/Tube:
Preferred: Culture swab transport system (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium: T092)
Acceptable: Swab in transport media: M4, M4-RT (T605), M5, M6, universal transport media, or ESwab

Specimen Volume: 1 swab

Collection Instructions:
Vaginal:
1. Collect specimen by swabbing back and forth over mucosa surface to maximize recovery of cells.
2. Place swab back into swab cylinder.

Urethra or Cervical:
1. Collect specimen by inserting swab 1 to 3 cm and rotating 360 degrees.
2. Place swab back into swab cylinder.

Wound:
1. Collect specimen by swabbing back and forth over wound surface to maximize recovery of cells.
2. Place swab back into swab cylinder.

Supplies: M4-RT (T605)

Specimen Type: Fluid

Sources: Pelvic, peritoneal, amniotic, prostatic secretions, semen, reproductive drainage or fluid, pleural/chest, chest tube, pericardial, sputum, tracheal secretions, bronchial washings, bronchoalveolar lavage, lung; or nasal washings (only infants <3 months)

Container/Tube:
Preferred: Sterile container
Acceptable: Container with 3 mL of transport media: M4, M4-RT (T605), M5, M6, or universal transport media

Specimen Volume: 1-2 mL

Specimen Type: Synovial Fluid

Container/Tube:
Preferred: Lavender top (EDTA)
Acceptable: Pink top (EDTA), royal blue top (EDTA), sterile vial containing EDTA-derived aliquot, red clot tube (no anticoagulant), or sterile container

Specimen Volume: 0.5 mL

Collection Instructions: Send specimen in original tube (preferred).

Specimen Type: Tissue

Sources: Placenta, products of conception, urogenital, respiratory, bronchus, chest/mediastinal, bone, or joint

Container/Tube: Sterile container

Specimen Volume: 5 mm(3)

Collection Instructions:
1. Collect fresh tissue specimen.
2. Submit fresh tissue only, do not add fluid to tissue
3. Refrigerate or freeze specimen.

Specimen Minimum Volume
Fluid: 1 mL
Urine: 2 mL
Swab: 1 swab
Tissue: 5 mm(3)

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
Not applicable

**Day(s) and Time(s) Performed**
Monday through Friday

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
87798

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>MHRP</td>
<td>Mycoplasma hominis PCR</td>
<td>68546-1</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>SRC86</td>
<td>Specimen source</td>
<td>31208-2</td>
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<tr>
<td>32536</td>
<td>Mycoplasma hominis PCR</td>
<td>68546-1</td>
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</tbody>
</table>

**Reject Due To**

Cotton or calcium alginate-tipped swab, wooden shaft swab, transport swab containing gel or charcoal, formalin-fixed and/or paraffin-embedded tissues, Port-a-Cul tube, anaerobic fluid vials, or dry swab (no pledget or sponge), decalcified bone; slides

**Method Name**
Real-Time Polymerase Chain Reaction (PCR) Using LightCycler and Fluorescent Resonance Energy Transfer (FRET)

**Forms**
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

**Testing Algorithm**

**Special Instructions**
- Infective Endocarditis: Diagnostic Testing for Identification of Microbiological Etiology

**Secondary ID**
60756

**MYCPAB Mycoplasma pneumoniae Antibody, IgG**

**Other Acceptable Specimen Types**
Red top

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**Reasons for Rejection**
Hemolysis; lipemia; gross bacterial contamination

**Methodology**
Enzyme immunoassay (EIA)

**Days and Times Performed**
Monday - Friday

**Turnaround Time**
3 - 5 days

**CPT Code**
86738

**LOINC Code**
5255-5

**EMR Interface Order Code**
52350

**MYCPAB Mycoplasma pneumoniae Antibody, IgG**

**LabCorp**

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**Reasons for Rejection**
Hemolysis; lipemia; gross bacterial contamination

**Methodology**
Enzyme immunoassay (EIA)

**Days and Times Performed**
Monday - Friday

**Turnaround Time**
3 - 5 days
**MYCPCR  Mycoplasma pneumoniae, Molecular Detection, PCR, Varies**

*Mayo Clinic Laboratories in Rochester*

**Useful For**
Diagnosis of infections due to *Mycoplasma pneumoniae*

**Reporting Name**
Mycoplasma pneumoniae PCR

**Specimen Type**
Varies

**Necessary Information**
Specimen source is required.

**Specimen Required**
The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by *Mycoplasma pneumoniae* DNA is unlikely.

**Specimen source is required.**

Submit only 1 of the following specimens:

**Supplies:** M4-RT (T605)
**Specimen Type:** Respiratory
**Sources:** Bronchial washing, bronchoalveolar lavage, tracheal secretions, sputum
**Container/Tube:**
**Preferred:** Sterile container
**Acceptable:** Specimen in M4, M4-RT (T605), M5, M6, or UTM
**Specimen Volume:** 1 mL

**Supplies:** M4-RT (T605), Culturette (BBL Culture Swab) (T092)
**Specimen Type:** Swab
**Sources:** Throat, nasal, or nasopharyngeal
**Container/Tube:**
**Preferred:** Culture swab transport system (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium: T092)
**Acceptable:** Culture transport swab containing gel or charcoal, Port-a-Cul tube, anaerobic fluid vials, or dry swab (no pledget or sponge)
**Specimen Volume:** Swab

**Specimen Type:** Fluid
**Sources:** Pleural, pericardial, cerebrospinal
**Container/Tube:** Sterile vial
**Specimen Volume:** 0.5 mL

---

**Specimen Minimum Volume**
Respiratory: 0.5 mL; Fluid: 0.5 mL; Swab: 1 swab

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varieties</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

Swab/
Cotton or calcium alginate-tipped swab, wooden shaft swab,
another swab containing gel or charcoal, Port-a-Cul tube,
aerobic fluid vials, or dry swab (no pledget or sponge)

**Reference Values**
Not applicable

**Day(s) and Time(s) Performed**
Monday through Sunday

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
87581

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPRP</td>
<td>Mycoplasma pneumoniae PCR</td>
<td>29257-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRCMP</td>
<td>Specimen source</td>
<td>31208-2</td>
</tr>
<tr>
<td>62394</td>
<td>Mycoplasma pneumoniae PCR</td>
<td>29257-3</td>
</tr>
</tbody>
</table>

**Method Name**
Rapid Polymerase Chain Reaction (PCR) Using Light Cycler and Fluorescent Resonance Energy Transfer (FRET)

**Forms**
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

**GMISC  MYD88, L265P, Somatic Gene Mutation, DNA Allele-Specific PCR, Varies**

*Mayo Clinic Laboratories in Rochester*

**Useful For**
Establishing the diagnosis of lymphoplasmacytic lymphoma/Waldenstrom macroglobulinemia

Helping to distinguish lymphoplasmacytic lymphoma/Waldenstrom macroglobulinemia (low-grade B-cell lymphoma) from other subtypes

**Special Instructions**
- Hematopathology Patient Information

**Reporting Name**
MYD88 L265P Gene Mutation Analysis

**Specimen Type**
Varies
Shipping Instructions

Peripheral blood or bone marrow specimens must arrive within 10 days (240 hours) of collection.

Necessary Information

The following information is required:
1. Pertinent clinical history
2. Clinical or morphologic suspicion
3. Date of collection
4. Specimen source

Specimen Required

Submit only 1 of the following specimens:

- **Specimen Type**: Bone marrow
  - **Container/Tube**: EDTA (lavender top), ACD solution B (yellow top), or heparin (green top)
  - **Specimen Volume**: 2 mL
  - **Collection Instructions**: Invert several times to mix bone marrow. Send specimen in original tube. Label specimen as bone marrow.
  - **Specimen Stability**: Ambient (preferred)/Refrigerated

- **Specimen Type**: Paraffin-embedded tissue
  - **Container/Tube**: Paraffin block
  - **Specimen Stability**: Ambient

- **Specimen Type**: Peripheral blood
  - **Container/Tube**: EDTA (lavender top), ACD solution B (yellow top), or heparin (green top)
  - **Specimen Volume**: 3 mL
  - **Collection Instructions**: Invert several times to mix blood. Send specimen in original tube. Label specimen as blood.
  - **Specimen Stability**: Ambient (preferred)/Refrigerated

- **Specimen Type**: Frozen tissue
  - **Container/Tube**: Plastic container
  - **Specimen Volume**: 100 mg
  - **Collection Instructions**: Freeze tissue within 1 hour of collection.
  - **Specimen Stability**: Frozen

- **Specimen Type**: Paraffin-embedded bone marrow aspirate clot
  - **Container/Tube**: Paraffin block
  - **Specimen Stability**: Ambient

- **Specimen Type**: Unstained slides
  - **Container/Tube**: Unstained tissue slides
  - **Specimen Volume**: 10 slides
  - **Specimen Stability**: Ambient

- **Specimen Type**: Extracted DNA
  - **Container/Tube**: 1.5- to 2-mL tube with indication of volume and concentration of the DNA
  - **Specimen Volume**: Entire specimen
  - **Collection Instructions**: Label specimen as extracted DNA and source of specimen and include indication of volume and concentration of the DNA.
  - **Specimen Stability**: Frozen (preferred)/Refrigerated

- **Specimen Type**: Methanol-acetic acid (MAA) fixed pellets
  - **Container/Tube**: Plastic container
  - **Specimen Stability**: Ambient (preferred)/Refrigerated

**Specimen Minimum Volume**

- Blood, Bone marrow: 1 mL
- Extracted DNA: 50 mcL at 20 ng/mcL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variation</td>
<td>Variation</td>
<td>10 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>Bone marrow core biopsies Paraffin shavings Moderately to severely clotted</td>
</tr>
</tbody>
</table>

**Reference Values**

Mutation present or absent based on expected mutant PCR product size. Concurrent amplification of wild type MYD88 fragment determined for sample amplification integrity. MYD88 gene (NCBI accession NM_002468.4).

**Day(s) and Time(s) Performed**

Monday through Friday; 1 p.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

81305

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MYD88 L265P Gene Mutation Analysis</td>
<td>MYD88</td>
<td>82140-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP021</td>
<td>Specimen Type</td>
<td>31208-2</td>
</tr>
<tr>
<td>36308</td>
<td>Final Diagnosis</td>
<td>82140-5</td>
</tr>
</tbody>
</table>

**Method Name**

Allele-Specific Polymerase Chain Reaction (PCR)

**Forms**

1. Hematopathy Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

**FMGA Myelin Assoc. Glycoprotein (MAG) Antibody w/Reflex to MAG-SGPG & MAG, EIA**

**Reflex Tests**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMGS</td>
<td>MAG EIA Reflex</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Testing Algorithm**

If FMGA is Positive, then FMGS (MAG EIA Reflex) will be performed at an additional charge.

**Reporting Name**

MAG w/Reflex MAG-SGPG and MAG, EIA
Specimen Type
- Serum

Specimen Required
- Specimen Type: Serum
- Container/Tube: Red or SST
- Specimen Volume: 2 mL
- Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume
- 0.6 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
- Hemolysis: Mild reject; Gross reject
- Lipemia: NA
- Icterus: NA
- Other: NA

Reference Values
- MAG Ab (IgM), Western Blot
  - Reference Range: Negative
- MAG-SGPG Ab (IgM), EIA
  - Reference Range:
    - ≤ 1:1600
- MAG Ab (IgM), EIA
  - ≤ 1:1600
  - Reference ranges for MAG IgM Antibody:
    - Normal: ≤ 1:1600
    - Moderately Elevated: 1:1600-1:3200
    - Highly Elevated: ≥ 1:6400

Day(s) and Time(s) Performed
- Monday, Wednesday

Test Classification
- This test was developed and its performance characteristics have been determined by Quest Diagnostics Nichols Institute, San Juan Capistrano. It has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. Performance characteristics refer to the analytical performance of the test.

CPT Code Information
- 84181 – Western blot with interpretation and report
- 83520 x 2 – Not otherwise specified (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMGA</td>
<td>MAG w/Reflex MAG-SGPG and MAG, EIA</td>
<td>31023-5</td>
</tr>
</tbody>
</table>

Method Name
- Western Blot (WB)
- Enzyme Immunoassay (EIA) (if appropriate)

Secondary ID
- 57249

CFMBP Myelin Basic Protein

LabCorp

Collection Container
- Call Lab
- CSF

Specimen Volume
- 1 mL

Minimum Specimen Volume
- 0.9 mL

Transport Temperature
- Refrigerate

Specimen Stability
- Room temperature: 14 days
- Refrigerated: 14 days
- Frozen: 14 days

Reasons for Rejection
- Lipemic, hemolyzed, or icteric specimen, CSF should be free from contamination with blood. Hemolysis is associated with falsely-elevated levels of MBP.

Methodology
- Enzyme-linked immunosorbent assay (ELISA)

Turnaround Time
- 5 - 7 Days

CPT Code
- 83873

LOINC Code
- 2638-5

EMR Interface Order Code
- 07900

MOGFS Myelin Oligodendrocyte Glycoprotein (MOG-IgG1) Fluorescence-Activated Cell Sorting (FACS) Assay, Serum

Mayo Clinic Laboratories in Rochester

Specimen Required

Patient Preparation: For optimal antibody detection, we recommend drawing the specimen before initiation of immunosuppressant medication.

Container/Tube:
- Preferred: Red top
- Acceptable: Serum gel

Specimen Volume: 2 mL
Forms
If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request (T732) with the specimen.

Secondary ID
65563

Useful For
Diagnosis of inflammatory demyelinating diseases (IDD) with similar phenotype to neuromyelitis optica spectrum disorder (NMOSD), including optic neuritis (single or bilateral) and transverse myelitis

Diagnosis of autoimmune myelin oligodendrocyte glycoprotein (MOG)-
opathy

Diagnosis of neuromyelitis optica (NMO)

Distinguishing NMOSD, acute disseminated encephalomyelitis (ADEM), optic neuritis, and transverse myelitis from multiple sclerosis early in the course of disease

Diagnosis of ADEM

Prediction of a relapsing disease course

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOGTS</td>
<td>MOG FACS Titer, S</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm
When the results of this assay require further evaluation, the reflex titer test will be performed at an additional charge.

Method Name
Flow Cytometry

Reporting Name
MOG FACS, S

Specimen Type
Serum

Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

Reference Values
Negative

Day(s) and Time(s) Performed
Monday, Tuesday, Thursday; 6 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
86255
86256 (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOGFS</td>
<td>MOG FACS, S</td>
<td>90248-6</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
65563     | MOG FACS, S     | 90248-6           |

Baystate Medical Center Note:
EMR Interface Order Code: 71382

MYAB  Myeloperoxidase Antibodies, IgG, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Myeloperoxidase Ab, S

Useful For
Evaluating patients suspected of having immune-mediated vasculitis, especially microscopic polyangiitis (MPA), when used in conjunction with other autoantibody tests (see Cautions)

May be useful to follow treatment response or to monitor disease activity in patients with MPA

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.35 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
<0.4 U (negative)
0.4-0.9 U (equivocal)
≥1.0 U (positive)
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday; 4 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
83516
**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>MPO</td>
<td>Myeloperoxidase Ab, S</td>
<td>48404-8</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPO</td>
<td>Myeloperoxidase Ab, S</td>
<td>48404-8</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: OK

**Method Name**
Multiplex Flow Immunoassay

**Secondary ID**
80389

**Forms**
If not ordering electronically, complete, print, and send a Renal Diagnostics Test Request (T830) with the specimen.

---

**QMY  Myoglobin, Serum**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
- EMR Interface Order Code: 07935

**Reporting Name**
Myoglobin, S

**Useful For**
Assessing muscle damage from any cause

**Specimen Type**
Serum

**Specimen Required**

| Container/Tube: | Preferred: Red top | Acceptable: Serum gel |

| Specimen Volume: | 1 mL |

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
≤90 mcg/L

**Day(s) and Time(s) Performed**
Monday through Sunday, continuous

**Test Classification**
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

---

**CPT Code Information**

<table>
<thead>
<tr>
<th>CPT Code</th>
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<tbody>
<tr>
<td>83874</td>
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**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>MYGLS</td>
<td>Myoglobin, S</td>
<td>2639-3</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MYGLS</td>
<td>Myoglobin, S</td>
<td>2639-3</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Lipemia: Mild OK; Gross reject

**Method Name**
Latex Particle-Enhanced Immunoturbidometric Assay

**Baystate Reference Laboratories**

**Collection Container**
Cup
Urine

**Specimen Volume**
10 mL

**Minimum Specimen Volume**
5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Refrigerated up to 24 hours

**Reasons for Rejection**
Insufficient sample, >24 hours old.

**Methodology**
Ammonium sulfate precipitation

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Daily - available STAT

**Reference Ranges**
Negative

**CPT Code**
83874

**LOINC Code**
2640-1

**EMR Interface Order Code**
62775

---

**NMHIN  N-Methylhistamine, Urine**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
N-Methylhistamine, U
**Useful For**

Screening for and monitoring of mastocytosis and disorders of systemic mast-cell activation, such as anaphylaxis and other forms of severe systemic allergic reactions.

Monitoring therapeutic progress in conditions that are associated with secondary, localized, low-grade persistent, mast-cell proliferation and activation such as interstitial cystitis.

---

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMH</td>
<td>N-Methylhistamine, U</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>NCTU</td>
<td>Creatinine Concentration</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Specimen Type**

Urine

**Advisory Information**

Individuals who are taking monoamine oxidase inhibitors (MAOIs) or aminoguanidine would have increased N-methylhistamine (NMH) results, which would be uninterpretable.

**Specimen Required**

**Supplies:** Aliquot Tube, 5 mL (T465)

**Container/Tube:** Plastic, 5-mL tube

**Specimen Volume:** 5 mL

**Collection Instructions:**

1. Collect urine for 24 hours.
2. No preservative.

**Additional Information:**

1. 24-Hour collection is preferred, but a random specimen is also acceptable.
2. See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume**

3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>8 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**

- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens

**Reference Values**

- 0-5 years: 120-510 mcg/g creatinine
- 6-16 years: 70-330 mcg/g creatinine
- >16 years: 30-200 mcg/g creatinine

**Day(s) and Time(s) Performed**

Tuesday, Thursday; 10 a.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

---

**CPT Code Information**

82542

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMHI</td>
<td>N-Methylhistamine, U</td>
<td>44340-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCTU_</td>
<td>Creatinine Conc</td>
<td>20624-3</td>
</tr>
<tr>
<td>21589</td>
<td>N-Methylhistamine, U</td>
<td>44340-8</td>
</tr>
<tr>
<td>TM73</td>
<td>Collection Duration</td>
<td>13362-9</td>
</tr>
<tr>
<td>VL63</td>
<td>Urine Volume</td>
<td>3167-4</td>
</tr>
</tbody>
</table>

**Reject Due To**

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Method Name**

NMH: Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

NCTU: Enzymatic Colorimetric Assay

**Urine Preservative Collection Options**

Note: The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.

<table>
<thead>
<tr>
<th>Preservative</th>
<th>Acceptability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient</td>
<td>OK</td>
</tr>
<tr>
<td>Refrigerate</td>
<td>Preferred</td>
</tr>
<tr>
<td>Frozen</td>
<td>OK</td>
</tr>
<tr>
<td>50% Acetic Acid</td>
<td>OK</td>
</tr>
<tr>
<td>Boric Acid</td>
<td>OK</td>
</tr>
<tr>
<td>Diazolidinyl Urea</td>
<td>No</td>
</tr>
<tr>
<td>6M Hydrochloric Acid</td>
<td>OK</td>
</tr>
<tr>
<td>6M Nitric Acid</td>
<td>OK</td>
</tr>
<tr>
<td>Sodium Carbonate</td>
<td>OK</td>
</tr>
<tr>
<td>Thymol</td>
<td>No</td>
</tr>
<tr>
<td>Toluene</td>
<td>No</td>
</tr>
</tbody>
</table>

**SNTX  N-terminal Telopeptide (NTx), Serum**

*Mayo Clinic Laboratories in Rochester*

**Specimen Required**

**Patient Preparation:** A morning collection from fasting patients is preferred due to diurnal variation of markers and food effects.

**Collection Container/Tube:**

Preferred: Red top

Acceptable: Serum gel

**Submission Container/Tube:** Plastic screw-top aliquot tube

**Specimen Volume:** 0.5 mL

**Collection Instructions:** A morning collection from fasting patients is preferred. If not possible, collect the baseline and subsequent specimens under the same circumstances (eg, at same time of day).

**Secondary ID**

65558

**Useful For**

Monitoring effectiveness of antiresorptive therapy in patients treated for osteoporosis or other metabolic bone disorders.
As an adjunct in the diagnosis of medical conditions associated with increased bone turnover

**Method Name**
Enzyme-Linked Immunosorbent Assay (ELISA)

**Reporting Name**
NTX-Telopeptide, S

**Specimen Type**
Serum

**Specimen Minimum Volume**
0.1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

**Reference Values**
All units are reported in nmol Bone Collagen Equivalents (BCE)

Adult (≥18 years of age)
- Males: 5.4-24.2 nmol BCE
- Females: Premenopausal: 6.2-19.0 nmol BCE
  
  The target value for postmenopausal adult females undergoing treatment for osteoporosis is the same as the premenopausal reference interval.

**Day(s) and Time(s) Performed**
Tuesday, Thursday; 10 a.m.

**Test Classification**
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer’s instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**
82523

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNTX</td>
<td>NTX-Telopeptide, S</td>
<td>21215-9</td>
</tr>
</tbody>
</table>

**NALC**
Narcolepsy-Associated Antigen, HLA-DQβ1 Typing, Blood

Mayo Clinic Laboratories in Rochester

**Reporting Name**
Narcolepsy Associated Ag, B

**Useful For**
Ruling out a diagnosis of narcolepsy

**Specimen Type**
Whole Blood ACD-B

**Specimen Required**

<table>
<thead>
<tr>
<th>Container/Tube</th>
<th>Specimen Volume</th>
<th>Collection Instructions</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow top (ACD solution B)</td>
<td>6 mL</td>
<td>Do not transfer blood to other containers.</td>
<td>Specimen acceptability is based on extracted DNA concentration and not sample age.</td>
</tr>
</tbody>
</table>

**Specimen Minimum Volume**
3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood ACD-B</td>
<td>Refrigerated (preferred)</td>
<td></td>
<td>Ambient</td>
</tr>
</tbody>
</table>

**Reference Values**
An interpretive report will be provided.

**Day(s) and Time(s) Performed**
Monday through Friday; 7:30 a.m.-5:00 p.m.
Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
81376-HLA Class II typing, low resolution (eg, antigen equivalents); one locus (eg, HLA-DRB1/3/4/5, -DQB1, -DQA1, -DPB1, or -DPA1), each

LOINC Code Information
<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NARC</td>
<td>Narcolepsy Associated Ag, B</td>
<td>63558-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NARC</td>
<td>Narcolepsy Associated Ag Result</td>
<td>63558-1</td>
</tr>
<tr>
<td>NARCC</td>
<td>Interpretation</td>
<td>50595-8</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Polymerase Chain Reaction (PCR)/Sequence-Specific Oligonucleotide Probes (SSO)

RLMISC  NASH Fibrosure
LabCorp

Important Note
The patient's height and weight at the time of collection must be submitted.

Collection Container
Serum gel or red top tube
Serum

Special Handling Instructions
Patient should be fasting for at least eight hours.

Specimen Volume
3.5 mL

Transport Temperature
Refrigerated

Specimen Stability
Refrigerated: 72 hours
Frozen: 7 days

Reasons for Rejection
Gross hemolysis; gross lipemia; improper labeling; nonfasting specimen; patient younger than 14 years of age

CPT Code
0003M

FNMEN  Neisseria Meningitidis IgG Vaccine Response
Quest Diagnostics Infectious Disease

Specimen Required
Draw blood in a plain, red-top tube(s). Spin down and send 0.5 mL serum refrigerated.

Note: Serum gel tube is acceptable, but must pour off into a plastic vial.

Method Name
Multi-Analyte Immunodetection (MAID)

Reporting Name
N. meningitidis IgG Vacc Response

Specimen Type
Serum

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>5 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
Specimens other than Serum
Anticoagulants other than NA
Hemolysis NA
Lipemia NA
Icteric NA

Reference Values
Reference Ranges (pre-vaccination):

 Serogroup A  <4.0 ug/mL
 Serogroup C  <5.0 ug/mL
 Serogroup Y  <4.0 ug/mL
 Serogroup W-135 <3.0 ug/mL

This assay measures serum IgG antibodies recognizing polysaccharide antigens from the four Neisseria meningitidis serogroups included in the licensed meningococcal vaccine. The meningococcal vaccine response is best evaluated by testing pre-vaccination and post-vaccination samples in parallel. A two-fold or greater increase for at least two sero-groups is expected when comparing post-vaccination to pre-vaccination results. N. meningitidis IgG levels peak approximately one month post-vaccination, but decline markedly by two years.

Day(s) and Time(s) Performed
Wednesday

Test Classification
This test was developed and its performance characteristics have been determined by Focus Diagnostics. Performance characteristics refer to the analytical performance of the test.

CPT Code Information
86317/x4

LOINC Code Information
<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FNMEN</td>
<td>N. meningitidis IgG Vacc Response</td>
<td>Not Provided</td>
</tr>
<tr>
<td>Result ID</td>
<td>Test Result Name</td>
<td>Result LOINC Value</td>
</tr>
<tr>
<td>-----------</td>
<td>------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Z0726</td>
<td>Serogroup A</td>
<td>42986-0</td>
</tr>
<tr>
<td>Z0532</td>
<td>Serogroup C</td>
<td>42985-2</td>
</tr>
<tr>
<td>Z0533</td>
<td>Serogroup Y</td>
<td>39618-4</td>
</tr>
<tr>
<td>Z0534</td>
<td>Serogroup W-135</td>
<td>39610-1</td>
</tr>
</tbody>
</table>

**NEOPT  Neopterin**

*LabCorp*

**Collection Container**
- Gel barrier or red top, protect from light
- Serum protect from light

**Specimen Volume**
- 0.8 mL

**Minimum Specimen Volume**
- 0.3 mL

**Transport Temperature**
- Refrigerate and protect from light

**Reasons for Rejection**
- Specimen not protected from light.

**CPT Code**
- 83520

**EMR Interface Order Code**
- 65290

**CFNPT  Neopterin Total, CSF**

*Medical Neurogenetics*

**Collection Container**
- Call Lab
- CSF

**Special Handling Instructions**
- Special collection containers provided by the lab.

**Specimen Volume**
- 3.5 mL

**Transport Temperature**
- Freeze

**Methodology**
- HPLC/electrochemistry/fluorescence

**Turnaround Time**
- 2 weeks

**CPT Code**
- 82542

**EMR Interface Order Code**
- 13585

**NERBX  Nerve Biopsy**

*Baystate Reference Laboratories*

**Peripheral nerve**

**Special Handling Instructions**
- Stretch on dry sterile tongue depressor, then wrap in saline soaked gauze

**Specimen Volume**
- Minimum 3cm segment

**Transport Temperature**
- On Ice

**Specimen Stability**
- Transport specimen to the EM laboratory within 2 hours

**Reasons for Rejection**
- Mishandling of specimen during collection and processing, such as frozen, dried out, or exposed to extreme heat

**Turnaround Time**
- 3 - 5 days

**CPT Code**
- 88305, 88313, 88341, 88342

**NETTLE  Nettle IgE**

*Contracted Reference Lab*

**Collection Container**
- Serum gel or red top tube
- Serum

**Specimen Volume**
- For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
- 0.1 mL

**Transport Temperature**
- Refrigerated

**Specimen Stability**
- Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
- ImmunoCAP

**Turnaround Time**
- 3-5 days

**CPT Code**
- 86003

**EMR Interface Order Code**
- 49005

**Container**
- Serum gel or red top tube

**NMOFS  Neuromyelitis Optica (NMO)/Aquaporin-4-IgG Fluorescence-Activated Cell Sorting (FACS) Assay, Serum**

*Mayo Clinic Laboratories in Rochester*

**Useful For**
- Diagnosis of a neuromyelitis optica spectrum disorder (NMOSD)
- Diagnosis of autoimmune AQP4 channelopathy
Diagnosis of neuromyelitis optica (NMO)

Distinguishing NMOSD from multiple sclerosis early in the course of disease

### Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMOTS</td>
<td>NMO/AQP4 FACS Titer, S</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### Testing Algorithm

When the results of this assay require further evaluation, NMOTS / Neuromyelitis Optica (NMO)/Aquaporin-4-IgG Fluorescence-Activated Cell Sorting (FACS) Titer Assay, Serum will be performed at an additional charge.

### Method Name

Flow Cytometry

### Reporting Name

NMO/AQP4 FACS, S

### Specimen Type

Serum

### Advisory Information

#### Specimen Required

- **Container/Tube:**
  - Preferred: Red top
  - Acceptable: Serum gel
- **Specimen Volume:** 3 mL

#### Specimen Minimum Volume

2 mL

#### Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

#### Reject Due To

- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

### Reference Values

Negative

### Day(s) and Time(s) Performed

Monday, Tuesday, Thursday; 6 p.m.

### CPT Code Information

- 86255
- 86256-NMO/AQP4-IgG FACS titer (if appropriate)

### LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMOFS</td>
<td>NMO/AQP4 FACS, S</td>
<td>43638-6</td>
</tr>
</tbody>
</table>

---

Secondary ID

38324

### Forms

If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request (T732) with the specimen.

### Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

### NMOCS  Neuromyelitis Optica

(NMO)/Aquaporin-4-IgG Fluorescence-Activated Cell Sorting (FACS) Assay, Spinal Fluid

Mayo Clinic Laboratories in Rochester

### Useful For

- Diagnosis of a neuromyelitis optica spectrum disorder (NMOSD)
- Diagnosis of autoimmune AQP4 channelopathy
- Distinguishing NMOSD from multiple sclerosis early in the course of disease

### Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMOTC</td>
<td>NMO/AQP4 FACS Titer, CSF</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### Testing Algorithm

When the results of this assay require further evaluation, NMOTC / Neuromyelitis Optica (NMO)/Aquaporin-4-IgG Fluorescence-Activated Cell Sorting (FACS) Assay Titer, Spinal Fluid will be performed at an additional charge.

### Method Name

Flow Cytometry

### Reporting Name

NMO/AQP4 FACS, CSF

### Specimen Type

CSF

### Advisory Information

#### Necessary Information

Include relevant clinical information, name, phone number, mailing address, and e-mail address (if applicable) of ordering physician.

### Specimen Required

- **Collection Container/Tube:** Sterile vial
- **Specimen Volume:** 3 mL
**Specimen Minimum Volume**
2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

**Reference Values**
Negative

**Day(s) and Time(s) Performed**
Monday, Tuesday, Thursday; 6 p.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
86255
86256-NMO/AQP4-IgG FACS titer (if appropriate)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMOFC</td>
<td>NMO/AQP4-IgG FACS, CSF</td>
<td>46718-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>38325</td>
<td>NMO/AQP4-IgG FACS, CSF</td>
<td>46718-3</td>
</tr>
</tbody>
</table>

**Secondary ID**
38325

**NSE  Neuron-Specific Enolase (NSE), Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Neuron Specific Enolase, S

**Useful For**
A follow-up marker in patients with neuron-specific enolase-secreting tumors of any type
An auxiliary test in the diagnosis of small cell lung carcinoma
An auxiliary test in the diagnosis of carcinoids, islet cell tumors and neuroblastomas
An auxiliary tool in the assessment of comatose patients

**Specimen Type**
Serum

**Specimen Required**
Collection Container/Tube: Preferred: Red top
Acceptable: Serum gel
Submission Container/Tube: Plastic screw-top aliquot tube
Specimen Volume: 0.5 mL

**Specimen Minimum Volume**
0.3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
≤15 ng/mL
Serum markers are not specific for malignancy, and values may vary by method.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
893520

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSE</td>
<td>Neuron Specific Enolase, S</td>
<td>15060-7</td>
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</tbody>
</table>

**Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NSE</td>
<td>Neuron Specific Enolase, S</td>
<td>15060-7</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: Reject
- Gross lipemia: OK
- Gross icterus: Reject

**Day(s) and Time(s) Performed**
Monday through Friday; 8 a.m.-4 p.m.
Saturday; 8 a.m.-5 p.m.

**Method Name**
Homogeneous Time-Resolved Fluorescence

**Forms**
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

**CFNTM  Neurotransmitter Metabolite, CSF**

*Medical Neurogenetics*

**Collection Container**
Call Lab
CSF

**Special Handling Instructions**
Special collection containers provided by the lab.

**Specimen Volume**
3.5 mL

**Transport Temperature**
Freeze
Methodology
HPLC/electrochemistry

Turnaround Time
2 weeks

CPT Code
82542, 83497, 83150

EMR Interface Order Code
13660

NADF  Newborn Aneuploidy Detection, FISH

Useful For
Screening for chromosomal aneuploidies of chromosomes 13, 18, 21, X, and Y in newborn peripheral blood specimens

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>_I099</td>
<td>Interphases, 25-99</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>_I300</td>
<td>Interphases, &gt;=100</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>_IL25</td>
<td>Interphases, &lt;25</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>PADD</td>
<td>Probe, +1</td>
<td>No, (Bill Only)</td>
<td>No</td>
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<tr>
<td>PB02</td>
<td>Probe, +2</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>PB03</td>
<td>Probe, +3</td>
<td>No, (Bill Only)</td>
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<tr>
<td>PBCT</td>
<td>Probe, +2</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm
This test includes a charge for application of the first probe set (2 FISH probes) and professional interpretation of results.

Additional charges will be incurred for all reflex probes performed. Analysis charges will be incurred based on the number of cells analyzed per probe set. If no cells are available for analysis, no analysis charges will be incurred.

Special Instructions
- Informed Consent for Genetic Testing
- Informed Consent for Genetic Testing (Spanish)

Method Name
Fluorescence In Situ Hybridization (FISH)

Reporting Name
Newborn Aneuploidy Detection, FISH

Specimen Type
Whole blood

Specimen Required
Provide a reason for referral with each specimen. The laboratory will not reject testing if this information is not provided, but appropriate testing and interpretation may be compromised or delayed.

Container/Tube: Green top (sodium heparin)
Specimen Volume: 5 mL

Collection Instructions:
1. Invert several times to mix blood.
2. Other anticoagulants are not recommended and are harmful to the viability of the cells.
3. Advise Express Mail or equivalent if not on courier service.
4. Cord blood is acceptable.
Forms
New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
- Informed Consent for Genetic Testing (T576)
- Informed Consent for Genetic Testing-Spanish (T826)

NHSVC  Newborn HSV Culture

LabCorp
Collection Container
Viral transport media
Vesicular fluid, ulcerated lesions, pharyngeal and throat swabs, urine, cerebrospinal fluid (CSF), autopsy and biopsy
Wooden shafts, bacterial swabs, and dry or leaking specimen are not acceptable for testing.

Specimen Volume
Swab in viral transport media, 1 mL fluid, 0.5 g tissue in transport medium

Minimum Specimen Volume
Swab in viral transport media, 1 mL fluid, 0.5 g tissue in transport medium

Transport Temperature
Refrigerated

Specimen Stability
Room temp: NA
Refrigerated: 7 days
Frozen: NA

CPT Code
87255

EMR Interface Order Code
71390

UNIKQ  Nickel, 24 Hour, Urine

Mayo Clinic Laboratories in Rochester

Reporting Name
Nickel, 24 Hr, U

Useful For
Detecting nickel toxicity in patients exposed to nickel carbonyl

Specimen Type
Urine

Necessary Information
24-Hour volume is required.

Specimen Required

Patient Preparation: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.
Supplies: Plastic, 10-mL urine tube (T068)
Specimen Volume: 10 mL
Collection Instructions:
1. Collect urine for 24 hours.

2. Refrigerate specimen within 4 hours of completion of 24-hour collection.
3. Aliquot 10 mL in a plastic 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert
4. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Specimen Minimum Volume
0.9 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens
- Trace Metals Analysis Specimen Collection and Transport

Reference Values
0-17 years: not established
≥18 years: <3.6 mcg/24h

Day(s) and Time(s) Performed
Thursday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83885

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>NIU</td>
<td>Nickel, 24 Hr, U</td>
<td>Nickel, 24 Hr, U</td>
<td>5705-9</td>
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<tr>
<td>8626</td>
<td>Collection Duration</td>
<td>Nicklo Steel</td>
<td>13362-9</td>
</tr>
<tr>
<td>TM18</td>
<td>Urine Volume</td>
<td>Urine Volume</td>
<td>3167-4</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

Urine Preservative Collection Options
Note: The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.
### UNICOT  Nicotine and Metabolite, Urine

**Contracted Reference Lab**

**Collection Container**
- Urine container
- Urine

**Specimen Volume**
- 1 mL

**Minimum Specimen Volume**
- 0.5 mL

**Transport Temperature**
- Refrigerated

**Specimen Stability**
- Room temp: 14 days, Refrigerated: 14 days, Frozen: 1 year

**Reasons for Rejection**
- Urine in preservative

**CPT Code**
- 80323/G0480

**EMR Interface Order Code**
- 14485

### NICOT  Nicotine and Metabolites, Serum

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
- Nicotine and Metabolites, S

**Useful For**
- Monitoring tobacco use

**Specimen Type**
- Serum Red

### Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
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<td></td>
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<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

### Reference Values
- Nicotine: <3.0 ng/mL
- Cotinine: <3.0 ng/mL

### Day(s) and Time(s) Performed
- Monday through Saturday: 8 a.m., Sunday: 4 p.m.

### Test Classification
- This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

### CPT Code Information
- 80323
- G0480 (if appropriate)

### LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
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<td>NICOS</td>
<td>Nicotine and Metabolites, S</td>
<td>90226-2</td>
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<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>21313</td>
<td>Nicotine</td>
<td>3853-9</td>
</tr>
<tr>
<td>21314</td>
<td>Cotinine</td>
<td>10365-5</td>
</tr>
</tbody>
</table>

### Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

### Method Name
- Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

### Secondary ID
- 82509

### Forms
- If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
  - General Request (T239)
  - Therapeutics Test Request (T831)

### Nipple Discharge  Nipple Discharge Cytology

**Baystate Reference Laboratories**

**Collection Container**
- Cytology fixative container (PreservCyt®)
- Nipple Discharge

**Other Acceptable Specimen Types**
- CytoLyt® Solution

**Special Handling Instructions**
- Limitations: Allowing specimen to air dry prior to fixation will render it unsatisfactory for interpretation
Transport Temperature
Room Temperature

Specimen Stability
Stable in proper fixative

Reasons for Rejection
Improper fixation; air drying artifact; unlabeled container; failure to include pertinent history

Days and Times Performed
Monday - Friday, 7:30 am - 5 am

Turnaround Time
24 - 48 hours; for same day processing, specimens must be received by 2 pm

Reference Ranges
Negative to abnormal cells consistent with malignant neoplasm

CPT Code
88104

NMDACF  NMDA Antibody CSF with Reflex to Titer
Baystate Reference Laboratories

LOINC Code
80220-7

EMR Interface Order Code
70896

NMDAS  NMDA Antibody Serum with Reflex to Titer
Baystate Reference Laboratories

LOINC Code
80221-5

EMR Interface Order Code
70894

NMRLIP  NMR Lipoprotein (Lipoprotein Analysis)
LabCorp

Additional Information
If Triglyceride level is > 400 mg/dl, LDL cholesterol will not be calculated

Collection Container
Red

Other Acceptable Specimen Types
Heparinized or EDTA plasma

Special Handling Instructions
Patient should be fasting 12 - 14 hours

Specimen Volume
2 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: unstable, Refrigerated: 6 days, Frozen: unstable

Reasons for Rejection
Unspun specimens; plasma/serum contaminated with red cells; gross hemolysis; specimen more than 6 days old; gel barrier tubes

Methodology
Nuclear magnetic resonance (NMR)

CPT Code
80061, 83704

EMR Interface Order Code
65095

NEREG  Northeast Respiratory Allergen Profile
Contracted Reference Lab

Important Note
TEST INCLUDES: IgE Allergy testing for: Alternaria tenuis/alternata, Aspergillus fumigatus, Bermuda grass, birch, Cat Dander, Cladosporium herbarum, Cockroach, Common Ragweed, Cottonwood, Dermatophagoides farinae, Dermatophagoides pteronyssinus, Dog Dander, Elm, Maple, Mountain Cedar, Mouse Dander, Mugwort, Oak,
Penicillium notatum, Rough Pigweed, Sheep Sorrel, Sycamore, Timothy Grass, Walnut Tree, White Ash, White Mulberry and Total IgE

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
3.5 mL

Minimum Specimen Volume
3.0 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

CPT Code
86003 x 26, 82785

EMR Interface Order Code
68070

---

**NETICK  Northeast Tick PCR Panel (Anaplasma, Ehrlichia, and Babesia)**

*Baystate Reference Laboratories*

**Important Note**
Sample cannot be shared with other tests.

**Collection Container**
Lavender (EDTA)
Whole Blood

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerated or frozen

**Specimen Stability**
Refrigerated up to 7 days, frozen up to 7 days

**Reasons for Rejection**
Excessive delay in transport, shared specimen; wrong tube, mislabeled specimens, insufficient quantity

**Methodology**
Molecular detection of Anaplasma, Ehrlichia and Babesia using real-time PCR with Thermal Melt analysis

**Days and Times Performed**
Tuesdays & Fridays

**Turnaround Time**
5 days

**Reference Ranges**
Not detected

**CPT Code**
87798

**EMR Interface Order Code**
69352

---

**NTRIP  Nortriptyline, Serum**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 08100

**Useful For**
Monitoring serum concentration during therapy

Evaluating potential toxicity

The test may also be useful to evaluate patient compliance

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Reporting Name**
Nortriptyline, S

**Specimen Type**
Serum Red

**Specimen Required**

**Specimen Minimum Volume**
0.25 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
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<tbody>
<tr>
<td>Serum Red</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
Gross hemolysis Reject
Gross lipemia Reject
Gross icterus Reject

**Reference Values**
Therapeutic concentration: 70-170 ng/mL

**Note**: Therapeutic ranges are for specimens drawn at trough (ie, immediately before next scheduled dose). Levels may be elevated in non-trough specimens.

**Day(s) and Time(s) Performed**
Monday through Friday; Varies

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
80335
G0480 (if appropriate)
LOINC Code Information

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<thead>
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Result ID | Test Result Name | Result LOINC Value |
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<tr>
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<tbody>
<tr>
<td>37119</td>
<td>Nortriptyline, S</td>
<td>3872-9</td>
</tr>
</tbody>
</table>

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

NTX  NTX-Telopeptide, Urine

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 05040

Secondary ID
61656

Useful For
As an adjunct in the diagnosis of medical conditions associated with increased bone turnover

Monitoring effectiveness of antiresorptive therapy in patients treated for osteopenia, osteoporosis, Paget disease, or other metabolic bone disorders

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
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<tr>
<td>NTXUR</td>
<td>NTX-Telopeptide, U</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>NTXCT</td>
<td>Creatinine, U</td>
<td>No</td>
<td>Yes</td>
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</table>

Method Name

NTXUR: Chemiluminescence Immunoassay
NTXCT: Enzymatic Colorimetric Assay

Reporting Name

NTX-Telopeptide, U

Specimen Type

Urine

Specimen Required

Patient Preparation: For 24 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.

Container/Tube: Plastic, 13-mL urine tube

Specimen Volume: 4 mL

Collection Instructions:
1. Collect second morning void.
2. No preservative.

Specimen Minimum Volume

0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis  Reject
Other  Specimen with pH <5; specimen containing preservatives

Reference Values

All units are reported in nmol Bone Collagen Equivalents/mmol creatinine.

Adult (≥18 years of age)
Males: 21-83 nmol BCE/mmol creatinine
Females: Premenopausal: 17-94 nmol BCE/mmol creatinine
          Postmenopausal: 26-124 nmol BCE/mmol creatinine

Pediatric
Males:
          Tanner Stage I: 55-508 nmol BCE/mmol creatinine
          Tanner Stage II: 21-423 nmol BCE/mmol creatinine
          Tanner Stage III: 27-462 nmol BCE/mmol creatinine
          Tanner Stage IV: <609 nmol BCE/mmol creatinine
          Tanner Stage V: <240 nmol BCE/mmol creatinine
Females:
          Tanner Stage I: 6-662 nmol BCE/mmol creatinine
          Tanner Stage II: 193-514 nmol BCE/mmol creatinine
          Tanner Stage III: 13-632 nmol BCE/mmol creatinine
          Tanner Stage IV: <389 nmol BCE/mmol creatinine
          Tanner Stage V: <132 nmol BCE/mmol creatinine

Day(s) and Time(s) Performed

Monday, Thursday; Varies

Test Classification

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

82570
82523

LOINC Code Information

<table>
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<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
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<td>NTX-Telopeptide, U</td>
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Result ID | Test Result Name | Result LOINC Value |
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<tr>
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<tbody>
<tr>
<td>NTXCT</td>
<td>Creatinine, U</td>
<td>2161-8</td>
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<tr>
<td>NTX</td>
<td>NTX</td>
<td>35334-2</td>
</tr>
<tr>
<td>NTXCR</td>
<td>NTX-Telopeptide, U</td>
<td>44308-5</td>
</tr>
</tbody>
</table>
**NMP22**  
**Nuclear Matrix Protein 22 (NMP22), Urine**

**ARUP Laboratories**

**Important Note**  
Urine Stabilization Kit required. Contact Baystate Reference Laboratories' Referral Lab at (413) 322-4667 for a kit.

**Additional Test Codes**  
This test is intended as an aid in the management of patients with transitional cell carcinoma of the urinary tract (TCC/UT), and is used after surgical treatment to identify patients with residual or rapidly recurring TCC/UT. Values obtained with different test methods should not be used interchangeably. ARUP uses the Alere NMP22 Test Kit, an enzyme immunoassay (EIA) method.

NMP22 testing should not be performed on patients who have had a total cystectomy or within 5 days of an invasive procedure, such as cystoscopy or catheterization of the urethra.

**Collection Container**  
Urine container  
Urine: Single void of urine collected between midnight and noon

**Transport Temperature**  
Once urine added to stabilization kit, freeze sample.

**Reasons for Rejection**  
Urine not stabilized

**LOINC Code**  
31134-0

**EMR Interface Order Code**  
37315

**NMP1**  
**Nucleophosmin (NPM1) Mutation Analysis, Varies**

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**  
Nucleophosmin Mutation Analysis

**Useful For**  
As a prognostic indicator in patients with newly diagnosed acute myelogenous leukemia with normal karyotype and no FLT3 mutation

**Specimen Type**  
Varies

**Shipping Instructions**  
Specimen must arrive within 7 days (168 hours) of draw.

**Necessary Information**  
The following information is required:  
1. Pertinent clinical history  
2. Clinical or morphologic suspicion  
3. Date of collection  
4. Specimen source

---

**Specimen Required**

Submit only 1 of the following specimens:

**Specimen Type:** Blood  
**Container/Tube:** EDTA (lavender top) or ACD-B (yellow top)  
**Specimen Volume:** 3 mL  
**Collection Instructions:**  
1. Invert several times to mix blood.  
2. Send specimen in original tube.  
3. Label specimen as blood.

**Specimen Type:** Bone marrow  
**Container/Tube:** EDTA (lavender top) or ACD-B (yellow top)  
**Specimen Volume:** 2 mL  
**Collection Instructions:**  
1. Invert several times to mix bone marrow.  
2. Send specimen in original tube.  
3. Label specimen as bone marrow.

**Specimen Type:** Extracted DNA from blood or bone marrow  
**Container/Tube:** 1.5- to 2-mL tube with indication of volume and concentration of the DNA  
**Specimen Volume:** Entire specimen  
**Collection Instructions:** Label specimen as extracted DNA from blood or bone marrow.

**Specimen Minimum Volume**  
Blood, Bone Marrow: 0.5 mL  
Extracted DNA from Blood or Bone Marrow: 10 microliter at 20 ng/microliter

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Amb. (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**

• Hematopathology Patient Information

**Reference Values**  
An interpretive report will be provided.

**Day(s) and Time(s) Performed**  
Monday through Friday; 3 p.m.

**Test Classification**  
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**  
81310-NPM1 (nucleophosmin) (eg, acute myeloid leukemia) gene analysis; exon 12 variants

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Result Name</th>
<th>Order LOINC Value</th>
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<tr>
<td>NPM1</td>
<td>Nucleophosmin Mutation Analysis</td>
<td>54448-6</td>
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<table>
<thead>
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<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>MP011</td>
<td>Specimen Type</td>
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</tr>
<tr>
<td>19729</td>
<td>Final Diagnosis:</td>
<td>34574-4</td>
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</tbody>
</table>
**Method Name**
DNA Polymerase Chain Reaction (PCR) with Fragment Analysis by Capillary Gel Electrophoresis

**Secondary ID**
89292

**Forms**
1. Hematopathology Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

### ALLNUT  Nut IgE with Reflex to Nut Components

**LabCorp**

**Important Note**
TEST INCLUDES: Includes IgE testing for almond, brazil nut, cashew nut, hazelnut/filbert, macadamia nut, peanut, pecan nut, pistachio, and walnut. If brazil nut, cashew nut, hazelnut/filbert, peanut and/or walnut are positive, component testing will be performed.

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days
Refrigerated: 14 days
Frozen: 3 months

**CPT Code**
86003 x9
Add'l charges for components as indicated

**EMR Interface Order Code**
71475

### RASTNT  Nuts IgE Panel

**Contracted Reference Lab**

**Important Note**
TEST INCLUDES: Almond, Coconut, Peanut, Pecan-Food, Sesame Seed

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days
Refrigerated: 14 days
Frozen: 30 days

**CPT Code**
86003

**EMR Interface Order Code**
68570

### NMEG  Nutmeg IgE

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmuNoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003 x5

**EMR Interface Order Code**
49370

### OAK  Oak Tree IgE

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL
Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49010

Container
Serum gel or red top tube

---

OAT  Oat IgE
Contracted Reference Lab

Collection Container
Serum gel or red top tube

Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49015

Container
Serum gel or red top tube

---

BRLOB  Obstetric Panel
Baystate Reference Laboratories

Additional Information

Special Handling Instructions

Specimen Volume
mL

---

OB  Occult Blood
Baystate Reference Laboratories

Collection Container
Cup/Hemoccult Sensa card

Stool

Special Handling Instructions
Protect Hemoccult cards from heat and light

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
Stool: Refrigerated up to 72 hours; Hemoccult cards: 4 days at ambient temperature

Reasons for Rejection
Insufficient specimen, exceeds stability

Methodology
Guiac

Days and Times Performed
24 hours a day, 7 days a week

Turnaround Time
1 day

Reference Ranges
Negative

CPT Code
82270

LOINC Code
2335-8
**OCBLD3  Occult Blood (Diagnostic)**

*Baystate Reference Laboratories*

**Stool**

**Special Handling Instructions**
Protect Hemoccult cards from heat and light

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.5 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Stool: Refrigerated up to 72 hours; Hemoccult cards: 14 days at ambient temperature

**Reasons for Rejection**

Insufficient specimen, exceeds stability

**Methodology**

Guaic

**Days and Times Performed**

24 hours a day, 7 days a week

**Turnaround Time**

Daily

**Reference Ranges**

Negative

**CPT Code**

82270

**LOINC Code**

2335-8

**EMR Interface Order Code**

63835

---

**OBSCR  Occult Blood Screen**

*Baystate Reference Laboratories*

**Collection Container**

Cup/Hemoccult Sensa card

**Stool**

**Special Handling Instructions**
Protect Hemoccult cards from heat and light

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.5 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Stool: Refrigerated up to 72 hours; Hemoccult cards: 14 days at ambient temperature

**Reasons for Rejection**

Insufficient specimen, exceeds stability

**Methodology**

Guaic

**Days and Times Performed**

24 hours a day, 7 days a week

**Turnaround Time**

Daily

**Reference Ranges**

Negative

**CPT Code**

82272

**LOINC Code**

2335-8

**EMR Interface Order Code**

63830

---

**OBSCR3  Occult Blood (Screening)**

*Baystate Reference Laboratories*

**Stool**

**Special Handling Instructions**
Protect Hemoccult cards from heat and light

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.5 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Stool: Refrigerated up to 72 hours; Hemoccult cards: 14 days at ambient temperature

**Reasons for Rejection**

Insufficient specimen, exceeds stability

**Methodology**

Guaic

**Days and Times Performed**

24 hours a day, 7 days a week

**Turnaround Time**

Daily

**Reference Ranges**

Negative

**CPT Code**

82272

**LOINC Code**

2335-8

**EMR Interface Order Code**

63830
**GASTOB  Occult Blood, Gastric**

*Baystate Reference Laboratories*

**Collection Container**
Cup

**Gastric aspirate**

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerated/ambient temperature

**Specimen Stability**
Refrigerated up to 5 days, 24 hours at room temperature

**Reasons for Rejection**
Insufficient sample, improper sample, exceeds stability

**Methodology**
Guiac

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Daily - available STAT

**Reference Ranges**
Negative

**CPT Code**
82271

**LOINC Code**
50191-6

**EMR Interface Order Code**
62785

---

**OLNZPN  Olanzapine (Zyprexa)**

*Medtox Laboratories, Inc.*

**Additional Test Codes**
EMR Interface Order Code: 08060

**Reporting Name**
Olanzapine (Zyprexa)

**Specimen Type**
Varies

**Specimen Required**
Submit only 1 of the following specimens:

**Plasma**
Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial.

**Serum**
Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**
0.25 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

**Reference Values**

Reference Range: 10.0 Ì¬à–¢âœ 80.0 ng/mL

Expected steady state concentrations in patients on recommended daily dosages: 10 Ì¬à–¢âœ 80.0 ng/mL

Plasma concentrations of olanzapine greater than 9.0 ng/mL have been associated with therapeutic effect.

Toxic range has not been established.
Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information
80342

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLNZ</td>
<td>Olanzapine (Zyprexa)</td>
<td>12389-3</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>Z1196</td>
<td>Olanzapine</td>
<td>12389-3</td>
</tr>
</tbody>
</table>

Method Name
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

CSFOLI  Oligoclonal Bands, CSF

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum AND CSF

Specimen Volume
0.5 mL of each

Minimum Specimen Volume
0.1 mL of each

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 14 days

Reasons for Rejection
Both samples not submitted, plasma sample, serum not collected within 8 hours of CSF sample

CPT Code
83916

EMR Interface Order Code
5250

OLTREE  Olive Tree IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49020

Container
Serum gel or red top tube

Page 495
ONION Onion IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
80361, 80365 (G0480)

LOINC Code
3508-9, 3831-5, 3681-4, 9835-0, 16249-5, 17395-5, 61422-2, 61425-5

EMR Interface Order Code
70694

QOPI Opiates Expanded, Quant, Urine

Contracted Reference Lab

Additional Information
Includes Codeine, Hydrocodone, Hydromorphone, Morphine, Norhydrocodone, Noroxycodone, Oxycodone, Oxymorphone

Urine

Specimen Volume
20 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Preserved samples

Methodology
Mass spectrometry

Days and Times Performed
Daily

Turnaround Time
2 days

Reference Ranges
< 50 ng/mL

CPT Code
80361, 80365 (G0480)

LOINC Code
3508-9, 3831-5, 3681-4, 9835-0, 16249-5, 17395-5, 61422-2, 61425-5

EMR Interface Order Code
70694

OPCONF Opiates, Serum or Plasma, Quantitative

ARUP Laboratories

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

Additional Test Codes
EMR Interface Order Code: 08915

Method Name
Quantitative Liquid Chromatography-Tandem Mass Spectrometry

Reporting Name
Opiates, Serum or Plasma, Quant.

Specimen Type
Varies

Specimen Required
Submit only one of the following:

Plasma
Draw blood in a gray top potassium oxalate/sodium fluoride, green (sodium heparin), lavender (EDTA) or pink (K2EDTA) tube(s). Spin down and send 1 mL of plasma refrigerated in a plastic vial.

Serum
Draw blood in a plain, red-top tube(s). Spin down and send 1 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Test</th>
<th>Acceptance Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>Mild OK; Gross OK</td>
</tr>
<tr>
<td>Lipemia</td>
<td>Mild OK; Gross OK</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>Separator tubes, Plasma or Whole blood collected in lt. blue (sodium citrate), specimens exposed to repeat freeze/thaw cycles.</td>
</tr>
</tbody>
</table>

Reference Values
Drugs covered: codeine, morphine, 6-acetylmorphine, hydrocodone, hydromorphone, oxycodone, and oxymorphone. All drugs covered and the non-glucuronidated (free) form.
Positive cutoff: 2 ng/mL

For medical purposes only; not valid for forensic use.

Day(s) and Time(s) Performed
Monday, Wednesday and Friday

Test Classification
This test was developed and its performance characteristics determined by ARUP Laboratories. The U. S. Food and Drug Administration has not approved or cleared this test; however, FDA clearance or approval is not currently required for clinical use. The results are not intended to be used as the sole means for clinical diagnosis or patient management decisions.

CPT Code Information
80361, 80365

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>FOPIA</td>
<td>Opiates, Serum or Plasma, Quant.</td>
<td>8217-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-acetylmorphine, S/P, Quant</td>
<td>12788-6</td>
</tr>
<tr>
<td>Codeine, S/P, Quant</td>
<td>3506-3</td>
</tr>
<tr>
<td>Morphine, S/P, Quant</td>
<td>3827-3</td>
</tr>
<tr>
<td>Hydrocodone, S/P, Quant</td>
<td>3680-6</td>
</tr>
<tr>
<td>Hydromorphone, S/P, Quant</td>
<td>3683-0</td>
</tr>
<tr>
<td>Oxycodone, S/P, Quant</td>
<td>3893-5</td>
</tr>
<tr>
<td>Oxymorphone, S/P, Quant</td>
<td>60467-8</td>
</tr>
</tbody>
</table>

**UOPZ  Opiates, Urine, Screen with Confirm**

Baystate Reference Laboratories

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

Additional Information
Does not detect oxycodone or fentanyl. This will reflex to a confirmation if screen is positive

Reflex Tests
UOPCF (Opiates Confirmation, Urine)

Collection Container
Urine

Specimen Volume
20 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
None detected

CPT Code
80307

LOINC Code
19299-7

EMR Interface Order Code
11500
**2D6OP  Opioid 2D6 Genotyping**

*LabCorp*

**Collection Container**
Lavender top (EDTA)
Whole blood

**Other Acceptable Specimen Types**
Yellow top (ACD)

**Specimen Volume**
7 mL

**Minimum Specimen Volume**
3 mL

**Transport Temperature**
Ambient

**CPT Code**
81226

**EMR Interface Order Code**
68099

---

**QSOPIO  Opioids with Conf, Oral Fluid**

*Contracted Reference Lab*

**Reflex Tests**
If positive, will reflex to confirmations at an additional charge

**Collection Container**
Oral-Eze container
Oral fluid

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp:72 hr Refrigerated: 7 days Frozen: 30 days with swab removed

**Reasons for Rejection**
Not submitted in Oral-Eze device, no swab (unless frozen)

**Days and Times Performed**
Daily

**Turnaround Time**
4 days

**CPT Code**
80307

**EMR Interface Order Code**
71145

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

---

**QSDSP  Oral Fluid Drug Screen Panel**

*Contracted Reference Lab*

**Additional Information**
Includes: Alcohol metabolites, Amphetamines, Barbituates, Benzodiazepines, Cocaine, Methadone, Opioids, PCP

**Reflex Tests**
If positive, will reflex to confirmations at an additional charge

**Collection Container**
Oral-Eze container
Oral fluid

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp:72 hr Refrigerated: 7 days Frozen: 30 days with swab removed

**Reasons for Rejection**
Not submitted in Oral-Eze device, no swab (unless frozen)

**Days and Times Performed**
Daily

**Turnaround Time**
4 days

**CPT Code**
80307

**EMR Interface Order Code**
71145

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

---

**ORNGE  Orange IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.
**Methodology**  
ImmunoCAP

**Turnaround Time**  
3-5 days

**CPT Code**  
86003

**EMR Interface Order Code**  
49035

**Container**  
Serum gel or red top tube

---

**ORCHRD  Orchard Grass IgE**  
*Contracted Reference Lab*

**Collection Container**  
Serum gel or red top tube

**Serum**

**Specimen Volume**  
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**  
0.1 mL

**Transport Temperature**  
Refrigerated

**Specimen Stability**  
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**  
ImmunoCAP

**Turnaround Time**  
3-5 days

**CPT Code**  
86003

**EMR Interface Order Code**  
68434

**Container**  
Serum gel or red top tube

---

**UORGAC  Organic Acids Screen, Urine**  
*Mayo Clinic Laboratories in Rochester*

**Necessary Information**

1. **Patient's age is required.**
2. Include family history, clinical condition (asymptomatic or acute episode), diet, and drug therapy information.

**Specimen Required**

**Supplies:** Urine Tubes, 10 mL (T068)

**Specimen Volume:** 10 mL

**Pediatric:** If insufficient collection volume, submit as much specimen as possible in a single container; the laboratory will determine if volume is sufficient for testing.

**Collection Instructions:**
1. Collect a random urine specimen.
2. No preservative.

**Forms**

If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

**Useful For**

Diagnosis of inborn errors of metabolism

**Testing Algorithm**

The following algorithms are available in Special Instructions:
- Newborn Screening Follow-up for Elevations of C8, C6, and C10 Acylcarnitines (also applies to any plasma or serum C8, C6, and C10 acylcarnitine elevations)
- Newborn Screening Follow-up for Isolated C4 Acylcarnitine Elevations (also applies to any plasma or serum C4 acylcarnitine elevation)
- Newborn Screening Follow-up for Isolated C5 Acylcarnitine Elevations (also applies to any plasma or serum C5 acylcarnitine elevation)
- Porphyria (Acute) Testing Algorithm
- Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm

**Special Instructions**

- Porphyria (Acute) Testing Algorithm
- Newborn Screening Follow-up for Isolated C4 Acylcarnitine Elevations (also applies to any plasma or serum C4 acylcarnitine elevations)
- Newborn Screening Follow-up for Elevations of C8, C6, and C10 Acylcarnitine Elevations (also applies to any plasma or serum C8, C6, and C10 acylcarnitine elevations)
- Newborn Screening Follow-up for Isolated C5 Acylcarnitines Elevations (also applies to any plasma or serum C5 acylcarnitine elevations)
- Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm
Method Name
Gas Chromatography-Mass Spectrometry (GC-MS)

Reporting Name
Organic Acids Scrn, U

Specimen Type
Urine

Specimen Minimum Volume
4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen (preferred)</td>
<td>416 days</td>
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</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Reference Values
An interpretive report will be provided.

Day(s) and Time(s) Performed
Monday through Saturday; 7 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83919

LOINC Code Information

<table>
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<th>Test ID</th>
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<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>OAU</td>
<td>Organic Acids Scrn, U</td>
<td>2676-5</td>
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<table>
<thead>
<tr>
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<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>80619</td>
<td>Organic Acids Scrn, U</td>
<td>2676-5</td>
</tr>
</tbody>
</table>

UORTIC Orotic Acid, Urine

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 08151

Reporting Name
Orotic Acid, U

Useful For
Evaluation of the differential diagnosis of hyperammonemia and hereditary orotic aciduria

Sensitive indicator of ornithine transcarbamylase (OTC) activity after administration of allopurinol or a protein load to identify OTC carriers

Specimen Type
Urine

Necessary Information
Patient's age is required.

Specimen Required

Supplies: Urine Tubes, 10 mL (T068)
Container/Tube: Plastic, 10-mL urine tube
Specimen Volume: 10 mL
Collection Instructions:
1. Collect a random or timed urine specimen.
2. No preservative.

Specimen Minimum Volume
3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
<2 weeks: 1.4-5.3 mmol/mol creatinine
2 weeks-1 year: 1.0-3.2 mmol/mol creatinine
2-10 years: 0.5-3.3 mmol/mol creatinine
≥11 years: 0.4-1.2 mmol/mol creatinine

Day(s) and Time(s) Performed
Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83921

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>OROT</td>
<td>Orotic Acid, U</td>
<td>17869-9</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>8905</td>
<td>Orotic Acid, U</td>
<td>17869-9</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Colorimetric

Forms
1. Biochemical Genetics Patient Information (T602) in Special Instructions.
2. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

Special Instructions
• Biochemical Genetics Patient Information

FOSMO Osmolality Fluid

Baystate Reference Laboratories

Collection Container
Fluid

Identify source of body fluid
OSMO  Osmolality, Blood

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
Heparinized plasma

Specimen Volume
2 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Methodology
Freezing point depression

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
280 - 290 mOsm/kg

Units of Measure
mOsm/kg

CPT Code
83930

EMR Interface Order Code
13405

UOSMOQ  Osmolality, Urine 24 Hour

Baystate Reference Laboratories

Collection Container
Jug

Specimen Volume
2 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Reasons for Rejection
Specimen collected with preservative.

Methodology
Freezing point depression

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
300-900 mOsm/Kg

Units of Measure
mOsm/kg

CPT Code
83935

EMR Interface Order Code
08180

UOSMOR  Osmolality, Urine, Random

Baystate Reference Laboratories

Collection Container
Urine
Random Urine

Specimen Volume
2 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Methodology
Freezing point depression

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
50 - 1400 mOsm/Kg
Units of Measure
mOsm/kg

CPT Code
83935

EMR Interface Order Code
08190

RBCFR  Osmotic Fragility, Erythrocytes

Mayo Clinic Laboratories in Rochester

Reporting Name
Osmotic Fragility, RBC

Useful For
Evaluation of suspected hereditary spherocytosis associated hemolytic anemia
Confirming or detecting mild spherocytosis

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
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<tbody>
<tr>
<td>FRAGO</td>
<td>Osmotic Fragility</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>SCTRL</td>
<td>Shipping Control</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Specimen Type
Control
Whole Blood EDTA

Advisory Information

Additional Testing Requirements

Shipping Instructions
Specimens must arrive within 72 hours of collection.

Necessary Information
Patient's age and sex are required.

Specimen Required
Both a whole blood EDTA specimen and a control specimen are required as temperature extremes can increase the fragility of the specimen and cause false-positive results.

Patient:
Container/Tube: Lavender top (EDTA)
Specimen Volume: 4 mL
Collection Instructions:
1. Immediately refrigerate specimen after collection. Refrigerate at 0 to 4° C. Do not freeze. Freezing causes sample lysis, and tests will not be performed on hemolyzed specimens.
2. Send specimen in original tube. Do not aliquot.
3. Rubber band patient specimen and control vial together. Control must accompany the patient sample at all times to ensure the reliability of testing results.
4. Be sure specimen and control are stored and transported together at refrigerated temperature, carefully following proper handling and shipping instructions.

Normal Shipping Control:
Specimen Type: Whole blood
Container/Tube: Lavender top (EDTA)
Specimen Volume: 4 mL
Collection Instructions:
1. Draw a control specimen from a normal (healthy), unrelated, nonsmoking person at the same time as the patient.
2. Handwrite "normal control" clearly on the outermost label.
3. Immediately refrigerate specimen after collection. Refrigerate at 0 to 4° C. Do not freeze. Freezing causes sample lysis, and tests will not be performed on hemolyzed specimens.
4. Send specimen in original tube. Do not aliquot.
5. Rubber band patient specimen and control vial together. Control must accompany the patient sample at all times to ensure the reliability of testing results.

Specimen Minimum Volume
2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>Refrigerated</td>
<td>72 hours</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
<tr>
<td>Whole Blood</td>
<td>Refrigerated</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
≥12 months:
0.50 g/dL NaCl (unincubated): 3-53% hemolysis
0.60 g/dL NaCl (incubated): 14-74% hemolysis
0.65 g/dL NaCl (incubated): 4-40% hemolysis
0.75 g/dL NaCl (incubated): 1-11% hemolysis

Reference values have not been established for patients who are <12 months of age.

Day(s) and Time(s) Performed
Monday through Saturday

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
85557

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRAG</td>
<td>Osmotic Fragility, RBC</td>
<td>In Process</td>
</tr>
</tbody>
</table>
### Osmotic Fragility, RBC

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>9064</td>
<td>Osmotic Fragility, RBC</td>
<td>34964-7</td>
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<tr>
<td>SCTRL</td>
<td>Shipping Control Vial</td>
<td>40431-9</td>
</tr>
<tr>
<td>3306</td>
<td>Osmotic Fragility, 0.50 g/dL NaCl</td>
<td>23915-2</td>
</tr>
<tr>
<td>3307</td>
<td>Osmotic Fragility, 0.60 g/dL NaCl</td>
<td>23918-6</td>
</tr>
<tr>
<td>3308</td>
<td>Osmotic Fragility, 0.65 g/dL NaCl</td>
<td>23920-2</td>
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<tr>
<td>3309</td>
<td>Osmotic Fragility, 0.75 g/dL NaCl</td>
<td>23921-0</td>
</tr>
<tr>
<td>3310</td>
<td>Osmotic Fragility Comment</td>
<td>59466-3</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: Reject
- Clotted blood: Reject

### Osteocalcin, Serum

**Testing Laboratory:** Mayo Clinic Laboratories in Rochester

**Reporting Name:** Osteocalcin, S

**Useful For**

- Monitoring and assessing effectiveness of antiresorptive therapy in patients treated for osteopenia, osteoporosis, Paget's disease, or other disorders in which osteocalcin levels are elevated
- As an adjunct in the diagnosis of medical conditions associated with increased bone turnover, including Paget's disease, cancer accompanied by bone metastases, primary hyperparathyroidism, and renal osteodystrophy

This test is **not useful for** the diagnosis of osteoporosis; diagnosis of osteoporosis should be made on the basis of bone density or clinical history of low-trauma fracture.

**Specimen Type**
- Serum

**Specimen Required**

**Patient Preparation:**
1. For 12 hours before specimen collection do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.
2. Fasting (12 hours)

**Supplies:**
- Aliquot Tube, 5 mL (T465)
- Collection Container/Tube: Red top
- Acceptable: Serum gel
- Submission Container/Tube: Plastic vial

**Specimen Volume:**
- 1 mL
- Collection Instructions: Centrifuge and aliquot serum into plastic vial.

**Specimen Minimum Volume**
- 0.5 mL

### Osteocalcin, Serum

**Testing Laboratory:** Mayo Clinic Laboratories in Rochester

**Reporting Name:** Osteocalcin, S

**Reference Values**
- <18 years: not established
- ≥18 years: 9-42 ng/mL

**Day(s) and Time(s) Performed**
- Monday through Friday: 5 a.m.-12 a.m., Saturday: 6 a.m.-6 p.m.

### Other Oncology FISH

**Testing Laboratory:** Mayo Medical Laboratories

**Collection Container**
- Blood: Green (Sodium Heparin)
- Bone Marrow: Syringe with heparin
- Peripheral Blood

**Other Acceptable Specimen Types**
- Bone Marrow Aspirate

**Special Handling Instructions**
- Send to Referral Laboratory with copy of ordering requisition and copy of surgical pathology (if available).

**Specimen Volume**
- 5 mL

**Minimum Specimen Volume**
- 2 mL

**Transport Temperature**
- Ambient

**Specimen Stability**
- Stable at ambient temperature

**Reasons for Rejection**
- Incorrect tube, insufficient quantity
Methodology
Fluorescent in-situ hybridization

Turnaround Time
Preliminary results available after 2 - 3 days, final report within 10 - 14 days.

Reference Ranges
Laboratory to provide interpretive report.

CPT Code
88237, 88271, 88275

EMR Interface Order Code
69220

OAP  Ova and Parasite, Concentrate and Permanent Smear, Microscopy, Feces
Mayo Clinic Laboratories in Rochester

Reporting Name
Ova and Parasite, Microscopy, F

Useful For
Detection and identification of parasitic protozoa and the eggs and larvae of parasitic helminths

Testing Algorithm
The following algorithms are available in Special Instructions:
- Parasitic Investigation of Stool Specimens Algorithm
- Laboratory Testing for Infectious Causes of Diarrhea

Specimen Type
Fecal

Advisory Information
See OAPNS / Ova and Parasite, Microscopy, Varies for the submission of non-stool sources for ova and parasitic examination.

If specific organisms or disease states are suspected, see below:
If Acanthamoeba is suspected, order ACARP / Acanthamoeba species Molecular Detection, PCR, Ocular.
If Cryptosporidium is suspected, order CRYPS / Cryptosporidium Antigen, Feces.
If Cyclospora is suspected, order CYCL / Cyclospora Stain.
If free-living amebae are suspected, order FLARP / Free-Living Amebae Molecular Detection, PCR, Spinal Fluid, Fresh and Paraffin Tissue.
If Giardia is suspected, order GIAR / Giardia Antigen, Feces.
If microsporidia are suspected, order LCMSP / Microsporidia species, Molecular Detection, PCR.
If pinworm is suspected, order PINW / Pinworm Exam, Perianal.
If scabies is suspected, order PARID / Parasite Identification.
If Schistosoma is suspected, order SHUR / Schistosoma Exam, Urine.
If Trichomonas vaginalis is suspected, order TVRNA / Trichomonas vaginalis by Nucleic Acid Amplification.
If worms or worm segments are submitted, order PARID / Parasite Identification.

Additional Testing Requirements
It is strongly recommended that multiple stool specimens be submitted for ova and parasite analysis. At least 3 specimens should be collected, 1 each day or on alternate days (over a maximum 10-day period).

Parasites are shed irregularly in stool and examination of a single specimen does not guarantee detection.

Specimen Required

Patient Preparation: Specimen collection should be delayed for 7 to 10 days after administration of barium, bismuth, kaolin, magnesia, castor oil or mineral oil, and 2 to 3 weeks after antibiotics have been given since these may interfere with identification of protozoa.

Specimen Type: Stool, duodenal aspirate, colonic washing

Supplies: ECOFIX Stool Transport Vial (Kit) (T219)
Preferred: ECOFIX preservative (T219)
Acceptable: 10% Buffered Formalin Stool Transport plus Polyvinyl Acetate (PVA) Stool Transport

Specimen Volume: Portion of stool; or entire collection of intestinal specimen

Collection Instructions:
1. Place specimen into preservative within 30 minutes of passage or collection.
2. Follow instructions on the container as follows:
   a. Mix the contents of the tube with the spoon, twist the cap tightly closed, and shake vigorously until the contents are well mixed. Refer to the fill line on the Ecofix vial for stool specimens.
   b. Do not fill above the line indicated on the container.
   c. Duodenal aspirates, small bowel aspirates, or colonic washings should be placed in Ecofix in a ratio of 1:1

Additional Information: Stool placed in 10% buffered formalin can be accepted if accompanied by a PVA-preserved specimen; 10% buffered formalin-preserved specimens submitted without an accompanying PVA-preserved specimen will be canceled.

Specimen Minimum Volume
5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal</td>
<td>Ambient (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Parasitic Investigation of Stool Specimens Algorithm
- Laboratory Testing for Infectious Causes of Diarrhea

Reference Values
Negative
If positive, organism identified

Day(s) and Time(s) Performed
Monday through Friday; 8 a.m.-7 p.m., Saturday; 8 a.m.-4 p.m.

Test Classification
This test uses a standard method. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
87177-Concentration (any type), for infectious agents
87209-Smear, primary source with interpretation; complex special stain (eg, trichrome, iron hematoxylin) for ova and parasites

LOINC Code Information

<table>
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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>OAP</td>
<td>Ova and Parasite, Microscopy, F</td>
<td>10704-5</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>OAP</td>
<td>Ova and Parasite, Microscopy, F</td>
<td>10704-5</td>
</tr>
</tbody>
</table>
Reject Due To
All specimens will be evaluated by Mayo Clinic Laboratories for test suitability.

Method Name
Microscopic

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Microbiology Test Request (T244)
- Gastroenterology and Hepatology Client Test Request (T728)

<table>
<thead>
<tr>
<th>OVALB</th>
<th>Ovalbumin IgE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contracted Reference Lab</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Serum gel or red top tube</td>
</tr>
<tr>
<td>Serum</td>
<td></td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td>0.1 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerated</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>ImmunoCAP</td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
<td>3-5 days</td>
</tr>
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<td><strong>CPT Code</strong></td>
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<td><strong>LOINC Code</strong></td>
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<tr>
<td><strong>EMR Interface Order Code</strong></td>
<td>67605</td>
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<tr>
<td><strong>Container</strong></td>
<td>Serum gel or red top tube</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>ANTOVA</th>
<th>Ovarian Antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LabCorp</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Serum gel or red top tube</td>
</tr>
<tr>
<td>Serum</td>
<td></td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>1 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td>0.25 mL</td>
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<td><strong>Transport Temperature</strong></td>
<td>Refrigerate</td>
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<td><strong>Specimen Stability</strong></td>
<td>Room temperature: 5 days, Frozen: 1 year</td>
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<tr>
<td><strong>Methodology</strong></td>
<td>ImmunoCAP</td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
<td>3-5 days</td>
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<td><strong>CPT Code</strong></td>
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<td><strong>LOINC Code</strong></td>
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<tr>
<td><strong>EMR Interface Order Code</strong></td>
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<table>
<thead>
<tr>
<th>ROMA</th>
<th>Ovarian Malignancy Risk ROMA</th>
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</thead>
<tbody>
<tr>
<td><strong>LabCorp</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Serum gel</td>
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<tr>
<td>Serum</td>
<td></td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>1.8 mL</td>
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<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td>1 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerate</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>Room temperature: 7 days, Refrigerated: 14 days, Frozen: 28 days</td>
</tr>
<tr>
<td><strong>Reasons for Rejection</strong></td>
<td>Gross hemolysis</td>
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<tr>
<td><strong>Turnaround Time</strong></td>
<td>5 - 12 days</td>
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<td><strong>CPT Code</strong></td>
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<td><strong>LOINC Code</strong></td>
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<table>
<thead>
<tr>
<th>OVMU</th>
<th>Ovomucoid IgE</th>
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</thead>
<tbody>
<tr>
<td><strong>Contracted Reference Lab</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Serum gel or red top tube</td>
</tr>
<tr>
<td>Serum</td>
<td></td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td>0.1 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerated</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>ImmunoCAP</td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
<td>3-5 days</td>
</tr>
<tr>
<td><strong>CPT Code</strong></td>
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<tr>
<td><strong>LOINC Code</strong></td>
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<tr>
<td><strong>EMR Interface Order Code</strong></td>
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<table>
<thead>
<tr>
<th>OVMU</th>
<th>Ovomucoid IgE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contracted Reference Lab</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Serum gel or red top tube</td>
</tr>
<tr>
<td>Serum</td>
<td></td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td>0.1 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerated</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>ImmunoCAP</td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
<td>3-5 days</td>
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<tr>
<td><strong>CPT Code</strong></td>
<td></td>
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<tr>
<td><strong>LOINC Code</strong></td>
<td></td>
</tr>
<tr>
<td><strong>EMR Interface Order Code</strong></td>
<td></td>
</tr>
</tbody>
</table>
**OXAL Oxalate**

*LabCorp*

**Collection Container**
- Red
- Serum

**Specimen Volume**
- 2 mL

**Minimum Specimen Volume**
- 1.2 mL

**Transport Temperature**
- Refrigerate

**Specimen Stability**
- Room temperature: 30 days, Refrigerated: 30 days, Frozen: 30 days

**Reasons for Rejection**
- Collected in gel barrier tube

**Methodology**
- Enzymatic Assay (EZA)

---

**UOXALQ Oxalate Urine, Quantitative**

*LabCorp*

**Patient Instructions**
Avoid Vitamin C supplements and Vitamin C rich foods (e.g., citrus fruits and juices) during the specimen collection.

**Collection Container**
- 24 hour urine jug, kept refrigerated during and after collection
- 24 hour urine
  - Refrigerate during and after collection period

**Specimen Volume**
- Entire 24 hour collection

**Minimum Specimen Volume**
- 2.5 mL

**Transport Temperature**
- Refrigerated

**Turnaround Time**
- 3-6 days

**CPT Code**
- 83945

---

**SERAX Oxazepam (Serax), Serum**

*Medtox Laboratories, Inc.*

**Reporting Name**
- Oxazepam (Serax)

**Specimen Type**
- Varies

**Specimen Required**
Submit only 1 of the following specimens:

**Plasma**
- Draw blood in a green-top (sodium heparin) tube(s), **plasma gel tube is not acceptable**. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial.

**Serum**
- Draw blood in a plain red-top tube(s), **serum gel tube is not acceptable**. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**
- 0.3 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
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<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

- Hemolysis NA
- Lipemia NA
- Icterus NA
- Other NA

Reference Values
Reference Range: 200 - 500 ng/mL

Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information
80346
G0480 (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
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<td>FOXAZ</td>
<td>Oxazepam (Serax)</td>
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<table>
<thead>
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<tbody>
<tr>
<td>Z1141</td>
<td>Oxazepam (Serax)</td>
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</tbody>
</table>

Method Name
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

TRILEP Oxcarbazepine Metabolite (MHC), Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Oxcarbazepine Metabolite (MHC), S

Useful For
Monitoring serum concentration during oxcarbazepine therapy
Assessing compliance
Assessing potential toxicity

Specimen Type
Serum Red

Specimen Required

Container/Tube:
Preferred: Red top
Specimen Volume: 1 mL

Collection Instructions:
1. Draw specimen immediately before next scheduled dose.
2. Spin down within 2 hours of draw.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Oxcarbazepine metabolite: 3-35 mcg/mL

Day(s) and Time(s) Performed
Tuesday through Saturday; 12 a.m., Saturday; 1 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80183

LOINC Code Information

<table>
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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
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<tbody>
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<td>OMHC</td>
<td>Oxcarbazepine Metabolite (MHC), S</td>
<td>31019-3</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>81030</td>
<td>Oxcarbazepine Metabolite (MHC), S</td>
<td>31019-3</td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis OK
- Gross lipemia OK
- Gross icterus OK

Method Name
High-Turbulence Liquid Chromatography Mass Spectrometry (HTLC-MS/MS)

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- Neurology Specialty Testing Client Test Request (T732)
- Therapeutics Test Request (T831)

Secondary ID
81030

QOXY Oxycodone, Quant, Urine

Contracted Reference Lab

Additional Information
Includes Oxycodone, Oxymorphone, Noroxycodone

Urine

Specimen Volume
20 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerated
### Specimen Stability
14 days

### Reasons for Rejection
Preserved samples

### Methodology
Mass spectrometry

### Days and Times Performed
Daily

### Turnaround Time
2 days

### Reference Ranges
< 50 ng/mL

### CPT Code
80365 (G0480)

### LOINC Code
16249-5, 17395-5, 61425-5

### EMR Interface Order Code
70703

---

### UOXSCR Oxycodone, Urine, Screen

**Baystate Reference Laboratories**

### Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

### Additional Information
Oxycodone is metabolized to oxymorphone & noroxycodone. Note: patients on suboxone may have a false positive oxycodone screen, due to cross-reactivity with a naloxone metabolite (naloxone is an ingredient in suboxone).

### Collection Container
Urine

### Specimen Volume
20 mL

### Minimum Specimen Volume
1 mL

### Transport Temperature
Refrigerate

### Specimen Stability
Refrigerated: 7 days

### Methodology
Immunoassay

### Days and Times Performed
Screening test performed daily

### Turnaround Time
24 hours

### Reference Ranges
none detected

---

### CPT Code
80307

### EMR Interface Order Code
05870

### UOXSCF Oxycodone, Urine, Screen with Confirmation

**Baystate Reference Laboratories**

### Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

### Additional Information
This will reflex to a confirmation if screen is positive.

### Collection Container
Urine

### Specimen Volume
20 mL

### Minimum Specimen Volume
5 mL

### Transport Temperature
Refrigerate

### Specimen Stability
Refrigerated: 7 days

### Reference Ranges
None detected

### CPT Code
80307

### EMR Interface Order Code
05910

### OYSTER Oyster IgE

**Contracted Reference Lab**

### Collection Container
Serum gel or red top tube

### Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

### Minimum Specimen Volume
0.1 mL

### Transport Temperature
Refrigerated

### Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

### Methodology
ImmunoCAP
Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49040

Container
Serum gel or red top tube

PMP6  Pain Med Profile 6, Urine, w/ Confirmation

Contracted Reference Lab

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

Additional Information
Initial screen of 6-Acetylmorphine, Alcohol Metabolites, Amphetamines, Barbiturates, Benzodiazepines, Marijuana Metabolite, Cocaine Metabolite, Methadone Metabolite, Opiates, Oxycodone, Phencyclidine drug classes. Specimen validity consisting of Creatinine, Oxidant, and pH testing. If positive, a confirmation will be performed at an additional charge (CPT code dependent upon drug class)

Reflex Tests
If positive, will reflex to confirmation at an additional charge

Urine

Specimen Volume
40 mL

Minimum Specimen Volume
10 mL

Transport Temperature
Refrigerated

Specimen Stability
7 days

Reasons for Rejection
Preserved samples

Methodology
Screen: Immunoassay; Confirmation: Mass Spectrometry

Days and Times Performed
Daily

Turnaround Time
Screen: 2 days; Confirms: 3 - 5 days

Units of Measure
ng/mL

CPT Code
80307

LOINC Code
5644-0, 45324-1, 60676-4, 10976-9, 19593-3, 3349-8, 19346-6, 3780-4, 3377-9, 11230-0, 11071-8, 3926-3, 3950-3, 19695-6, 3390-2, 15372-6, 3887-7, 3725-9, 19328-4, 60677-2, 12382-8, 3426-4, 3530-3, 3393-6, 3394-4, 3773-9, 50542-0, 3774-7, 3879-4, 3508-9, 3831-5, 3681-4, 9835-0, 10998-3, 11246-6, 19648-5, 2965-2, 2756-5, 2161-8, 58714-7, 59589-2

EMR Interface Order Code
70324

PMP7  Pain Med Profile 7, Urine, w/ Confirmation

Contracted Reference Lab

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

Additional Information
Initial screen of 6-Acetylmorphine, Alcohol Metabolites, Amphetamines, Barbiturates, Benzodiazepines, Marijuana Metabolite, Cocaine Metabolite, Methadone Metabolite, Opiates, Oxycodone drug classes. Specimen validity consisting of Creatinine, Oxidant, and pH testing. If positive, a confirmation will be performed at an additional charge (CPT code dependent upon drug class)

Reflex Tests
If positive, will reflex to confirmation at an additional charge

Urine

Specimen Volume
40 mL

Minimum Specimen Volume
10 mL

Transport Temperature
Refrigerated

Specimen Stability
7 days

Reasons for Rejection
Preserved samples

Methodology
Screen: Immunoassay; Confirmation: Mass Spectrometry

Days and Times Performed
Daily

Turnaround Time
Screen: 2 days; Confirms: 3 - 5 days

Units of Measure
ng/mL

CPT Code
80307

LOINC Code
5644-0, 45324-1, 60676-4, 10976-9, 19593-3, 3349-8, 19346-6, 3780-4, 3377-9, 11230-0, 11071-8, 3926-3, 3950-3, 19695-6, 3390-2, 15372-6, 3887-7, 3725-9, 19328-4, 60677-2, 12382-8, 3426-4, 3530-3, 3393-6, 3394-4, 3773-9, 50542-0, 3774-7, 3879-4, 3508-9, 3831-5, 3681-4, 9835-0, 10998-3, 11246-6, 19648-5, 2965-2, 2756-5, 2161-8, 58714-7, 59589-2

EMR Interface Order Code
70422
**PAIN** Pain Profile, Urine

*Contracted Reference Lab*

**Additional Information**
Includes: Gabapentin, Alcohol Metabolites, Fentanyl, Amphetamines, Barbituates, Cocaine, Methadone, Opiates, Oxycodone, Benzodiazepines, Heroin Metabolite, PCP, Buprenorphine, Tramadol

**Reflex Tests**
If positive, will reflex to confirmations at an additional charge

**Collection Container**
Urine cup or tube

**Specimen Volume**
30 mL

**Minimum Specimen Volume**
7 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Days and Times Performed**
Daily

**Turnaround Time**
1 – 3 days

**CPT Code**
80307

**EMR Interface Order Code**
71012

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

**PANB** Pancreatic Polypeptide, Plasma

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Pancreatic Polypeptide, P

**Useful For**
Detection of pancreatic endocrine tumors

Assessment of vagal nerve function after meal or sham feeding

**Specimen Type**
Plasma EDTA

**Specimen Required**

Collection Container/Tube: Lavender top (EDTA)
Submission Container/Tube: Plastic vial
Specimen Volume: 3 mL

**Collection Instructions:**
1. Fasting (8 hours)
2. Specimen must be kept cold at all times following draw.
3. Refrigerated centrifuge is not required.

**Additional Information:** Include patient's age.

**Specimen Minimum Volume**
0.35 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen</td>
<td>90 days</td>
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**Reference Values**

<table>
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<th>Age Group</th>
<th>Reference Range</th>
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<tbody>
<tr>
<td>0-19 years</td>
<td>Not established</td>
</tr>
<tr>
<td>20-29 years</td>
<td>&lt;228 pg/mL</td>
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<tr>
<td>30-39 years</td>
<td>&lt;249 pg/mL</td>
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<tr>
<td>40-49 years</td>
<td>&lt;270 pg/mL</td>
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<tr>
<td>50-59 years</td>
<td>&lt;291 pg/mL</td>
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<tr>
<td>60-69 years</td>
<td>&lt;312 pg/mL</td>
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<tr>
<td>70-79 years</td>
<td>&lt;332 pg/mL</td>
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<tr>
<td>≥80 years</td>
<td>Not established</td>
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</table>

**Day(s) and Time(s) Performed**
Monday, Wednesday; 2 p.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
83519

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tr>
<td>HPP</td>
<td>Pancreatic Polypeptide, P</td>
<td>2721-9</td>
</tr>
</tbody>
</table>

**Method Name**
Radioimmunoassay (RIA)

**Forms**
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

**PAPY** Papaya IgE

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
68632
Container
Serum gel or red top tube

**PWASP  Paper Wasp IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
68652
Container
Serum gel or red top tube

**PKEETF  Parakeet Feathers IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated
Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days
Methodology
ImmunoCAP
Turnaround Time
3-5 days
CPT Code
86003
EMR Interface Order Code
49305
Container
Serum gel or red top tube

**PAVAL  Paraneoplastic, Autoantibody Evaluation, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Paraneoplastic Autoantibody Eval, S
Useful For
Serological evaluation of patients who present with a subacute neurological disorder of undetermined etiology, especially those with known risk factors for cancer

Directing a focused search for cancer

Investigating neurological symptoms that appear in the course of, or after, cancer therapy, and are not explainable by metastasis

Differentiating autoimmune neuropathies from neurotoxic effects of chemotherapy

Monitoring the immune response of seropositive patients in the course of cancer therapy

Detecting early evidence of cancer recurrence in previously seropositive patients

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
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<tbody>
<tr>
<td>PAINT</td>
<td>Interpretive Comments</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>GANG</td>
<td>AChR Ganglionic Neuronal Ab, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>AMPHS</td>
<td>Amphiphysin Ab, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>AGN1S</td>
<td>Anti-Glial Nuclear Ab, Type 1</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>ANN1S</td>
<td>Anti-Neuronal Nuclear Ab, Type 1</td>
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<td>Yes</td>
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<td>ANN2S</td>
<td>Anti-Neuronal Nuclear Ab, Type 2</td>
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<td>ANN3S</td>
<td>Anti-Neuronal Nuclear Ab, Type 3</td>
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<td>Yes</td>
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<tr>
<td>CRMS</td>
<td>CRMP-5-IgG, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>VGKC</td>
<td>Neuronal (V-G) K+ Channel Ab, S</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>CCN</td>
<td>N-Type Calcium Channel Ab</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>CCPQ</td>
<td>P/Q-Type Calcium Channel Ab</td>
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<td>Yes</td>
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<tr>
<td>PCABP</td>
<td>Purkinje Cell Cytoplasmic Ab Type 1</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>PCAB2</td>
<td>Purkinje Cell Cytoplasmic Ab Type 2</td>
<td>No</td>
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<tr>
<td>PCATR</td>
<td>Purkinje Cell Cytoplasmic Ab Type Tr</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>STR</td>
<td>Striational (Striated Muscle) Ab, S</td>
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<td>Yes</td>
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Reflex Tests

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<tr>
<td>ARBI</td>
<td>ACh Receptor (Muscle) Binding Ab</td>
<td>Yes</td>
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<tr>
<td>ARMO</td>
<td>ACh Receptor (Muscle) Modulating Ab</td>
<td>No</td>
<td>No</td>
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<tr>
<td>AMPCS</td>
<td>AMPA-R Ab CBA, S</td>
<td>No</td>
<td>No</td>
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<tr>
<td>AMPI</td>
<td>AMPA-R Ab IF Titer Assay, S</td>
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<tr>
<td>ABLOT</td>
<td>Amphiphysin Western Blot, S</td>
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<td>CS2CS</td>
<td>CASPR2-IgG CBA, S</td>
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<td>CRMWS</td>
<td>CRMP-5-IgG Western Blot, S</td>
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<td>DPPCS</td>
<td>DPPX Ab CBA, S</td>
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<td>DPPIS</td>
<td>DPPX Ab IFA, S</td>
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<td>GABC</td>
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<td>LG1CS</td>
<td>LG1-IgG CBA, S</td>
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<td>GL1CS</td>
<td>mGluR1 Ab CBA, S</td>
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<td>GL1IS</td>
<td>mGluR1 Ab IFA, S</td>
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<td>GL1TS</td>
<td>mGluR1 Ab IFA Titer, S</td>
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<td>NMDCS</td>
<td>NMDA-R Ab CBA, S</td>
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<td>NMDIS</td>
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<tr>
<td>WBN</td>
<td>Paraneoplastic Autoantibody WBlot, S</td>
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</table>

Testing Algorithm
If immunofluorescence assay (IFA) (ANN1S, ANN2S, PCABP, PCAB2) patterns are indeterminate, then paraneoplastic autoantibody Western blot is performed at an additional charge.

If IFA patterns suggest amphiphysin antibody, then amphiphysin Western blot is performed at an additional charge.

If IFA patterns suggest GAD65 antibody, then GAD65 antibody radioimmunoassay is performed at an additional charge.

If IFA pattern suggest NMDA-R, then NMDA-R antibody cell-binding assay (CBA), and/or NMDA-R antibody titer is performed at an additional charge.

If IFA pattern suggest AMPA-R, then AMPA-R antibody CBA and/or AMPA-R antibody titer is performed at an additional charge.

If IFA pattern suggest GABA-B-R, then GABA-B-R antibody CBA and/or GABA-B-R antibody titer is performed at an additional charge.

If IFA pattern suggest DPPX, then DPPX antibody CBA and DPPX antibody titer is performed at an additional charge.

If IFA pattern suggest mGluR1, then mGluR1 antibody CBA and mGluR1 antibody titer is performed at an additional charge.

If VGKC is >0.00 nmol/L, then LG1-IgG CBA and CASPR2-IgG CBA, S are performed at an additional charge.

If CRMP IFA is positive, then ACh receptor binding antibody, CRMP-5-IgG Western blot, and ACh receptor (muscle) modulating antibody will be performed at an additional charge.
If striational striated muscle antibody is 1:7,680 or greater, then ACh receptor binding antibody, CRMP-5-IgG Western blot, and ACh receptor (muscle) modulating antibody will be performed at an additional charge.

CRMP-5-IgG Western blot is also performed by specific request for more sensitive detection of CRMP-5-IgG. Testing should be requested in cases of subacute basal ganglionic disorders (chorea, Parkinsonism), cranial neuropathies (especially loss of vision, taste, or smell) and myelopathies.

The following algorithms are available in Special Instructions
- Paraneoplastic Evaluation Algorithm
- Hereditary Peripheral Neuropathy Diagnostic Algorithm

Method Name
ANN1S, ANN2S, ANN3S, PCABP, PCAB2, PCATR, AMPHS, CRMS, AGN1S, AMPIS, NMDIS, GABIS, DPPIS, DPPTS, GL1S, GL1TS: Indirect Immunofluorescence Assay (IFA)
STR: Enzyme-Linked Immunosorbent Assay (ELISA)
CCPQ, CCN, ARBI, GANG, VGKC, GD65S: Radioimmunoassay (RIA)
WBN, ABLOT, CRMWS: Western Blot
NMDCS, AMPCS, GABCS, LG1CS, CS2CS, DPPCS, GL1CS: Cell-Binding Assay (CBA)
ARMO: Live Cell Assay (LCA)

Specimen Type
Serum

Necessary Information

Provide the following information:
- Relevant clinical information
- Ordering Provider name, phone number, mailing address, and e-mail address

Specimen Required

Patient Preparation:
1. For optimal antibody detection, specimen collection is recommended prior to initiation of immunosuppressant medication.
2. This test should not be requested in patients who have recently received radioisotopes, therapeutically or diagnostically, because of potential assay interference. The specific waiting period before specimen collection will depend on the isotope administered, the dose given, and the clearance rate in the individual patient. Specimens will be screened for radioactivity prior to analysis. Radioactive specimens received in the laboratory will be held 1 week and assayed if sufficiently decayed, or canceled if radioactivity remains.
3. Patient should have no general anesthetic or muscle-relaxant drugs in the previous 24 hours.

Container/Tube:
Preferred: Red top
Acceptable: Serum gel

Specimen Volume: 4 mL

Specimen Minimum Volume
2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
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<td></td>
<td>Frozen</td>
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<td></td>
<td>Ambient</td>
<td>72 hours</td>
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Reference Values

<table>
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<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Methodology</th>
<th>Reference Value</th>
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<tbody>
<tr>
<td>GANG</td>
<td>AChR Ganglionic Neuronal Ab, S</td>
<td>Radioimmunoassay (RIA)</td>
<td>≤0.02 nmol/L</td>
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<tr>
<td>AMPHS</td>
<td>Amphiphysin Ab, S</td>
<td>Immunofluorescence (IFA)</td>
<td>&lt;1:240</td>
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<tr>
<td>AGN1S</td>
<td>Anti-Glial Nuclear Ab, Type 1</td>
<td>IFA</td>
<td>&lt;1:240</td>
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<tr>
<td>ANN1S</td>
<td>Anti-Neuronal Nuclear Ab, Type 1</td>
<td>IFA</td>
<td>&lt;1:240</td>
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<tr>
<td>ANN2S</td>
<td>Anti-Neuronal Nuclear Ab, Type 2</td>
<td>IFA</td>
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<tr>
<td>ANN3S</td>
<td>Anti-Neuronal Nuclear Ab, Type 3</td>
<td>IFA</td>
<td>&lt;1:240</td>
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<tr>
<td>CRMS</td>
<td>CRMP-5-IgG, S</td>
<td>IFA</td>
<td>&lt;1:240</td>
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<tr>
<td>VGKC</td>
<td>Neuronal (V-G) K+ Channel Ab, S</td>
<td>RIA</td>
<td>≤0.02 nmol/L</td>
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<td>CCN</td>
<td>N-Type Calcium Channel Ab</td>
<td>RIA</td>
<td>≤0.03 nmol/L</td>
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<td>CCPQ</td>
<td>P/Q-Type Calcium Channel Ab</td>
<td>RIA</td>
<td>≤0.02 nmol/L</td>
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<tr>
<td>PCABP</td>
<td>Purkinje Cell Cytoplasmic Ab Type 1</td>
<td>IFA</td>
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<td>PCAB2</td>
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<td>PCATR</td>
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<td>STR</td>
<td>Striational (Striated Muscle) Ab, S</td>
<td>Enzyme-linked immunosorbent assay (ELISA)</td>
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### Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

### CPT Code Information

<table>
<thead>
<tr>
<th>CPT Code Information</th>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>83519x4</td>
<td>83519-ACh receptor (muscle) binding antibody (if appropriate)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>86255x9</td>
<td>84182-Amphiphysin Western blot (if appropriate)</td>
<td></td>
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<tr>
<td>83520</td>
<td>84182-CRMP-5-IgG Western blot (if appropriate)</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>84182-Paraneoplastic autoantibody Western blot confirmation (if appropriate)</td>
<td></td>
<td></td>
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<tr>
<td>86255-AMPCS</td>
<td>86255-AMPCS (if appropriate)</td>
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<td></td>
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<tr>
<td>86255-GABCS</td>
<td>86255-GABCS (if appropriate)</td>
<td></td>
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<tr>
<td>86255-NMDCS</td>
<td>86255-NMDCS (if appropriate)</td>
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</tr>
<tr>
<td>86256-AMPIS</td>
<td>86256-AMPIS (if appropriate)</td>
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<tr>
<td>86256-GABIS</td>
<td>86256-GABIS (if appropriate)</td>
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<tr>
<td>86256-NMDIS</td>
<td>86256-NMDIS (if appropriate)</td>
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<tr>
<td>86256-DPPTS</td>
<td>86256-DPPTS (if appropriate)</td>
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<tr>
<td>86255-GL1CS</td>
<td>86255-GL1CS (if appropriate)</td>
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<tr>
<td>86256-GL1IS</td>
<td>86256-GL1IS (if appropriate)</td>
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<tr>
<td>86256-GL1TS</td>
<td>86256-GL1TS (if appropriate)</td>
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### LOINC Code Information

<table>
<thead>
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<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAVAL</td>
<td>Paraneoplastic Autoantibody Eval, S</td>
<td>In Process</td>
<td></td>
</tr>
</tbody>
</table>

Neuron-restricted patterns of IgG staining that do not fulfill criteria for amphiphysin, ANNA-1, ANNA-2, ANNA-3, AGNA-1, PCA-1, PCA-2, PCA-Tr, or CRMP-5-IgG may be reported as "unclassified antineuronal IgG." Complex patterns that include non-neuronal elements may be reported as "uninterpretable."

Note: Titers lower than 1:240 are detectable by recombinant CRMP-5 Western blot analysis. CRMP-5 Western blot analysis will be done on request on stored serum (held 4 weeks). This supplemental testing is recommended in cases of chorea, vision loss, cranial neuropathy, and myelopathy. Call the Neuroimmunology Laboratory at 800-533-1710 to request CRMP-5 Western blot.

### Day(s) and Time(s) Performed

**ANN1S, ANN2S, ANN3S, PCABP, PCAB2, PCATR, AMPHS, CRMS, AGN1S, DPPTS, DPPIS, GL1S, GL1TS, AMPIS, GABIS, NMDIS:**
Monday through Friday; 5 a.m., 7 a.m., 5 p.m.
Saturday, Sunday; 6 a.m.

**STR:**
Monday through Friday; 4 a.m., 3 p.m.
Saturday, Sunday; 6 a.m.

**ARBI, CCN, CCPFQ, GANG, VGKC:**
Monday through Friday; 6 a.m., 8 a.m., 6 p.m.
Saturday, Sunday; 7 a.m.

**ABLOT, CRMWS, WBN:**
Monday through Thursday; 8 a.m.

**GD65S:**
Monday through Friday; 5 a.m. and 2 p.m.
Saturday, Sunday; 7 a.m.

**ARMO:**
Monday through Thursday; 2 p.m.
Saturday; 8 a.m.

**AMPCS, CS2CS, GABCS, LG1CS, NMDCS:**
Monday through Thursday; 10 p.m.
Sunday; 3 p.m.

**DPPCS, GL1CS:**
Wednesday; 6 p.m.
Reject Due To

<table>
<thead>
<tr>
<th></th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td></td>
</tr>
<tr>
<td>Gross lipemia</td>
<td></td>
</tr>
<tr>
<td>Gross icterus</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions

- Paraneoplastic Evaluation Algorithm
- Hereditary Peripheral Neuropathy Diagnostic Algorithm

Forms

- If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
  - General Request (T239)
  - Neurology Specialty Testing Client Test Request (T732)

**PID Parasite Identification**

Baystate Reference Laboratories

Collection Container

Sealed container

Objects suspected of being parasites such as a worm.

Transport Temperature

Room Temperature

Methodology

Macroscopic examination

Days and Times Performed

Mona-Thursday Day shift only.

Turnaround Time

1 - 3 days

Reference Ranges

Specimen submitted is not a parasite.

LOINC Code

10644-3

EMR Interface Order Code

52400

**PARSER Parasite Serology**

Baystate Reference Laboratories

Additional Information

Reflex Tests

Collection Container

Red

Other Acceptable Specimen Types

Special Handling Instructions

Specimen Volume

1 mL

Minimum Specimen Volume

Transport Temperature

Specimen Stability

Reasons for Rejection

Methodology

Days and Times Performed

Turnaround Time

Reference Ranges

CPT Code

EMR Interface Order Code

52400

**PTHRP Parathyroid Hormone-Related Peptide (PTHrP), Plasma**

Mayo Clinic Laboratories in Rochester

Reporting Name

PTH-Related Peptide

Useful For

As an aid in the evaluation of patients with hypercalcemia of unknown origin

As an aid in the evaluation of patients with suspected humoral hypercalcemia of malignancy

The test should not be used to exclude cancer or screen tumor patients for humoral hypercalcemia of malignancy.

Specimen Type

Plasma EDTA

Specimen Required

Collection Container/Tube: Ice-cooled, lavender top (EDTA)
Submission Container/Tube: Plastic vial
Specimen Volume: 0.7 mL
Collection Instructions: Centrifuge specimen in a refrigerated centrifuge or in chilled centrifuge cups.

Specimen Minimum Volume

0.25 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

≤4.2 pmol/L

Day(s) and Time(s) Performed

Monday through Thursday; 2 p.m.
**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
82397

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>PTHRP</td>
<td>PTH-Related Peptide</td>
<td>15087-0</td>
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</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

**Method Name**
Immunoochemiluminometric Assay (ICMA)

**OMISC  Parathyroid Hormone, Fine-Needle Aspiration Biopsy (FNAB)-Needle Wash**

*Mayo Clinic Laboratories in Rochester*

**Important Note**
MUST BE FROZEN WITHIN 4 HOURS
ALSO CALLED PTS WASHOUT

**Reporting Name**
PTH, FNAB, Needle Wash

**Useful For**
An adjunct to cytology examination of fine-needle aspiration specimens to confirm or exclude presence of parathyroid tissue in the biopsied area

**Specimen Type**
Fine Needle Wash

**Specimen Minimum Volume**
1 to 1.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine Needle Wash</td>
<td>Frozen (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>4 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
An interpretive report will be provided.

**Day(s) and Time(s) Performed**
Monday through Friday, 6 a.m.-9 p.m., Saturday, 6:30 a.m.-1 p.m.

**Test Classification**
This test has been modified from the manufacturer’s instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
83970

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>PTHFN</td>
<td>PTH, FNAB, Needle Wash</td>
<td>88106-0</td>
</tr>
</tbody>
</table>

**Result ID | Test Result Name         | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>81774</td>
<td>PTH-Related Peptide</td>
<td>15087-0</td>
</tr>
</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
</tbody>
</table>

**Shipping Instructions**
Send specimen frozen to Mayo Clinic Laboratories for analysis.

**Necessary Information**
The biopsied site of each specimen must be clearly identified in LIS and/or batch sheet.

**Specimen Required**

**Patient Preparation:**
For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.

**Collection Container/Tube:**
Plain, plastic, screw-top tube

**Specimen Volume:**
1 to 1.5 mL

**Collection Instructions:**
1. Needle wash specimens for analysis should be collected in conjunction with cytology specimens.
2. Have saline available prior to start of procedure. Saline is the only acceptable solution for needle washings.
3. After each fine-needle aspiration biopsy (FNAB) has been collected and the material in the needle has been expelled onto a slide for cytologic analysis, attach the used FNAB needle to an empty syringe.
4. Withdraw between 0.10 mL and 0.25 mL of saline up through the needle until the saline starts to fill the hub of the needle or end of the syringe.
5. Expel this fluid back through the needle into a separate plastic aliquot tube. This is the needle washing used for analysis.
6. Repeat steps 2 through 4 for each needle pass of the same biopsied site and empty into the same tube, accumulating a total of 0.5 mL to 1.5 mL of fluid to send to the laboratory. (If more than 1 site is biopsied, see Additional Information)
7. Inspect specimen for visible blood or tissue contamination:
   - a. If bloody, centrifuge specimen and transfer supernatant to a new plastic aliquot tube (5-mL standard tube) to send to laboratory. The supernatant, not the cellular material, is used for analysis.
   - b. If specimen is clear, centrifugation is not necessary.
8. Refrigerate within 1 to 2 hours of collection and freeze within 2 to 4 hours of collection.

**Additional Information:**
1. If more than 1 site is biopsied, each washing material should be submitted on a separate tube and under a different order number.
2. A minimum of 0.5 mL is required for testing; however, the total collection volume should not exceed 1.5 mL. Sample volumes outside these parameters may be rejected.
3. Do not send saline control. This test has been validated to rule-out saline matrix effect.
### APCA  Parietal Cell Antibody

**LabCorp**

**Collection Container**
- Serum gel
- Serum

**Other Acceptable Specimen Types**
- Red top

**Specimen Volume**
- 1 mL

**Minimum Specimen Volume**
- 0.5 mL

**Transport Temperature**
- Refrigerated

**Specimen Stability**
- 14 days

**Reasons for Rejection**
- Gross hemolysis; Gross lipemia

**Methodology**
- Enzyme linked immunosorbent assay (ELISA)

**CPT Code**
- 83516

**LOINC Code**
- 26969-6

**EMR Interface Order Code**
- 45525

---

### PRAOX  Paroxetine

**LabCorp**

**Additional Information**
- Trough levels are most reproducible

**Collection Container**
- Red
- Serum

**Other Acceptable Specimen Types**
- Heparinized plasma

**Specimen Volume**
- 1 mL

**Minimum Specimen Volume**
- 0.5 mL

**Transport Temperature**
- Refrigerate

**Specimen Stability**
- Room temperature: 3 days, Refrigerated: 2 weeks, Frozen: 6 months

---

### PARSLE  Parsley IgE

**Contracted Reference Lab**

**Collection Container**
- Serum gel or red top tube
- Serum

**Specimen Volume**
- For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
- 0.1 mL

**Transport Temperature**
- Refrigerated

**Specimen Stability**
- Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
- ImmunoCAP

**Turnaround Time**
- 3-5 days

**CPT Code**
- 86003

**EMR Interface Order Code**
- 49055

**Container**
- Serum gel or red top tube

---

### PARPCR  Parvovirus B19, Molecular Detection, PCR, Plasma

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
- Parvovirus B19 PCR, P

**Useful For**
- Diagnosing parvovirus B19 infection in plasma specimens

**Specimen Type**
- Plasma EDTA

**Specimen Required**

**Supplies:** Aliquot Tube, 5 mL (T465)
**Collection Container/Tube:** Lavender top (EDTA)
**Submission Container/Tube:** Aliquot Tube, 5 mL (T465)
**Specimen Volume:** 0.5 mL
Collection Instructions: Spin down and submit plasma in aliquot tube.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
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</tr>
</tbody>
</table>

Reference Values
Not applicable

Day(s) and Time(s) Performed
Monday through Friday; Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
87798

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>PARVP</td>
<td>Parvovirus B19 PCR, P</td>
<td>9571-1</td>
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<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>56075</td>
<td>Parvovirus B19 By Rapid PCR</td>
<td>9571-1</td>
</tr>
<tr>
<td>SS008</td>
<td>Source</td>
<td>31208-2</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis | Reject

Method Name
Real-Time Polymerase Chain Reaction (PCR)/DNA Probe Hybridization

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

PARVFL Parvovirus B19, Molecular Detection, PCR, Varies

Mayo Clinic Laboratories in Rochester

Reporting Name
Parvovirus B19 PCR

Useful For
Diagnosing parvovirus B19 infection

Specimen Type
Varies

Necessary Information
Specimen source is required.

Specimen Required
Submit only 1 of the following specimens:

Preferred:
Specimen Type: Amniotic fluid
Container/Tube: Amniotic fluid container
Specimen Volume: 0.5 mL
Collection Instructions:
1. Do not centrifuge.
2. Label specimen as amniotic fluid.

Specimen Type: Spinal fluid
Container/Tube: Sterile vial
Specimen Volume: 0.5 mL
Collection Instructions:
1. Do not centrifuge.
2. Label specimen as spinal fluid.

Specimen Type: Synovial fluid
Container/Tube: Sterile vial or lavender top (EDTA)
Specimen Volume: 0.5 mL
Collection Instructions: Label specimen as synovial fluid.

Alternate:
Specimen Type: Bone marrow
Container/Tube: Sterile container or lavender top (EDTA)
Specimen Volume: 0.5 mL
Collection Instructions: Label specimen as bone marrow.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
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</table>

Reference Values
Negative

Day(s) and Time(s) Performed
Monday through Friday; Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
87798

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>PARVO</td>
<td>Parvovirus B19 PCR</td>
<td>9571-1</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>83151</td>
<td>Parvovirus B19 By Rapid PCR</td>
<td>9571-1</td>
</tr>
<tr>
<td>SRC73</td>
<td>Source</td>
<td>31208-2</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.
**Method Name**
Real-Time Polymerase Chain Reaction (PCR)/DNA Probe Hybridization

**Forms**
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

---

**QSPHEN  PCP with Conf, Oral Fluid**

*Contracted Reference Lab*

**Reflex Tests**
If positive, will reflex to confirmations at an additional charge

**Collection Container**
Oral-Eze container

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 72 hr Refrigerated: 7 days Frozen: 30 days with swab removed

**Reasons for Rejection**
Not submitted in Oral-Eze device, no swab (unless frozen)

**Days and Times Performed**
Daily

**Turnaround Time**
4 days

**CPT Code**
80307

**EMR Interface Order Code**
71098

---

**PNUT  Peanut IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49060

**Container**
Serum gel or red top tube

---

**PEANT  Peanut, IgE with Reflex to Peanut Components, IgE, Serum**

*Mayo Clinic Laboratories in Rochester*

**Secondary ID**
64756

**Useful For**
Evaluation of patients with suspected peanut allergy
Evaluation of patients with possible peanut cross-reactivity
Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
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</thead>
<tbody>
<tr>
<td>PNTCO</td>
<td>Peanut Components, S</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm
Testing begins with analysis of peanut IgE. If peanut IgE is undetectable (<0.10 kU/L), testing is completed. If peanut IgE is detectable (≥0.10 kU/L), then the 5 peanut components (Ara h 2, Ara h 1, Ara h 3, Ara h 8, and Ara h 9) are performed at an additional charge.

Method Name
Fluorescent Enzyme Immunoassay (FEIA)

Reporting Name
Peanut Component Reflex, S

Specimen Type
Serum

Specimen Required

<table>
<thead>
<tr>
<th>Container/Tube:</th>
<th>Preferred:</th>
<th>Acceptable:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Red top</td>
<td>Serum gel</td>
</tr>
</tbody>
</table>

Specimen Volume: 1.5 mL

Additional Information: See Allergens â€“ Immunoglobulin E (IgE) Antibodies in Special Instructions.

Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
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<tr>
<td></td>
<td>Frozen</td>
<td>90 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

| Gross hemolysis | OK |
| Gross lipemia   | OK |

Reference Values

<table>
<thead>
<tr>
<th>Class</th>
<th>IgE kU/L</th>
<th>Interpretation</th>
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<tbody>
<tr>
<td>0</td>
<td>&lt;0.10</td>
<td>Negative</td>
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<tr>
<td>0/1</td>
<td>0.10-0.34</td>
<td>Borderline / Equivocal</td>
</tr>
<tr>
<td>1</td>
<td>0.35-0.69</td>
<td>Equivocal</td>
</tr>
<tr>
<td>2</td>
<td>0.70-3.49</td>
<td>Positive</td>
</tr>
<tr>
<td>3</td>
<td>3.50-17.4</td>
<td>Positive</td>
</tr>
<tr>
<td>4</td>
<td>17.5-49.9</td>
<td>Strongly positive</td>
</tr>
<tr>
<td>5</td>
<td>50.0-99.9</td>
<td>Strongly positive</td>
</tr>
<tr>
<td>6</td>
<td>≥100</td>
<td>Strongly positive</td>
</tr>
</tbody>
</table>

Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Friday; 9 a.m.-8 p.m., Saturday; 8 a.m.-3 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86003

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>PEANT</td>
<td>Peanut Component Reflex, S</td>
<td>6206-7</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNUT</td>
<td>Peanut, IgE, S</td>
<td>6206-7</td>
</tr>
</tbody>
</table>

Forms
If not ordering electronically, complete, print, and send an Allergen Test Request (T236) with the specimen.

Special Instructions
- Allergens - Immunoglobulin E (IgE) Antibodies

PEAR  Pear IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49635

Container
Serum gel or red top tube

GRNPEA  Peas IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL
**PECAN  Pecan Nut IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49065

**Container**
Serum gel or red top tube

---

**PENG  Penicillin G (Drug) IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49080

**Container**
Serum gel or red top tube

---

**PENCIL  Penicillin notatum (Mold) IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL
Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49085

Container
Serum gel or red top tube

PENV  Penicillin V (Drug) IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
47090

Container
Serum gel or red top tube

PNTBRB  Pentobarbital, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 08250

Reporting Name
Pentobarbital, S

Useful For
Monitoring of pentobarbital therapy treatment

Specimen Type
Serum Red

Specimen Required

Collection Container/Tube: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1.2 mL

Collection Instructions:
1. Draw blood immediately before next scheduled dose.
2. Within 2 hours of collection, the specimen must be centrifuged and the serum aliquoted into a plastic vial.

Specimen Minimum Volume
0.7 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

Therapeutic range
Hypnotic: 1-5 mcg/mL
Therapeutic coma: 20-50 mcg/mL
Reducing intracranial pressure: 30-40 mcg/mL
This degree of sedation requires artificial respiratory support.
Toxic concentration: >10 mcg/mL

Day(s) and Time(s) Performed
Wednesday; 12 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80345
G0480 (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PENTS</td>
<td>Pentobarbital, S</td>
<td>3924-8</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8239</td>
<td>Pentobarbital, S</td>
<td>3924-8</td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

Method Name
Gas Chromatography-Mass Spectrometry (GC-MS)

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.
PEP  Pepsinogen I

Inter Science Institute

Additional Test Codes
EMR Interface Order Code: 08275

Reporting Name
Pepsinogen I

Specimen Type
Serum

Specimen Required

Patient preparation:
Patient should be fasting 10-12 hours prior to collection of specimen. Antacids or other medications affecting stomach acidity or gastrointestinal motility should be discontinued, if possible, for at least 48 hours prior to collection.

Specimen Type: Serum
Container/Tube: Red top or SST
Specimen Volume: 3 mL
Collection Instructions: Draw blood in a plain, red-top tube(s), serum-gel tube(s) is acceptable. Separate immediately and send 3 mL of serum frozen in a plastic vial.

Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
28 - 100 ng/mL
(mean 40)

Day(s) and Time(s) Performed
Monday through Friday

Test Classification
This test was performed using a kit that has not been cleared or approved by the FDA and is designated as research use only. The analytic performance characteristics of this test have been determined by Inter Science Institute. This test is not intended for diagnosis or patient management decisions without confirmation by other medically established means.

CPT Code Information
83520

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPEPS</td>
<td>Pepsinogen I</td>
<td>2736-7</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
----------|------------------|--------------------|
20941     | Pepsinogen I     | 2736-7             |

Reject Due To
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>Mild reject; Gross reject</td>
</tr>
<tr>
<td>Lipemia</td>
<td>Mild reject; Gross reject</td>
</tr>
<tr>
<td>Icterus</td>
<td>Mild reject; Gross reject</td>
</tr>
<tr>
<td>Other</td>
<td>Specimens other than Serum or Plasma EDTA. Test is strict frozen.</td>
</tr>
</tbody>
</table>

Method Name
Enzyme Immunoassay (EIA)

RYEGR  Perennial Rye Grass IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49170

Container
Serum gel or red top tube

PBR  Peripheral Blood Review

Baystate Reference Laboratories

Additional Information
A CBC/CBCD must be ordered in conjunction with this test. Reason for review must be indicated upon request.

Collection Container
Lavender (EDTA)
EDTA whole blood

Special Handling Instructions
A CBC/CBCD must be ordered in conjunction with this test. Reason for review must be indicated upon request.

Specimen Volume
1 mL

Minimum Specimen Volume
1 mL
Transport Temperature
Refrigerated

Specimen Stability
Refrigerated up to 24 hours

Reasons for Rejection
Insufficient sample, >24 hours old.

Days and Times Performed
Monday-Friday, 9 AM-5 PM

Turnaround Time
1-5 Days

LOINC Code
14869-2

EMR Interface Order Code
32315

PERPNZ  Perphenazine, (Trilafon), Serum

Medtox Laboratories, Inc.

Reporting Name
Perphenazine (Trilafon)

Specimen Type
Varies

Specimen Required
Submit only 1 of the following specimens

Plasma
Draw blood in a green-top (sodium heparin) tube(s). Plasma gel tube is not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in amber vial (T192) to protect from light.

Serum
Draw blood in a plain, red-top tube(s). Serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in amber vial (T192) to protect from light.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td>LIGHT PROTECTED</td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>180 days</td>
<td>LIGHT PROTECTED</td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>72 hours</td>
<td>LIGHT PROTECTED</td>
</tr>
</tbody>
</table>

Reject Due To

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

Reference Values
Reference Range: 5.0 - 30.0 ng/mL

Low-dose therapeutic range for Perphenazine: 0.5 - 2.5 ng/mL

Day(s) and Time(s) Performed
Monday through Friday

CPT Code Information
80342

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNZN</td>
<td>Perphenazine (Trilafon)</td>
<td>3927-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1052</td>
<td>Perphenazine</td>
<td>3927-1</td>
</tr>
</tbody>
</table>

Method Name
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

PH  pH, Blood

Baystate Reference Laboratories

Collection Container
Syringe
Blood

Other Acceptable Specimen Types
Heparinized plasma

Specimen Volume
1 mL

Transport Temperature
Refrigerate

Methodology
Ion-selective electrode (ISE)

Days and Times Performed
Test performed daily

Turnaround Time
10 minutes for stats

Reference Ranges
7.36-7.44

Critical Results
<7.25 or >7.60

CPT Code
82800

EMR Interface Order Code
08350

FPH  pH, Fluid

Baystate Reference Laboratories

Collection Container
Fluid

Identify Source of Body Fluid

Specimen Volume
5 mL
Minimum Specimen Volume
1 mL

Transport Temperature
On ice

Reasons for Rejection
Testing delayed greater than 4 hours

Methodology
Ion-selective electrode (ISE)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

CPT Code
83986

EMR Interface Order Code
08365

PHGAST  pH, Gastric

Baystate Reference Laboratories

Collection Container
Gastric
Gastric contents

Specimen Volume
5 mL

Minimum Specimen Volume
1 mL

Transport Temperature
On ice

Reasons for Rejection
Testing delayed greater than 4 hours

Methodology
Ion-selective electrode (ISE)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

CPT Code
83986

EMR Interface Order Code
08365

UPH  pH, Urine

Baystate Reference Laboratories

Collection Container
Tiger Top tube, yellow to tube, urine cup
Urine

Specimen Volume
8 mL

Minimum Specimen Volume
3 mL

Transport Temperature
Tiger Top Tube: Room temperature, Yellow top tube, urine cup: refrigerated

Specimen Stability
24 hrs

Reasons for Rejection
Specimen frozen, >24 hours old, fecal contamination, grossly bloody urine, <3.0 mL

Methodology
IQ200

Days and Times Performed
24 hours a day, 7 days a week

Turnaround Time
Daily

Reference Ranges
5.0 - 8.0

CPT Code
81003

LOINC Code
5803-2

EMR Interface Order Code
64175

VPH  pH, Venous Blood

Baystate Reference Laboratories

Additional Information
To insure sample is not over heparinized the vacutainer should be full

Collection Container
Green
Whole Blood

Special Handling Instructions
Place sample on ice if testing is not performed within 20 minutes.

Specimen Volume
3 mL

Transport Temperature
On ice

Methodology
Ion-selective electrode (ISE)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
7.33 - 7.43

CPT Code
82800

EMR Interface Order Code
08360
**PCP  Phencyclidine (PCP), Confirmation, Serum**

*Medtox Laboratories, Inc.*

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

**Additional Test Codes**
EMR Interface Order Code: 08400

**Reporting Name**
Phencyclidine (PCP), Serum

**Specimen Type**
Varies

**Specimen Required**
Submit only 1 of the following specimens:

**Serum**
Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 5 mL of serum refrigerated in a plastic vial.

**Plasma**
Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 5 mL sodium heparin plasma refrigerated in a plastic vial.

**Specimen Minimum Volume**
2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>NA</td>
</tr>
<tr>
<td>Lipemia</td>
<td>NA</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Reference Values**

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxic</td>
<td>Greater than 100 ng/mL</td>
</tr>
<tr>
<td>Serious Toxicities likely</td>
<td>Greater than 300 ng/mL</td>
</tr>
</tbody>
</table>

**Day(s) and Time(s) Performed**
Monday through Sunday

**CPT Code Information**
83992

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCPUG</td>
<td>Phencyclidine (PCP), Serum</td>
<td>3934-7</td>
</tr>
</tbody>
</table>

**Result ID | Test Result Name | Result LOINC Value**

| Z1051 | Phencyclidine | 3934-7 |

**Method Name**
Gas Chromatography-Mass Spectrometry (GC-MS)

**QPHEN  Phencyclidine, Qnt, Urine**

*Contracted Reference Lab*

**Collection Container**
Urine cup or tube
Urine

**Specimen Volume**
20 mL

**Minimum Specimen Volume**
5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Days and Times Performed**
Daily

**Turnaround Time**
1 – 3 days

**CPT Code**
83992/G0480

**EMR Interface Order Code**
70865

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

**UPCP  Phencyclidine, Urine, Screen**

*Baystate Reference Laboratories*

**Collection Container**
Urine
Random Urine

**Specimen Volume**
20 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days

**Methodology**
Kinetic interaction of microparticles in a solution (KIMS)
UPCPZ  Phencyclidine, Urine, Screen with Confirmation
Baystate Reference Laboratories

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

Additional Information
This will reflex to a confirmation if screen is positive. The following drugs may cause a false positive urine PCP screen result: bupropion, chlorprothixene, clonidine, dextromethorphan, lorazepam, orphenadrine, promethazine, ofloxacin, methadone, EDDP, EMDP

Collection Container
Urine
Random Urine

Specimen Volume
20 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 2-5 days, Refrigerated: 2-5 days

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
None detected

CPT Code
80307

LOINC Code
19660-0

EMR Interface Order Code
11520

PBARB  Phenobarbital
Baystate Reference Laboratories

Collection Container
Serum gel
Serum, Li or Na Heparin also acceptable.

Other Acceptable Specimen Types
Heparinized plasma

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 7 days, Refrigerated: 7 days, Frozen: 1 year

Methodology
Kinetic interaction of microparticles in a solution (KIMS)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges
15.0 - 40.0 mg/L

Critical Results
Outpatient: >50 mg/L, Inpatients: >55 mg/L

Units of Measure
mg/L

CPT Code
80184

EMR Interface Order Code
08425

DILFR  Phenytoin, Free, Serum
Mayo Clinic Laboratories in Rochester

Useful For
Monitoring for appropriate therapeutic concentration of free phenytoin: free phenytoin level is the best indicator of adequate therapy in renal failure

Assessing compliance and toxicity

Method Name
Membrane Separation/Kinetic interaction microparticles in solution (KIMS)

Reporting Name
Phenytoin, Free, S

Specimen Type
Serum Red
**Specimen Required**

**Container/Tube:** Red top  
**Specimen Volume:** 2 mL  
**Collection Instructions:** Red-top tubes should be centrifuged and aliquoted within 2 hours of collection.

**Specimen Minimum Volume**  
1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

Gross hemolysis | Reject

**Reference Values**

Therapeutic: 1.0-2.0 mcg/mL  
Critical value: ≥2.5 mcg/mL

**Day(s) and Time(s) Performed**

Monday through Sunday; Continuously

**Test Classification**

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNYF</td>
<td>Phenytoin, Free, S</td>
<td>3969-3</td>
</tr>
</tbody>
</table>

**CPT Code Information**

80186

**Forms**

If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

---

**PHMA  Phoma Betae IgE**

**Contracted Reference Lab**

**Collection Container**

Serum gel or red top tube  
Serum

**Specimen Volume**

For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**  
0.1 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

---

**Methodology**

ImmunoCAP

**Turnaround Time**

3-5 days

**CPT Code**

86003

**EMR Interface Order Code**

68636

**Container**

Serum gel or red top tube

**PHOTSE  Phosphatidylserine/Prothrombin Antibody, IgG and IgM, Serum**

**Mayo Clinic Laboratories in Rochester**

**Additional Test Codes**

EMR Interface Order Code: 00315

**Useful For**

Second-tier evaluation of patients with suspected antiphospholipid syndrome

Evaluation of patients with a strong suspicion of antiphospholipid syndrome for whom anticardiolipin/beta 2-glycoprotein I and anti-beta 2-glycoprotein I antibody testing was negative

Evaluation of patients with evidence of a functional lupus anticoagulant

Detection of both IgM and IgG antibodies against phosphatidylserine/prothrombin

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
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</thead>
<tbody>
<tr>
<td>PSPTG</td>
<td>PS/PT Ab, IgG, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>PSPTM</td>
<td>PS/PT Ab, IgM, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Method Name**

Enzyme-Linked Immunosorbent Assay (ELISA)

**Reporting Name**

PS/PT Ab, IgG/IgM, S

**Specimen Type**

Serum

**Advisory Information**

Cardiolipin and beta-2 glycoprotein testing are the first-tier test options for most patients. Phosphatidylserine/prothrombin antibodies are considered part of the second-tier workup.

---

**Specimen Required**

**Container/Tube:**  
**Preferred:** Serum gel  
**Acceptable:** Red top

**Specimen Volume:** 0.5 mL

**Collection Information:** Centrifuge and aliquot serum.

**Specimen Minimum Volume**  
0.4 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: OK

Reference Values

- Negative: ≤30.0 U
- Borderline: 30.1-40.0 U
- Positive: ≥40.1 U

Day(s) and Time(s) Performed

- Tuesday; Evening

CPT Code Information

- 86148 x 2

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSPT</td>
<td>PS/PT Ab, IgG/IgM, S</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSPTM</td>
<td>PS/PT Ab, IgM, S</td>
<td>85358-0</td>
</tr>
<tr>
<td>PSPTG</td>
<td>PS/PT Ab, IgG, S</td>
<td>85359-8</td>
</tr>
</tbody>
</table>

Test Classification

- This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

Secondary ID

- 64704

PLA2R  Phospholipase A2 Receptor Antibodies, Serum

Mayo Clinic Laboratories in Rochester

Useful For

- Distinguishing primary from secondary membranous nephropathy

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCOPE</td>
<td>Phospholipase A2 Receptor IFA, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>EURO</td>
<td>Phospholipase A2 Receptor ELISA, S</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Method Name

- EURO: Enzyme-Linked Immunosorbent Assay (ELISA)
- SCOPE: Indirect Immunofluorescence Assay (IFA)

Reporting Name

- Phospholipase A2 Receptor AB, S

Specimen Required

- Collection Container/Tube: Serum gel
- Specimen Volume: 1 mL

Specimen Minimum Volume

- 0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum SST</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>8 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: OK

Reference Values

- ELISA:
  - Negative: <14 RU/mL
  - Borderline: ≥14-<20 RU/mL
  - Positive: ≥20 RU/mL

- IFA: Negative

Day(s) and Time(s) Performed

- Monday, Wednesday, Friday

Test Classification

- This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions.
- Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

- EURO-83520
- SCOPE-86255

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLA2R</td>
<td>Phospholipase A2 Receptor AB, S</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EURO</td>
<td>Phospholipase A2 Receptor ELISA, S</td>
<td>73737-9</td>
</tr>
<tr>
<td>SCOPE</td>
<td>Phospholipase A2 Receptor IFA, S</td>
<td>81201-6</td>
</tr>
</tbody>
</table>

Forms

- If not ordering electronically, complete, print, and send a Renal Diagnostics Test Request (T830) with the specimen.

CARDGM  Phospholipid (Cardiolipin) Antibodies, IgG and IgM, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name

- Phospholip Ab (Cardiolip) IgG/IgM

Useful For

- Testing for phospholipid antibodies is indicated in the following clinical situations:
  - Unexplained arterial or venous thrombosis
  - A history of pregnancy morbidity defined as 1 or more unexplained deaths of a morphologically normal fetus beyond the 10th week of gestation, 1 or more premature births before 34 weeks of gestation...
caused by severe preeclampsia or placental insufficiency, or 3 or more unexplained, consecutive spontaneous abortions before the 10th week of gestation with no identifiable maternal hormonal or anatomic, or maternal or paternal chromosomal causes
- Presence of an unexplained cutaneous circulatory disturbance, eg, livido reticularis or pyoderma gangrenosum
- Presence of a systemic rheumatic disease especially lupus erythematosus
- Unexplained thrombocytopenia or hemolytic anemia
- Possible nonbacterial, thrombotic endocarditis

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCLIP</td>
<td>Phospholipid Ab IgM, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>GCLIP</td>
<td>Phospholipid Ab IgG, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Specimen Type

Serum

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL

Specimen Minimum Volume

0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

<15.0 MPL or GPL (negative)
15.0-39.9 MPL or GPL (weakly positive)
40.0-79.9 MPL or GPL (positive)
≥80.0 MPL or GPL (strongly positive)

MPL refers to IgM Phospholipid Units. One MPL unit is 1 microgram of IgM antibody.
GPL refers to IgG Phospholipid Units. One GPL unit is 1 microgram of IgG antibody.
Reference values apply to all ages.

Test Classification

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

86147 x 2

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLPMG</td>
<td>Phospholipid Ab (Cardiolip) IgM/IgG</td>
<td>24319-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCLIP</td>
<td>Phospholipid Ab IgG, S</td>
<td>3181-5</td>
</tr>
<tr>
<td>MCLIP</td>
<td>Phospholipid Ab IgM, S</td>
<td>3182-3</td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

Method Name

Enzyme-Linked Immunosorbent Assay (ELISA)

Forms

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Coagulation Test Request (T753)
- Renal Diagnostics Test Request (T830)

Secondary ID

82976

Day(s) and Time(s) Performed

Monday through Saturday; 4 p.m.

IP Phosphorus

Baystate Reference Laboratories

Collection Container

Serum gel

Serum, heparin or edta plasma acceptable

Specimen Volume

1 mL

Minimum Specimen Volume

0.1 mL

Transport Temperature

Refrigerate

Specimen Stability

Refrigerated: 7 days

Reasons for Rejection

Serum/plasma not separated from cells within 3 hours of collection

Methodology

Spectrophotometric UV ammonium molybdate

Days and Times Performed

Test performed daily

Turnaround Time

24 hours for routine, 1 hour for stats

Reference Ranges

Male and Female: 2.5-4.5 mg/dL

Critical Results

Critical results: <1.2 mg/dL or >15 mg/dL

Units of Measure

mg/dL

CPT Code

84100

EMR Interface Order Code

08550
### FIP  Phosphorus, Fluid

**Baystate Reference Laboratories**

**Additional Information**
Manitol may falsely increase result

**Collection Container**
Fluid
Identify source of body fluid

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Methodology**
Spectrophotometric UV ammonium molybdate

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Units of Measure**
mg/dL

**CPT Code**
84105

**LOINC Code**
2778-9

**EMR Interface Order Code**
08570

### UIPQ  Phosphorus, Urine, Quantitative

**Baystate Reference Laboratories**

**Additional Information**
Adjust pH to 1-3 with 6N HCL

**Collection Container**
Jug
24 Hour urine

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Methodology**
Spectrophotometric UV ammonium molybdate

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
0.4 - 1.3 gm/24 Hr

**Units of Measure**
gm/24Hr

**CPT Code**
84105

**LOINC Code**
2778-9

**EMR Interface Order Code**
08560

### PHYT  Phytanic Acid

**Kennedy Institute For Handicapped Children**

**Collection Container**
Lavender (EDTA)
Whole Blood

**Special Handling Instructions**
Sample should preferably be collected Monday - Thursday and arrive in the chemistry lab by 2:00 pm.

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
1 mL
<table>
<thead>
<tr>
<th><strong>Transport Temperature</strong></th>
<th><strong>Turnaround Time</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Room temperature</td>
<td>3-5 days</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Specimen Stability</strong></th>
<th><strong>CPT Code</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Room temperature: 2 days</td>
<td>86003</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>CPT Code</strong></th>
<th><strong>EMR Interface Order Code</strong></th>
<th><strong>Container</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>82726</td>
<td>08600</td>
<td>Serum gel or red top tube</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>PIN</strong> Pine Nut IgE</th>
<th><strong>PWORM</strong> Pinworm Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contracted Reference Lab</strong></td>
<td><strong>Baystate Reference Laboratories</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td><strong>Collection Container</strong></td>
</tr>
<tr>
<td>Serum gel or red top tube</td>
<td>Sealed container, pinworm paddle, cellulose tape prep</td>
</tr>
<tr>
<td>Serum</td>
<td>Specimen collected from perianal region</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Specimen Volume</strong></th>
<th><strong>Minimum Specimen Volume</strong></th>
<th><strong>Transport Temperature</strong></th>
<th><strong>Specimen Stability</strong></th>
<th><strong>Methodology</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL</td>
<td>0.1 mL</td>
<td>Refrigerated</td>
<td>Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days</td>
<td>ImmunoCAP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Turnaround Time</strong></th>
<th><strong>CPT Code</strong></th>
<th><strong>EMR Interface Order Code</strong></th>
<th><strong>Container</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5 days</td>
<td>86003</td>
<td>00495</td>
<td>Serum gel or red top tube</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>PINAPL</strong> Pineapple IgE</th>
<th><strong>PIPA</strong> Pipecolic Acid, Serum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contracted Reference Lab</strong></td>
<td><strong>Mayo Clinic Laboratories in Rochester</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td><strong>Reporting Name</strong></td>
</tr>
<tr>
<td>Serum gel or red top tube</td>
<td>Pipecolic Acid, S</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Specimen Volume</strong></th>
<th><strong>Minimum Specimen Volume</strong></th>
<th><strong>Transport Temperature</strong></th>
<th><strong>Specimen Stability</strong></th>
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</tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Turnaround Time</strong></th>
<th><strong>CPT Code</strong></th>
<th><strong>LOINC Code</strong></th>
<th><strong>EMR Interface Order Code</strong></th>
<th><strong>Reporting Name</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 3 days</td>
<td>675-9</td>
<td>54250</td>
<td>67610</td>
<td>Pipecolic Acid, Serum</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Reasons for Rejection</strong></th>
<th><strong>Days and Times Performed</strong></th>
<th><strong>Reference Ranges</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Frosted tape used to collect specimen. Stool specimen submitted.</td>
<td>Monday - Friday, Day shift only</td>
<td>No pinworm observed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Special Handling Instructions</strong></th>
<th><strong>Methodology</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>If cellulose tape is used, the tape must be clear. Frosted tape will be rejected.</td>
<td>Macroscopic examination</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Methodology</strong></th>
<th><strong>Days and Times Performed</strong></th>
<th><strong>Reference Ranges</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Macroscopic examination</td>
<td>Monday - Friday, Day shift only</td>
<td>No pinworm observed</td>
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</tbody>
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<tr>
<th><strong>Methodology</strong></th>
<th><strong>Reasons for Rejection</strong></th>
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</thead>
<tbody>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Methodology</strong></th>
<th><strong>Days and Times Performed</strong></th>
<th><strong>Reference Ranges</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Macroscopic examination</td>
<td>Monday - Friday, Day shift only</td>
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<table>
<thead>
<tr>
<th><strong>Special Handling Instructions</strong></th>
<th><strong>Methodology</strong></th>
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<tbody>
<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Methodology</strong></th>
<th><strong>Reasons for Rejection</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Macroscopic examination</td>
<td>Frosted tape used to collect specimen. Stool specimen submitted.</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Methodology</strong></th>
<th><strong>Reasons for Rejection</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Macroscopic examination</td>
<td>Frosted tape used to collect specimen. Stool specimen submitted.</td>
</tr>
</tbody>
</table>
### Necessary Information

Patient's age is required.

### Specimen Required

**Patient Preparation:** Fasting 12 hours or more. (Draw infants and small children just before next feeding)

**Collection Container/Tube:** Preferred: Red top

**Acceptable:** Serum gel

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 1.5 mL

**Collection Instructions:** Spin down within 45 minutes of draw.

### Specimen Minimum Volume

1 mL

### Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>94 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

### Special Instructions

- Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm

### Reference Values

- **Serum**
  - ≤31 days: ≤223.8 nmol/mg creatinine
  - 32 days-5 months: ≤123.1 nmol/mg creatinine
  - 6 months-11 months: ≤45.0 nmol/mg creatinine
  - ≥1 year: ≤5.7 nmol/mg creatinine

### Day(s) and Time(s) Performed

Thursday; 8 a.m.

### Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

### CPT Code Information

- **82542**

### LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIPA</td>
<td>Pipecolic Acid, S</td>
<td>32334-5</td>
</tr>
<tr>
<td></td>
<td>Pipecolic Acid, U</td>
<td>33659-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>81326</td>
<td>Pipecolic Acid, S</td>
<td>32334-5</td>
</tr>
<tr>
<td>29962</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
<tr>
<td>29964</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

### Reject Due To

- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

### Method Name

Gas Chromatography-Mass Spectrometry (GC-MS)

### Testing Algorithm

See Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm in Special Instruction.
RESULT

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>81248</td>
<td>Pipecolic Acid, U</td>
<td>33659-4</td>
</tr>
<tr>
<td>29952</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
<tr>
<td>29954</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Gas Chromatography-Mass Spectrometry (GC-MS)

Testing Algorithm
See Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm in Special Instruction.

Forms
If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

PISTAC  Pistachio Nut IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49685

Container
Serum gel or red top tube

PLFHGB  Plasma Hemoglobin, Plasma

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 07310

Reporting Name
Plasma Hemoglobin, P

Useful For
Determining whether hemolysis is occurring such as from:

-Transfusion reaction
-Mechanical fragmentation of red blood cells
-Relative comparison to baseline levels in extracorporeal membrane oxygenation (ECMO) and centrifugal ventricular assist device (cVAD) patients to assess pump disruption

Specimen Type
Plasma EDTA

Specimen Required

Container/Tube: Lavender top (EDTA)
Specimen Volume: 2 mL

Collection Instructions:
1. Spin down and transfer plasma to an aliquot tube within 2 hours of draw.
2. IMPORTANT-Results could be falsely elevated due to artifactual postdraw RBC lysis, if not spun down within 2 hours.

Specimen Minimum Volume
1.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>4 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

TOTAL HEMOGLOBIN
≥12 months: 0.0-15.2 mg/dL
Reference values have not been established for patients who are <12 months of age.

OXYHEMOGLOBIN
≥12 months: 0.0-12.4 mg/dL
Reference values have not been established for patients who are <12 months of age.

Day(s) and Time(s) Performed
Monday through Sunday

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83051

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLHBB</td>
<td>Plasma Hemoglobin, P</td>
<td>87433-9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>31970</td>
<td>Total Hemoglobin</td>
<td>721-1</td>
</tr>
<tr>
<td>31971</td>
<td>Oxyhemoglobin</td>
<td>87437-0</td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis  OK
Gross lipemia  OK

Method Name
Spectrophotometry (SP)
Forms
If not ordering electronically, complete, print, and send a Benign Hematology Test Request Form (T755) with the specimen.

---

**PLASMO**  Plasmalogen, RBC

*Kennedy Institute For Handicapped Children*

**Collection Container**
Lavender (EDTA)
EDTA Whole Blood

**Special Handling Instructions**
Sample should preferably be collected Monday - Thursday and arrive in the chemistry lab by 2:00 pm.

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Room temperature

**Specimen Stability**
Room temperature: 4 days, Refrigerated: 4 days

**Turnaround Time**
2 - 3 weeks

**CPT Code**
85420

**EMR Interface Order Code**
32775

---

**PLAIA**  Plasminogen Activator Inhibitor

*LabCorp*

**Collection Container**
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Special Handling Instructions**
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**
Platelet poor plasma: 2.0 mL, Whole blood: 2.7 mL

**Minimum Specimen Volume**
Platelet poor plasma: 1.0 mL, Whole blood: 2.7 mL

**Transport Temperature**
Platelet poor plasma: frozen, Whole blood: ambient temperature

**Specimen Stability**
Whole blood: 4 hours

**Reasons for Rejection**
Hemolyzed, clotted, Whole blood >4 hours old

**Methodology**
ELISA

**Days and Times Performed**
Test sent to reference lab Monday - Saturday

**Turnaround Time**
2 - 10 Days

**Reference Ranges**
Reported with result

**CPT Code**
85415

**EMR Interface Order Code**
33220

---

**PLTAGR**  Platelet Aggregation

*Baystate Reference Laboratories*

**Additional Information**
Preparation: For 10 days prior to testing, drugs that inhibit platelet aggregation are contraindicated (ie: acetylsalicylic acid, antihistamines, chlor Diazepoxide, clofibrate, cocaine, corticosteroids, diazepam, dipyridamole, furosemide, gentamicin, ibuprofen, indomethacin,
marijuana, phenothiazines, phenylbutazone, propranolol, pyrimidine, sulfipyrazone, theophylline, tricyclic antidepressants). Any caffeine containing products must not be consumed the day of test.

**Collection Container**
Light Blue
Sodium Citrate whole blood

**Special Handling Instructions**
By appointment only. Physicians' office should call Hematology Laboratory at 413-794-4555 to schedule. Patients must be drawn at the MOB draw station on the BMC Campus. Specimens must be received in the lab by 1200 pm.

**Specimen Volume**
Whole blood: 10.8 mL

**Minimum Specimen Volume**
Whole blood: 8.1 mL

**Transport Temperature**
Ambient temperature

**Specimen Stability**
Whole blood: 4 hours

**Reasons for Rejection**
Specimen clotted, hemolyzed, or grossly lipemic; platelet count <100,000/mm3; patient receiving therapy with drugs particularly aspirin, antihistamines, anti-inflammatory drugs, psychotropic drugs, some antibiotics, and many others

**Methodology**
Aggregometry

**Days and Times Performed**
Monday - Friday, 9am - 12pm

**Turnaround Time**
2 - 5 Days

**Units of Measure**
%

**CPT Code**
85576

**LOINC Code**
50945-5

**EMR Interface Order Code**
32850

**PLT Platelet Count**

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 3 days</td>
<td>164 - 351</td>
<td>234 - 346</td>
<td>K/mm3</td>
</tr>
<tr>
<td>4 - 7 Days</td>
<td>220 - 411</td>
<td>126 - 462</td>
<td>K/mm3</td>
</tr>
<tr>
<td>8 - 14 Days</td>
<td>226 - 587</td>
<td>265 - 557</td>
<td>K/mm3</td>
</tr>
<tr>
<td>15 - 30 Days</td>
<td>210 - 493</td>
<td>236 - 554</td>
<td>K/mm3</td>
</tr>
<tr>
<td>31 - 60 Days</td>
<td>275 - 567</td>
<td>295 - 615</td>
<td>K/mm3</td>
</tr>
<tr>
<td>61 - 180 Days</td>
<td>275 - 566</td>
<td>288 - 598</td>
<td>K/mm3</td>
</tr>
<tr>
<td>0.5 to &lt;2 Days</td>
<td>219 - 452</td>
<td>229 - 465</td>
<td>K/mm3</td>
</tr>
<tr>
<td>2 to &lt;5 Days</td>
<td>204 - 405</td>
<td>204 - 402</td>
<td>K/mm3</td>
</tr>
<tr>
<td>6 to &lt;12 Days</td>
<td>194 - 364</td>
<td>183 - 369</td>
<td>K/mm3</td>
</tr>
<tr>
<td>=&gt;12 Days</td>
<td>150 - 460</td>
<td>150 - 460</td>
<td>K/mm3</td>
</tr>
</tbody>
</table>

| CPT Code | 85049 |
| LOINC Code | 777-3 |
| EMR Interface Order Code | 32850 |

**Critical Values**

<table>
<thead>
<tr>
<th>PLATELET COUNT (PLT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
</tr>
<tr>
<td>1-180 Days</td>
</tr>
<tr>
<td>&lt;100 K/mm3</td>
</tr>
<tr>
<td>&gt;1,000 K/mm3</td>
</tr>
<tr>
<td>&gt;180 Days</td>
</tr>
<tr>
<td>&lt;30 K/mm3</td>
</tr>
<tr>
<td>&gt;1,000 K/mm3</td>
</tr>
</tbody>
</table>

**CPLT Platelet Count, Citrated**

**Additional Information**
Coagulation testing will not be performed off a blue top tube for a Citrated Platelet.

**Collection Container**
Lavender (EDTA)
EDTA whole blood

**Minimum Specimen Volume**
Lavender tube: 4 mL, BD Microtainer: 500 microliters

**Transport Temperature**
Refrigerate

**Specimen Stability**
24 hours refrigerated

**Special Handling Instructions**
CPLT must have a separate order from the CBCD.
**Specimen Stability**
24 hours

**Reasons for Rejection**
Specimen spun, quantity not sufficient

**Methodology**

xn9000

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Daily

**Units of Measure**
K/mm3

**CPT Code**
85049

**LOINC Code**
777-3

**EMR Interface Order Code**
66712

**PEM**  
Platelet Transmission Electron Microscopic Study, Whole Blood

*Mayo Clinic Laboratories in Rochester*

**Useful For**
Diagnosing platelet disorders

**Special Instructions**
- Platelet Esoteric Testing Patient Information

**Method Name**
Transmission Electron Microscopy

**Reporting Name**
Platelet TEM, B

**Specimen Type**
Whole Blood ACD

**Shipping Instructions**
Ship specimen overnight in an Ambient Shipping Box-Critical Specimens Only (T668) following the instructions in the mailer.

Send specimen Monday through Wednesday

**Necessary Information**

Platelet Esoteric Testing Patient Information is required. See Special Instructions. Testing may proceed without the patient information, however, the information aids in providing a more thorough interpretation. Ordering providers are strongly encouraged to fill out the form and send with the specimen.

**Specimen Required**

Patient Preparation: Fasting is preferred but not required.
Supplies: Ambient Shipping Box-Critical Specimens Only (T668)

---

**Collection Container/Tube:**
Preferred: Yellow top (ACD, solution B)
Acceptable: Yellow top (ACD, solution A)

**Specimen Volume:** 6 mL

**Collection Instructions:** Send specimen in original tube. Do not transfer blood to other containers.

**Specimen Minimum Volume**
3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood ACD</td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Reject Due To</th>
<th>OK</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross lipemia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
Mean dense granules/platelet ≥1.2

**Day(s) and Time(s) Performed**
Monday through Friday; 7 a.m.-3 p.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
85390
88348

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTEM</td>
<td>Platelet TEM, B</td>
<td>79768-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CK109</td>
<td>Platelet TEM</td>
<td>79768-8</td>
</tr>
<tr>
<td>CK110</td>
<td>Interpretation</td>
<td>59466-3</td>
</tr>
</tbody>
</table>

**Forms**
1. Platelet Esoteric Testing Patient Information is required. See Special Instructions.
2. If not ordering electronically, complete, print, and send a Coagulation Test Request (T753) with the specimen.

**Secondary ID**
63682

---

**PLUM**  
Plum IgE

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

---
Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunocAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
68414

Container
Serum gel or red top tube

PMLFSH  PML RARA FISH

Mayo Medical Laboratories

Collection Container
Blood: Green (Sodium Heparin)
Bone Marrow: Syringe with heparin
Peripheral Blood

Special Handling Instructions
Send to the Referral Laboratory with copy of ordering requisition and copy of surgical pathology (if available). This is considered a STAT test. Please page 2-4667 or call 413-322-4667 to alert the lab that the sample is coming.

Specimen Volume
5 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Ambient

Specimen Stability
Stable at ambient temperature

Reasons for Rejection
Incorrect tube, insufficient quantity

Methodology
Fluorescent in-situ hybridization

Turnaround Time
Preliminary results available after 2 - 3 days, final report within 10 - 14 days.

Reference Ranges
Laboratory to provide interpretive report.

CPT Code
88271 x2, 88275

EMR Interface Order Code
69208

PMLR  PML/RARA Quantitative, PCR, Varies

Mayo Clinic Laboratories in Rochester

Reporting Name
PML/RARA Quantitative, PCR

Useful For
Diagnosis of acute promyelocytic leukemia (APL)
Detection of residual or recurrent APL
Monitoring the level of promyelocytic leukemia/retinoic acid receptor alpha (PML/RARA) in APL patients

Testing Algorithm
See Acute Promyelocytic Leukemia: Guideline to Diagnosis and Follow-up in Special Instructions.

Specimen Type
Varies

Advisory Information
This assay may not detect rare, unusual PML/RARA fusions. Therefore, if the assay is going to be used for monitoring after treatment, the test should be performed at the time of diagnosis to ensure that the test gives a positive result.

Shipping Instructions
Refrigerated specimen must arrive within 5 days (120 hours of draw), and ambient specimens must arrive within 3 days (72 hours) of draw. Draw and package specimen as close to shipping time as possible.

Necessary Information
The following information is required:
1. Pertinent clinical history
2. Date of collection
3. Specimen source (blood or bone marrow)

Specimen Required
Submit only 1 of the following specimens:

Specimen Type: Whole blood
Container/Tube:
Preferred: EDTA (lavender top)
Acceptable: ACD (yellow top)
Specimen Volume: 10 mL
Collection Instructions:
1. Invert several times to mix blood.
2. Send specimen in original tube.
3. Label specimen as blood.

Specimen Type: Bone marrow
Container/Tube:
Preferred: EDTA (lavender top)
Acceptable: ACD (yellow top)
Specimen Volume: 4 mL
Collection Instructions:
1. Invert several times to mix bone marrow.
2. Send specimen in original tube.
3. Label specimen as bone marrow.

**Specimen Minimum Volume**
- Peripheral blood: 4 mL
- Bone Marrow: 2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>5 days</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
</tbody>
</table>

**Special Instructions**
- Hematopathology Patient Information
- Acute Promyelocytic Leukemia: Guideline to Diagnosis and Follow-up

**Reference Values**
An interpretive report will be provided.

If positive, a value representing a ratio of PML-RARA fusion transcript to the control gene ABL expressed as a percentage will be reported.

**Day(s) and Time(s) Performed**
Monday through Friday

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
81315-PML/RARalpha (t(15;17)), (PML-RARA regulated adaptor molecule 1) (eg promyelocytic leukemia) translocation analysis; all breakpoints (eg, intron 3, intron 6 and variable in exon 6), qualitative or quantitative

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMLR</td>
<td>PML/RARA Quantitative, PCR</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Result Test Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>39469</td>
<td>PMLR Result</td>
<td>No LOINC Needed</td>
</tr>
<tr>
<td>MP012</td>
<td>Specimen Type</td>
<td>31208-2</td>
</tr>
<tr>
<td>19449</td>
<td>Interpretation</td>
<td>69047-9</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: Reject
- Other: Moderately to severely clotted

**Method Name**
Quantitative, Real-Time Polymerase Chain Reaction (PCR)

**Secondary ID**
84114

**Forms**
1. Hematopathology Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

---

**SPNS  Pneumocystis Smear**

**Contracted Reference Lab**

**Collection Container**
Sterile container
Bronchoalveolar lavage (BAL), sputum, bronchial washings/brush, tracheal secretions/aspirates, lung tissue and open lung biopsy

**Specimen Volume**
1 mL sputum; 3 mL BAL

**Minimum Specimen Volume**
0.5 mL sputum; 1 mL BAL

**Transport Temperature**
Refrigerated

**Specimen Stability**
3 days

**Reasons for Rejection**
Fixed tissue, viral transport media, swab, leaking container, room temp sample

**CPT Code**
87281

**EMR Interface Order Code**
70706

**PNHEM  PNH, PI-Linked Antigen, Blood**

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
PNH, PI-Linked AG, B

**Useful For**
Screening for and confirming the diagnosis of paroxysmal nocturnal hemoglobinuria (PNH)

Monitoring patients with PNH

**Specimen Type**
Whole blood

**Specimen Required**
Specimen must arrive within 72 hours of draw.

**Container/Tube:**
Preferred: 2.6-mL Yellow top (ACD)
Acceptable: 7-mL ACD or lavender top (EDTA)

**Specimen Volume:** 2.6 mL

**Collection Instructions:** Do not transfer blood to other containers.

**Specimen Minimum Volume**
1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Ambient (preferred)</td>
<td>72 hours</td>
<td>Refrigerated</td>
</tr>
</tbody>
</table>

**Reference Values**
An interpretive report will be provided.
RED BLOOD CELLS:
PNH RBC-Partial Antigen loss: 0.00-0.99%
PNH RBC-Complete Antigen loss: 0.00-0.01%
PNH Granulocytes: 0.00-0.01%
PNH Monocytes: 0.00-0.05%

Day(s) and Time(s) Performed
Specimens are processed Monday through Sunday and reported Monday through Friday.

Test Classification
This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
88184-Flow cytometry, RBC x 1
88184-Flow cytometry, WBC x 1
88185-Flow cytometry, additional marker (each), RBC x 1
88185-Flow cytometry, additional marker (each), WBC x 6
88188-Flow Cytometry Interpretation, 9-15 Markers x 1

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLINK</td>
<td>PNH, PI-Linked AG, B</td>
<td>90735-2</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CK079</td>
<td>Interpretation</td>
<td>90739-4</td>
</tr>
<tr>
<td>CK080</td>
<td>PNH RBC-Partial Ag Loss</td>
<td>33662-8</td>
</tr>
<tr>
<td>CK081</td>
<td>PNH RBC-Complete Ag Loss</td>
<td>90738-6</td>
</tr>
<tr>
<td>CK082</td>
<td>PNH Granulocytes</td>
<td>90737-8</td>
</tr>
<tr>
<td>CK083</td>
<td>PNH Monocytes</td>
<td>90736-0</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Lipemia: NA
- Icterus: NA
- Other: NA

Method Name
Immunophenotyping

Additional Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCIMS</td>
<td>Flow Cytometry Interp, 9-15 Markers</td>
<td>No, (Bill Only)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Secondary ID
62139

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
--Hematopathology/Cytogenetics Test Request Form (T726)
--Benign Hematology Test Request Form (T755)

POLIO Poliovirus (Types 1, 3) Antibodies, Neutralization

Quest Diagnostics Infectious Disease

Specimen Required

Specimen Type: Serum
Container/Tube: Red or SST
Specimen Volume: 1 mL

Collection Instructions: Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerate in a plastic vial.

Secondary ID
75165

Method Name
Culture/Neutralization

Reporting Name
Poliovirus (Types 1, 3) Ab, Neut

Specimen Type
Serum

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>5 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Polio 1 Titer: <1:8
Polio 3 Titer: <1:8

The presence of neutralizing serum antibodies (titers 1:8 up to >1:128) against polioviruses implies lifelong immunity. Some persons without detectable titers (<1:8) may also be immune as demonstrated by elicitation of a secondary-type serum antibody response upon rechallenge with live polio vaccine.

Day(s) and Time(s) Performed
Monday and Thursday

Test Classification
This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics Infectious Disease. It has not been cleared or approved by FDA. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.

CPT Code Information
86382 x 2

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPOLO</td>
<td>Poliovirus (Types 1, 3) Ab, Neut</td>
<td>68320-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z4806</td>
<td>Polio 1 Titer</td>
<td>22446-9</td>
</tr>
<tr>
<td>Z4807</td>
<td>Polio 3 Titer</td>
<td>22450-1</td>
</tr>
<tr>
<td><strong>PCB Polychlorinate Biphenols (PCB)</strong></td>
<td></td>
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</tr>
<tr>
<td>----------------------------------------</td>
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<tr>
<td><strong>LabCorp</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serum</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refrigerate</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Room temperature: 2 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reasons for Rejection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collected in gel barrier tube</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td></td>
<td></td>
</tr>
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<td>Gas chromatography, mass spectrometry (GC/MS)</td>
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<td>13225</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>POMGRN Pomegranate IgE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contracted Reference Lab</strong></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
</tr>
<tr>
<td>Serum gel or red top tube</td>
</tr>
<tr>
<td>Serum</td>
</tr>
<tr>
<td><strong>Other Acceptable Specimen Types</strong></td>
</tr>
<tr>
<td>Red top</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
</tr>
<tr>
<td>For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
</tr>
<tr>
<td>0.1 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
</tr>
<tr>
<td>Refrigerated</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
</tr>
<tr>
<td>Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
</tr>
<tr>
<td>ImmunoCAP</td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
</tr>
<tr>
<td>3-5 days</td>
</tr>
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<td><strong>CPT Code</strong></td>
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<tr>
<td><strong>LOINC Code</strong></td>
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<table>
<thead>
<tr>
<th><strong>POPSD Poppy Seed IgE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contracted Reference Lab</strong></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
</tr>
<tr>
<td>Serum gel or red top tube</td>
</tr>
<tr>
<td>Serum</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
</tr>
<tr>
<td>For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
</tr>
<tr>
<td>0.1 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
</tr>
<tr>
<td>Refrigerated</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
</tr>
<tr>
<td>Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
</tr>
<tr>
<td>ImmunoCAP</td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
</tr>
<tr>
<td>3-5 days</td>
</tr>
<tr>
<td><strong>CPT Code</strong></td>
</tr>
<tr>
<td>86003</td>
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<td><strong>EMR Interface Order Code</strong></td>
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<td>68640</td>
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</table>

<table>
<thead>
<tr>
<th><strong>PORK Pork IgE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contracted Reference Lab</strong></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
</tr>
<tr>
<td>Serum gel or red top tube</td>
</tr>
<tr>
<td>Serum</td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
</tr>
<tr>
<td>For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
</tr>
<tr>
<td>0.1 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
</tr>
<tr>
<td>Refrigerated</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
</tr>
<tr>
<td>Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
</tr>
<tr>
<td>ImmunoCAP</td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
</tr>
<tr>
<td>3-5 days</td>
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<tr>
<td><strong>EMR Interface Order Code</strong></td>
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<td>49095</td>
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</table>
PBGDW  Porphobilinogen Deaminase (PBGD), Washed Erythrocytes

Mayo Clinic Laboratories in Rochester

Reporting Name
PBG Deaminase, RBC

Useful For
Confirmation of a diagnosis of acute intermittent porphyria

Testing Algorithm
The following algorithms are available in Special Instructions:
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

Specimen Type
Washed RBC

Advisory Information
This test is for diagnosis of acute intermittent porphyria. Porphobilinogen deaminase, also known as uroporphyrinogen I synthase, is commonly confused with uroporphyrinogen III synthase, the enzyme deficient in congenital erythropoietic porphyria (CEP). For CEP cases, order UPGC / Uroporphyrinogen III Synthase (Co-Synthase) (UPG III S), Erythrocytes.

Necessary Information
1. Volume of packed cells and total volume of erythrocyte suspension (red cells + saline) are required and must be sent with specimen.
2. Include a list of medications the patient is currently taking.

Specimen Required
All porphyrin tests on erythrocytes can be performed on 1 draw tube.

Patient Preparation: Patient should abstain from alcohol for 24 hours.

Collection Container/Tube:
Preferred: Green top (sodium heparin)
Acceptable: Lavender top (EDTA) or green top (lithium heparin)

Submission Container/Tube: Plastic vial

Specimen Volume: Washed erythrocyte suspension

Collection Instructions: Collect and process whole blood specimen as follows:
1. Immediately place specimen on wet ice.
2. Transfer entire specimen to a 12-mL graduated centrifuge tube.
3. Centrifuge specimen for 10 minutes at 2,000 rpm.
4. Record volume of packed cells and the total volume of the specimen.
5. Discard supernatant plasma.
6. Wash wash erythrocytes 2 times by resuspension of at least an equal amount of cold 0.9% saline, mix, and centrifuge for 5 minutes at 2,000 rpm, discarding supernatant after each washing.
7. Resuspend packed cells to the original total volume with 0.9% saline. Invert specimen gently to mix.

Specimen Minimum Volume
1 mL of washed and resuspended erythrocytes

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washed RBC</td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- The Heme Biosynthetic Pathway
- Informed Consent for Genetic Testing
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm
- Informed Consent for Genetic Testing (Spanish)

Reference Values
Reference ranges have not been established for patients who are <16 years of age.

≥7.0 nmol/L/sec
6.0-6.9 nmol/L/sec (indeterminate)
<6.0 nmol/L/sec (diminished)

Day(s) and Time(s) Performed
Tuesday, Thursday; 1 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82657

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>PBGDW</td>
<td>PBG Deaminase, RBC</td>
<td>2812-6</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>31944</td>
<td>PBG Deaminase, RBC</td>
<td>2812-6</td>
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<tr>
<td>31945</td>
<td>Interpretation</td>
<td>59462-2</td>
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<tr>
<td>BG575</td>
<td>Total cell Suspension</td>
<td>In Process</td>
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<tr>
<td>BG576</td>
<td>Packed cell volume</td>
<td>In Process</td>
</tr>
</tbody>
</table>

Reject Due To

Other  Cell suspension not available

Method Name
Enzymatic End point/Spectrofluorometric

Forms
1. New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

PBGD  Porphobilinogen Deaminase (PBGD), Whole Blood

Mayo Clinic Laboratories in Rochester

Reporting Name
PBG Deaminase, WB

Useful For
Confirmation of a diagnosis of acute intermittent porphyria (AIP)
Testing Algorithm
The following algorithms are available in Special Instructions:
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

Specimen Type
Whole blood

Advisory Information
This test is for diagnosis of acute intermittent porphyria. Porphobilinogen deaminase, also known as uroporphyrinogen I synthase, is commonly confused with uroporphyrinogen III synthase, the enzyme deficient in congenital erythropoietic porphyria (CEP). For CEP cases, order UPGC / Uroporphyrinogen III Synthase (Co-Synthase) (UPG III S), Erythrocytes.

Necessary Information
Include a list of medications the patient is currently taking.

Specimen Required
All porphyrin tests on whole blood can be performed on 1 draw tube.

Patient Preparation: Abstinence from alcohol for at least 24 hours prior to specimen collection is essential as ethanol induces porphobilinogen deaminase (PBGD) activity, which may lead to a false-normal result.

Container/Tube:
Preferred: Green top (sodium heparin)
Acceptable: Lavender top (EDTA) or green top (lithium heparin)

Specimen Volume: Full tube

Collection Instructions:
1. Patient should abstain from alcohol for 24 hours.
2. Immediately place specimen on wet ice.

Specimen Minimum Volume
3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- The Heme Biosynthetic Pathway
- Informed Consent for Genetic Testing
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm
- Informed Consent for Genetic Testing (Spanish)

Reference Values
Reference ranges have not been established for patients who are <16 years of age.

- ≥7.0 nmol/L/sec
- 6.0-6.9 nmol/L/sec (indeterminate)
- <6.0 nmol/L/sec (diminished)

Day(s) and Time(s) Performed
Tuesday, Thursday; 1 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82657

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>PBGD</td>
<td>Porphobilinogen, WB</td>
<td>12810-8</td>
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<table>
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<th>Test Result Name</th>
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<tbody>
<tr>
<td>4022</td>
<td>PBGD Deaminase, WB</td>
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<tr>
<td>28400</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis | Reject

Method Name
Enzymatic End point/Spectrofluorometric

Forms
1. New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
- Informed Consent for Genetic Testing (T576)
- Informed Consent for Genetic Testing-Spanish (T826)
2. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

UPBGR  Porphobilinogen, Quantitative, Random, Urine

Mayo Clinic Laboratories in Rochester

Reporting Name
Porphobilinogen, QN, Random, U

Useful For
First-order test for evaluation of a suspected acute porphyria: acute intermittent porphyria, hereditary coproporphyria, and variegate porphyria

Testing Algorithm
The following algorithms are available in Special Instructions:
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

Specimen Type
Urine

Shipping Instructions
Ship specimen protected from light.

Specimen Required

Supplies: Urine Container-Amber, 60 mL (T596)
Specimen Volume: 20 mL

Collection Instructions:
1. Collect a random urine specimen.
2. No preservative necessary but pH must be >5.0.
3. Specimens should be frozen immediately following collection.
**Specimen Minimum Volume**
15 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>Urine</td>
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<tr>
<td></td>
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<td>7 days</td>
<td>LIGHT PROTECTED</td>
</tr>
</tbody>
</table>

**Special Instructions**
- The Heme Biosynthetic Pathway
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

**Reference Values**
≤1.3 mcmol/L

**Day(s) and Time(s) Performed**
Monday through Friday; 7 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
84110

**LOINC Code Information**

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<th>Test ID</th>
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<th>Order LOINC Value</th>
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<td>PBGU</td>
<td>Porphobilinogen, QN, Random, U</td>
<td>2811-8</td>
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<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>29365</td>
<td>Porphobilinogen, U</td>
<td>2811-8</td>
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<tr>
<td>29366</td>
<td>Interpretation (PBGU)</td>
<td>59462-2</td>
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<tr>
<td>35032</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

**Reject Due To**
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
Stable Isotope Dilution Analysis

**Forms**
If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

**UPBILQ  Porphobilinogen, Urine, Quantitative**

**Collection Container**
Urine container

**Special Handling Instructions**
Urine – Keep protected from light and refrigerated or frozen

**Specimen Volume**
2 mL

**Minimum Specimen Volume**
1.5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: Unstable, Refrigerated: 7 days, Frozen: 14 days

**Reasons for Rejection**
Not protected from light, room temp sample

**CPT Code**
84120

**EMR Interface Order Code**
62925

**PORRBC  Porphyrins Evaluation, Whole Blood**

**Mayo Clinic Laboratories in Rochester**

**Additional Test Codes**
EMR Interface Order Code: 08785

**Reporting Name**
Porphyrins Evaluation, WB

**Useful For**
Establishing a biochemical diagnosis of erythropoietic protoporphyria and X-linked dominant protoporphyria
Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
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</thead>
<tbody>
<tr>
<td>PPFE</td>
<td>Protoporphyrins, Fractionation, WB</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm

This test is recommended for screening patients for possible erythropoietic protoporphyria and X-linked dominant protoporphyria. In addition, it can be used for evaluation of iron-deficiency anemia and chronic lead intoxication. Testing begins with total erythrocyte porphyrins. If the result is below 80 mcg/dL, it is normal and testing is complete.

If the total erythrocyte porphyrin value is 80 mcg/dL or above, the protoporphyrin fractionation assay will automatically be performed at an additional charge. The fractionation test results include noncomplexed (free) protoporphyrin and zinc-complexed protoporphyrin.

The following algorithms are available in Special Instructions:

- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

Specimen Type

Whole blood

Advisory Information

This is the preferred test for assessment for protoporphyria. The preferred test for assessing lead toxicity in children is blood lead. For more information see PBDV / Lead, Venous, with Demographics, Blood or PBDC / Lead, Capillary, with Demographics, Blood. The preferred screening test for suspicion of a hepatic porphyria is urine porphyrins. For more information see PQNRU / Porphyrins, Quantitative, Random, Urine.

Necessary Information

Include a list of medications the patient is currently taking.

Specimen Required

All porphyrin tests on whole blood can be performed on 1 collection tube.

Patient Preparation: Patient should abstain from alcohol for 24 hours. Container/Tube:
Preferred: Green top (sodium heparin)
Acceptable: Dark blue top (metal free heparin), green top (lithium heparin), lavender top (EDTA)
Specimen Volume: Full tube
Collection Instructions: Immediately place specimen on wet ice.

Specimen Minimum Volume

3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions

- The Heme Biosynthetic Pathway
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

Reference Values

PORPHRINS, TOTAL, RBC
<80 mcg/dL

Day(s) and Time(s) Performed

Monday, Wednesday, Friday; 10:30 a.m.

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

84311
82542-if appropriate

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>PEE</td>
<td>Porphyrins Evaluation, WB</td>
<td>2814-2</td>
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<thead>
<tr>
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<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>88886</td>
<td>Total Porphyrins, WB</td>
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</tr>
<tr>
<td>29356</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis | Reject

Method Name

Spectrofluorometric

Forms

If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T7998) with the specimen.

SPOR  Porphyrrins, Feces

Mayo Clinic Laboratories in Rochester

Additional Test Codes

EMR Interface Order Code: 08750

Reporting Name

Porphyrins, F

Useful For

Evaluation of patients who present with signs or symptoms suggestive of porphyria cutanea tarda, hereditary coproporphyria, variegate porphyria, congenital erythropoietic porphyria, erythropoietic protoporphyrin, or X-linked dominant protoporphyria

Testing Algorithm

The following algorithms are available in Special Instructions:

- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

Specimen Type

Fecal

Specimen Required

Container/Tube: Stool container (T291)
Specimen Volume: Entire collection (48, 72, or 96 hour). 24-Hour collection is adequate if the collection volume is approximately 100 g.

Collection Instructions:
1. Patient should be instructed to refrain from red meat and aspirin-containing medications for 3 days prior to, as well as during, specimen collection. Compliance should be indicated.
2. No barium, laxatives, or enemas may be used within 24 hours of starting the collection.

Additional Information:
1. Length of collection period is required.
2. Specimens smaller than 100 g may not provide interpretable results.
3. Include a list of medications the patient is currently taking.

Specimen Minimum Volume
10 g

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal</td>
<td>Frozen (preferred)</td>
<td>14 days</td>
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</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- The Heme Biosynthetic Pathway
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

Reference Values
- UROPORPHYRIN I <120 mcg/24 hours
- UROPORPHYRIN III <50 mcg/24 hours
- HEPTACARBOXYL PORPHYRIN I <40 mcg/24 hours
- HEPTACARBOXYL PORPHYRIN III <40 mcg/24 hours
- ISOHEPTACARBOXYL PORPHYRINS <30 mcg/24 hours
- HEXACARBOXYL PORPHYRIN I <10 mcg/24 hours
- HEXACARBOXYL PORPHYRIN III <10 mcg/24 hours
- ISOHEXACARBOXYL PORPHYRINS <10 mcg/24 hours
- PENTACARBOXYL PORPHYRIN I <20 mcg/24 hours
- PENTACARBOXYL PORPHYRIN III <20 mcg/24 hours
- ISOPEPTACARBOXYL PORPHYRINS <80 mcg/24 hours
- COPROPORPHYRIN I <500 mcg/24 hours
- COPROPORPHYRIN III <400 mcg/24 hours
- ISOCOPROPORPHYRIN <200 mcg/24 hours
- PROTOPORPHYRINS <1,500 mcg/24 hours

COPROPORPHYRIN III/COPROPORPHYRIN I RATIO <1.20

See The Heme Biosynthetic Pathway in Special Instructions.

Day(s) and Time(s) Performed
Tuesday, Thursday; 1 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
84126

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FQPPS</td>
<td>Porphyrins, F</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
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<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>W6</td>
<td>Total weight</td>
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<td>TM70</td>
<td>Collection Duration</td>
<td>13363-7</td>
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<tr>
<td>15517</td>
<td>Uroporphyrin I</td>
<td>26691-6</td>
</tr>
<tr>
<td>15518</td>
<td>Uroporphyrin III</td>
<td>33585-1</td>
</tr>
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<td>15519</td>
<td>Heptacarboxyl I</td>
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</tr>
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<td>15520</td>
<td>Heptacarboxyl III</td>
<td>49901-2</td>
</tr>
<tr>
<td>15521</td>
<td>Isoheptacarboxyl</td>
<td>In Process</td>
</tr>
<tr>
<td>15522</td>
<td>Hexacarboxyl I</td>
<td>In Process</td>
</tr>
<tr>
<td>15523</td>
<td>Hexacarboxyl III</td>
<td>In Process</td>
</tr>
<tr>
<td>15524</td>
<td>Isohexacarboxyl</td>
<td>In Process</td>
</tr>
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<td>15525</td>
<td>Pentacarboxyl I</td>
<td>33623-0</td>
</tr>
<tr>
<td>15526</td>
<td>Pentacarboxyl III</td>
<td>33624-8</td>
</tr>
<tr>
<td>15527</td>
<td>Isopentacarboxyl</td>
<td>In Process</td>
</tr>
<tr>
<td>15528</td>
<td>Coproporphyrin I</td>
<td>23845-1</td>
</tr>
<tr>
<td>15529</td>
<td>Coproporphyrin III</td>
<td>23846-9</td>
</tr>
<tr>
<td>15530</td>
<td>Isocoproporphyrin</td>
<td>33625-5</td>
</tr>
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<td>15534</td>
<td>Protoporphyrin</td>
<td>2891-0</td>
</tr>
<tr>
<td>15545</td>
<td>CopropIII/Coprop ratio</td>
<td>33618-0</td>
</tr>
<tr>
<td>81652</td>
<td>Interpretation (FQPPS)</td>
<td>59462-2</td>
</tr>
<tr>
<td>35013</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
High-Performance Liquid Chromatography (HPLC)
Porphyrs are quantified by fluorescence.

Forms
If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

Secondary ID
81652
UPORQ  Porphyrins, Quantitative, 24 Hour, Urine

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 08800

Reporting Name
Porphyrins, QN, U

Useful For
Preferred screening test for congenital erythropoietic porphyria and porphyria cutanea tarda and during symptomatic periods for acute intermittent porphyria, hereditary coproporphyria, and variegate porphyria when specimen transport will be longer than 72 hours

Testing Algorithm
The following algorithms are available in Special Instructions:
- Porphyrria (Acute) Testing Algorithm
- Porphyrria (Cutaneous) Testing Algorithm

Specimen Type
Urine

Advisory Information
This 24-hour urine test should be ordered when the specimen will not reach MCL within 72 hours. If the specimen will reach MCL within 72 hours, order PQNRU / Porphyrins, Quantitative, Random, Urine.

Shipping Instructions
Ship specimen in amber container to protect from light.

Necessary Information
1. 24-Hour volume is required.
2. Collection date and time should be documented upon completion of the 24-hour collection.
3. Include a list of medications the patient is currently taking.
4. See Urine Preservatives in Special Instructions for multiple collections.

Specimen Required
Patient Preparation: Patient should abstain from alcohol for 24 hours prior to, as well as during, collection.

Supplies:
Amber, 60-mL urine bottle (T596)
Sodium Carbonate, 5 gram (T272)

Specimen Volume: 20-50 mL
Collection Instructions:
1. Collect a 24-hour urine specimen.
2. Add 5 g of sodium carbonate (T272) as preservative at start of collection. This preservative is intended to achieve a pH of >7. Do not substitute sodium bicarbonate for sodium carbonate.
3. The container should be refrigerated and protected from light as much as possible during collection. An aliquot should be frozen when collection is complete.

Specimen Minimum Volume
15 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen</td>
<td>7 days</td>
<td>LIGHT PROTECTED</td>
</tr>
</tbody>
</table>

Special Instructions
- The Heme Biosynthetic Pathway
- Urine Preservatives—Collection and Transportation for 24-Hour Urine Specimens
- Porphyrria (Acute) Testing Algorithm
- Porphyrria (Cutaneous) Testing Algorithm

Reference Values
- UROPORPHYRINS (OCTACARBOXYL) ≤30 nmol/24 hours
- HEPTACARBOXYLPORPHYRINS ≤9 nmol/24 hours
- HEXACARBOXYLPORPHYRINS ≤8 nmol/24 hours
- PENTACARBOXYLPORPHYRINS ≤10 nmol/24 hours
- COPROPORPHYRINS (TETRACARBOXYL) Males: ≤230 nmol/24 hours Females: ≤168 nmol/24 hours
- Porphobilinogen ≤2.2 mcmol/24 hours

Day(s) and Time(s) Performed
Monday through Friday; 7 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
84110-Porphobilinogen, quantitative
84120-Porphyrins, quantitation and fractionation

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PQNU</td>
<td>Porphyrins, QN, U</td>
<td>43116-3</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM3</td>
<td>Collection Duration</td>
<td>13362-9</td>
</tr>
<tr>
<td>VL1</td>
<td>Urine Volume</td>
<td>3167-4</td>
</tr>
<tr>
<td>29357</td>
<td>Uroporphyrin, Octa</td>
<td>15096-1</td>
</tr>
<tr>
<td>29358</td>
<td>Heptacarboxyloporphyrins</td>
<td>25434-2</td>
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<td>29359</td>
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<td>29360</td>
<td>Pentacarboxyloporphyrins</td>
<td>25494-6</td>
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<td>29361</td>
<td>Coproporphyrin, Tetra</td>
<td>15041-7</td>
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<td>29362</td>
<td>Porphobilinogen</td>
<td>14882-5</td>
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<tr>
<td>23403</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
High-Performance Liquid Chromatography (HPLC) with Fluorometric Detection
Includes quantitation of coproporphyrins, uroporphyrins, and intermediate porphyrins (heptacarboxyl, hexacarboxyl, and pentacarboxyl).

Includes liquid chromatography-tandem mass spectrometry (LC-MS/MS) determination of porphobilinogen.

**Urine Preservative Collection Options**

*Note: The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.*

<table>
<thead>
<tr>
<th>Option</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient</td>
<td>No</td>
</tr>
<tr>
<td>Refrigerate</td>
<td>No</td>
</tr>
<tr>
<td>Frozen</td>
<td>No</td>
</tr>
<tr>
<td>50% Acetic Acid</td>
<td>No</td>
</tr>
<tr>
<td>Boric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Diazolidinyl Urea</td>
<td>No</td>
</tr>
<tr>
<td>6M Hydrochloric Acid</td>
<td>No</td>
</tr>
<tr>
<td>6M Nitric Acid</td>
<td>No</td>
</tr>
<tr>
<td>Sodium Carbonate</td>
<td>Required</td>
</tr>
<tr>
<td>Thymol</td>
<td>No</td>
</tr>
<tr>
<td>Toluene</td>
<td>No</td>
</tr>
</tbody>
</table>

**Protect specimen from light.**

If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

---

**TPORPL  Porphyrins, Total, Plasma**

*Mayo Clinic Laboratories in Rochester*

**Important Note**

***NOTE: Specimen should be spun down, plasma protected from light and frozen within one hour of collection. If longer do not cancel contact Mayo to find out if specimen is acceptable. 4/10/19***

**Additional Test Codes**

EMR Interface Order Code: 08775

**Reporting Name**

Porphyrins, Total, P

**Useful For**

Monitoring treatment of patients with porphyria cutanea tarda

**Reflex Tests**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFP</td>
<td>Porphyrins, Fractionation, P</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Testing Algorithm**

If total porphyrins are above 1.0 mcg/dL, then porphyrin fractionation will be performed at an additional charge.

The following algorithms are available in Special Instructions:

- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

**Specimen Type**

Plasma

**Shipping Instructions**

Ship specimen in amber vial to protect from light.

---

**Necessary Information**

Include a list of medications the patient is currently taking.

**Specimen Required**

**Patient Preparation:** Patient should abstain from alcohol for at least 24 hours prior to specimen collection.

**Supplies:** Amber Frosted Tube, 5 mL (T192)

Collection Container/Tube:

**Preferred:** Green top (heparin)

**Acceptable:** Lavender top (EDTA)

**Submission Container/Tube:** Amber vial

**Specimen Volume:** 3 mL

**Collection Instructions:**

1. Centrifuge specimen and aliquot plasma into amber vial.
2. Send plasma frozen.

**Specimen Minimum Volume**

1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma</td>
<td>Frozen</td>
<td>14 days</td>
<td>LIGHT PROTECTED</td>
</tr>
</tbody>
</table>

**Special Instructions**

- The Heme Biosynthetic Pathway
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

**Reference Values**

≤1.0 mcg/dL

**Day(s) and Time(s) Performed**

Monday through Friday; 8 a.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

84311-Porphyrins, total
82542-Porphyrins, fractionation (if appropriate)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTP</td>
<td>Porphyrins, Total, P</td>
<td>2815-9</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>8731</td>
<td>Porphyrins, Total, P</td>
<td>2815-9</td>
</tr>
<tr>
<td>34252</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
<tr>
<td>33869</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

**Method Name**

PTP: Extraction and Scanning Spectrofluorometry

PFP: High-Performance Liquid Chromatography (HPLC)
Forms
If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

K Potassium

Baystate Reference Laboratories

Additional Information
Pseudohyperkalemia may occur in thrombocytosis or Leukocytosis, especially in patients with myeloproliferative disorders. Plasma potassium should be done on these patients.

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
Heparinized plasma

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 6 days

Reasons for Rejection
Serum/plasma not separated from cells within 3 hours of collection

Methodology
Potentiometric, Indirect Ion-Selective Electrode

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mmol/L

CPT Code
84132

EMR Interface Order Code
08825

CSFK Potassium, CSF

Baystate Reference Laboratories

Collection Container
CSF
Cerebral Spinal Fluid

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Methodology
Potentiometric, Indirect Ion-Selective Electrode (ISE)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mmol/L

CPT Code
84132

EMR Interface Order Code
67046

FK Potassium, Fluid

Baystate Reference Laboratories

Collection Container
Fluid
Identify source of body fluid

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Methodology
Indirect Ion-Selective Electrode (ISE)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mmol/L

CPT Code
84132

EMR Interface Order Code
12675
**PLASMK  Potassium, Plasma**

*Baystate Reference Laboratories*

**Collection Container**
Green
Heparinized Plasma

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 14 days, Refrigerated: 14 days, Frozen: 14 days frozen

**Reasons for Rejection**
Specimen not spun and separated within 3 hours of collection.

**Methodology**
Potentiometric, Indirect Ion-Selective Electrode

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
25 - 120 mmol/24 hr

**Units of Measure**
mmol/24 hr

**CPT Code**
84133

**LOINC Code**
2828-2

**EMR Interface Order Code**
08830

---

**UKR  Potassium, Urine, Random**

*Baystate Reference Laboratories*

**Collection Container**
Urine
Random Urine

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Reasons for Rejection**
Preservative added

**Methodology**
Potentiometric, Indirect Ion-Selective Electrode (ISE)

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
25 - 120 mmol/24 hr

**Units of Measure**
mmol/24 hr

**CPT Code**
84133

**LOINC Code**
2828-2

**EMR Interface Order Code**
08845

---

**UKQ  Potassium, Urine, Quantitative**

*Baystate Reference Laboratories*

**Collection Container**
Jug
24 Hour urine

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Reasons for Rejection**
Preservative added

**Methodology**
Potentiometric, Indirect Ion-Selective Electrode (ISE)

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
3.6 - 5.2 mmol/L

**Units of Measure**
mmol/L

**CPT Code**
84132

**LOINC Code**
2823-3

**EMR Interface Order Code**
08826

---

**WPOTAT  Potato IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
Serum
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49100

Container
Serum gel or red top tube

PWAS  Prader-Willi/Angelman Syndrome, Molecular Analysis, Varies

Mayo Clinic Laboratories in Rochester

Useful For
Confirmation of diagnosis in patients suspected of having either Prader-Willi syndrome (PWS) or Angelman syndrome (AS) based on clinical assessment or previous laboratory analysis

Prenatal diagnosis in families at risk for PWS or AS

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULAF</td>
<td>Amniotic Fluid Culture/Genetic Test</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>MATCC</td>
<td>Maternal Cell Contamination, B</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm
For prenatal specimens only: If amniotic fluid (nonconfluent cultured cells) is received, amniotic fluid culture/genetic test will be added and charged separately. For any prenatal specimen that is received, maternal cell contamination studies will be added.

See Prader-Willi and Angelman Syndromes: Laboratory Approach to Diagnosis in Special Instructions.

Special Instructions
- Molecular Genetics: Congenital Inherited Diseases Patient Information
- Informed Consent for Genetic Testing
- Prader-Willi and Angelman Syndromes: Laboratory Approach to Diagnosis
- Informed Consent for Genetic Testing (Spanish)

Method Name
Methylation-Sensitive Multiple Ligation-Dependent Probe Amplification (MLPA)
(PCR is utilized pursuant to a license agreement with Roche Diagnostic Systems, Inc.)

Reporting Name
Prader Willi/Angelman Mol Analysis

Specimen Type
Varies

Additional Testing Requirements
Mayo Clinic Laboratories highly recommends that this test be ordered along with a routine chromosomal microarray analysis, CMACB / Chromosomal Microarray, Congenital, Blood, if the diagnosis of PWS or AS is not certain and chromosome analysis has not already been done.

All prenatal specimens must be accompanied by a maternal blood specimen. Order MATCC / Maternal Cell Contamination, Molecular Analysis on the maternal specimen.

Shipping Instructions
Specimen preferred to arrive within 96 hours of collection.

Prenatal specimens can be sent Monday through Thursday and must be received by 5 p.m. CST on Friday in order to be processed appropriately.

Specimen Required

Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant.

Submit only 1 of the following specimens:

Specimen Type: Whole blood
Container/Tube:
Preferred: Lavender top (EDTA) or yellow top (ACD)
Acceptable: Any anticoagulant
Specimen Volume: 3 mL
Collection Instructions:
1. Invert several times to mix blood.
2. Send specimen in original tube.

Specimen Stability Information: Ambient (preferred)/Refrigerated

Prenatal Specimens
Due to the complexity of prenatal testing, consultation with the laboratory is required for all prenatal testing.

Specimen Type: Amniotic fluid
Container/Tube: Amniotic fluid container
Specimen Volume: 20 mL
Specimen Stability Information: Refrigerated (preferred)/Ambient

Acceptable:
Specimen Type: Confluent cultured cells
Container/Tube: T-25 flask
Specimen Volume: 2 flasks
Collection Instructions: Submit confluent cultured cells from another laboratory.
Specimen Stability Information: Ambient (preferred)/Refrigerated

Specimen Minimum Volume
Blood: 1 mL
Amniotic Fluid: 10 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Varies</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated by Mayo Clinic Laboratories for test suitability.

Reference Values
An interpretive report will be provided.

Day(s) and Time(s) Performed
Monday, Wednesday

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
81331- SRRPN/UBE3A, (small nuclear ribonucleoprotein polypeptide Nand ubiquitin protein ligase E3A) (eg, Prader-Willi syndrome and/or Angelman syndrome), methylation analysis

Amniotic Fluid Culture/Genetic Test
88235-Tissue culture for amniotic fluid (if appropriate)
88240-Cryopreservation (if appropriate)
Maternal Cell Contamination, B
81265-Comparative analysis using Short Tandem Repeat (STR) markers; patient and comparative specimen (eg, pre-transplant recipient and donor germline testing, post-transplant non-hematopoietic recipient germline [eg, buccal swab or other germline tissue sample] and donor testing, twin zygosity testing or maternal cell contamination of fetal cells (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWAS</td>
<td>Prader Willi/Angelman Mol Analysis</td>
<td>In Process</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value
52913 | Result Summary | 50397-9
52914 | Result | 82939-0
52915 | Interpretation | 69047-9
52916 | Reason for Referral | 42349-1
52917 | Specimen | 31208-2
52918 | Source | 31208-2
52919 | Released By | 18771-6

Forms
1. **New York Clients-Informed consent is required.** Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. Molecular Genetics: Congenital Inherited Diseases Patient Information (T521) in Special Instructions
3. If not ordering electronically, complete, print, and send a Neurology Specialty Testing Client Test Request (T732) with the specimen.

PAB  Prealbumin

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Specimen Volume
1.0 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Refrigerate

Specimen Stability
3 days 20-25 C
6 months 4-8 C
1 year -20

Reasons for Rejection
Specimen not serum

Methodology
Immunoturbidimetric assay

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
20 - 40 mg/dL

CPT Code
84134

EMR Interface Order Code
47000

QPRE  Pregabalin, Quant, Urine

Contracted Reference Lab

Urine

Specimen Volume
20 mL

Minimum Specimen Volume
7 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Preserved samples

Methodology
Mass spectrometry

Days and Times Performed
Daily

Turnaround Time
2 days
PREGAB  Pregabalin, Serum

Mayo Clinic Laboratories in Rochester

Secondary ID
65119

Useful For
Monitoring serum pregabalin (Lyrica) concentrations, assessing compliance, and adjusting dosage in patients.

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Reporting Name
Pregabalin, S

Specimen Type
Serum

Specimen Required

Collection Container/Tube: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL
Collection Instructions:
1. Draw specimen immediately before next scheduled dose.
2. Spin down within 2 hours of draw and move serum to plastic vial.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>OK</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

Reference Values
2.0-5.0 mcg/mL

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80366 (G0480)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGN</td>
<td>Pregabalin, S</td>
<td>47414-8</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value
----------|------------------|-------------------|
65119     | Pregabalin, S   | 47414-8           |

Day(s) and Time(s) Performed
Tuesday; 12:01 a.m.

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

BPREG  Pregnancy, Blood, Quantitative

Baystate Reference Laboratories

Important Note
This test is to be used on females only. To order an HCG on a Male, please order: HCGBP (HCG Plus Beta - EMR Interface Code 26260)

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
EDTA and Heparinized plasma

Specimen Volume
1 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days, Frozen: 1 year

Methodology
Electrochemiluminescence immunoassay (ECLIA)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for STAT requests

Reference Ranges

Females:
Non-pregnant, premenopausal: <5 mIU/mL
Indeterminate: >5 and <25 mIU/mL
Consistent with pregnancy: >25 mIU/mL
Critical: >1,000,000 mIU/mL

CPT Code
84702

LOINC Code
45194-8

EMR Interface Order Code
54300

Reference Ranges
< 1000 ng/mL

CPT Code
80366 (G0480)

EMR Interface Order Code
70274
### UPREG  Pregnancy, Urine

**Baystate Reference Laboratories**

**Collection Container**
- Yellow top tube/cup
- Urine

**Specimen Volume**
- 8 mL

**Minimum Specimen Volume**
- 3 mL

**Transport Temperature**
- Refrigerated

**Specimen Stability**
- 48 hrs refrigerated

**Reasons for Rejection**
- Greater than 48 hrs old

**Methodology**
- Chromatographic Immunoassay

**Days and Times Performed**
- 24 hours a day, 7 days a week

**Turnaround Time**
- Daily

**Reference Ranges**
- Negative

**CPT Code**
- 81025

**EMR Interface Order Code**
- 54275

### PREGNE  Pregnenolone

**Contracted Reference Lab**

**Collection Container**
- Serum gel or red top tube; Plasma from a lavender (EDTA) top or green (Na hep) top tube also acceptable
- Serum or plasma

**Specimen Volume**
- 2.5 mL

**Minimum Specimen Volume**
- 1.1 mL

**Transport Temperature**
- Frozen

**Specimen Stability**
- Room temp: 4 hours, Refrigerated: 2 days, Frozen: 2 years

**CPT Code**
- 84140

**EMR Interface Order Code**
- 26835

### PRADN1  Premature Adrenarche Profile 1

**LabCorp**

**Additional Information**
- Testing includes Androstendione, Total Testosterone and 17 Alpha-Hydroxyprogesterone, DHEA sulfate

**Collection Container**
- Red
- Serum

**Specimen Volume**
- 2 mL

**Minimum Specimen Volume**
- 1.5 mL

**Transport Temperature**
- Refrigerate

**Specimen Stability**
- Room temperature: 2 days, Refrigerated: 2 days, Frozen: 90 days

**Reasons for Rejection**
- Collected in gel barrier tube

**CPT Code**
- 82157, 83498, 84403, 82627

**EMR Interface Order Code**
- 26126

### PRADN2  Premature Adrenarche Profile 2

**LabCorp**

**Additional Information**
- Testing includes:
  - Androstendione
  - Total Testosterone
  - 17 Alpha-Hydroxyprogesterone
  - 17 OH Pregnenolone
  - Dehydroepiandrosterone

**Collection Container**
- Red
- Serum

**Specimen Volume**
- 2 mL

**Minimum Specimen Volume**
- 1.5 mL

**Transport Temperature**
- Refrigerate

**Specimen Stability**
- Room temperature: 4 hours, Refrigerated: 2 days, Frozen: 90 days

**Reasons for Rejection**
- Collected in gel barrier tube

**CPT Code**
- 82157, 83498, 84403, 82626, 84143

**EMR Interface Order Code**
- 26376
**Primidone and Phenobarbital, Serum**

**Mayo Clinic Laboratories in Rochester**

**Additional Test Codes**
EMR Interface Order Code: 07950

**Useful For**
Assessing compliance
Monitoring for appropriate therapeutic levels of primidone and phenobarbital
Assessing toxicity

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIMD</td>
<td>Primidone, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>PBR</td>
<td>Phenobarbital, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Testing Algorithm**
Includes phenobarbital determination.

**Method Name**
PRIMD: Immunoassay
PBR: Kinetic Interaction of Microparticles in a Solution (KIMS)

**Reporting Name**
Primidone and Phenobarbital, S

**Specimen Type**
Serum

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
Gross hemolysis [Reject]

**Reference Values**

Primidone
Therapeutic: 5.0-12.0 mcg/mL
Critical value: ≥15.0 mcg/mL

Phenobarbital
Therapeutic: 10.0-40.0 mcg/mL
Critical value: ≥60.0 mcg/mL

**Day(s) and Time(s) Performed**
Monday through Sunday; Continuously

---

**Procalcitonin, Serum**

**Mayo Clinic Laboratories in Rochester**

**Useful For**
Diagnosis of bacteremia and septicemia in adults and children (including neonates)
Diagnosis of renal involvement in urinary tract infection in children
Diagnosis of bacterial infection in neutropenic patients
Diagnosis, risk stratification, and monitoring of septic shock
Diagnosis of systemic secondary infection post-surgery, and in severe trauma, burns, and multiorgan failure
Differential diagnosis of bacterial versus viral meningitis
Differential diagnosis of community-acquired bacterial versus viral pneumonia
Monitoring of therapeutic response to antibacterial therapy

**Specimen Type**
Serum Red

**Specimen Required**
Collection Container/Tube: Red top
Submission Container/Tube: Plastic screw-top aliquot tube
Specimen Volume: 0.5 mL

**Specimen Minimum Volume**
0.25 mL
## Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>90 days</td>
<td></td>
</tr>
</tbody>
</table>

## Reference Values

**Adults and children ≥72 hours:** ≤0.15 ng/mL  
Children < 72 hours: <2.0 ng/mL at birth, rises to ≤20 ng/mL at 18-30 hours of age, then falls to ≤0.15 ng/mL by 72 hours of age

---

## Test Classification

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

---

## CPT Code Information

84145

## LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>PCT</td>
<td>Procalcitonin, S</td>
<td>33959-8</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCT</td>
<td>Procalcitonin, S</td>
<td>33959-8</td>
</tr>
</tbody>
</table>

---

## PROINS  Proinsulin, Plasma

**Baystate Reference Laboratories**

**Collection Container**

Serum gel  
Serum preferred, Li Heparin and EDTA also acceptable

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.3 mL

**Transport Temperature**

Refrigerate

**Specimen Stability**

Refrigerated: 7 days

**Methodology**

Electrochemiluminescence immunoassay (ECLIA)

**Days and Times Performed**

Test performed daily

**Turnaround Time**

24 hours

---

## Reference Ranges

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150

---

## PROINS  Proinsulin, Plasma

**Reference Ranges**

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150

---

## PROINS  Proinsulin, Plasma

**Reference Ranges**

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150

---

## PROINS  Proinsulin, Plasma

**Reference Ranges**

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150

---

## PROINS  Proinsulin, Plasma

**Reference Ranges**

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150

---

## PROINS  Proinsulin, Plasma

**Reference Ranges**

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150

---

## PROINS  Proinsulin, Plasma

**Reference Ranges**

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150

---

## PROINS  Proinsulin, Plasma

**Reference Ranges**

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150

---

## PROINS  Proinsulin, Plasma

**Reference Ranges**

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150

---

## PROINS  Proinsulin, Plasma

**Reference Ranges**

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150

---

## PROINS  Proinsulin, Plasma

**Reference Ranges**

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150

---

## PROINS  Proinsulin, Plasma

**Reference Ranges**

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150

---

## PROINS  Proinsulin, Plasma

**Reference Ranges**

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150

---

## PROINS  Proinsulin, Plasma

**Reference Ranges**

**Females:**

Follicular phase: 0.2 - 1.5 ng/mL  
Ovulation: 0.8 - 3.0.  
Luteal phase: 1.7 - 27.0 ng/mL  
Postmenopausal: 0.1 - 0.8 ng/mL

**Males:** 0.2 - 1.4 ng/mL

## Units of Measure

ng/mL

## CPT Code

84144

## EMR Interface Order Code

27150
### PRL  Proactin

**Baystate Reference Laboratories**

**Collection Container**
Serum gel

Serum, EDTA and Lithium-heparin plasma are also acceptable

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 5 days, Refrigerated: 14 days, Frozen: 6 months
freeze/thaw cycle: 1

**Methodology**
Electrochemiluminescence immunoassay (ECLIA)

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
- Female: 4.8 - 23.3 ng/mL,
- Male: 4.0 - 15.2 ng/mL

**Units of Measure**
ng/mL

**CPT Code**
84146

**EMR Interface Order Code**
66710

### PCNA  Proliferating Cell Nuclear Antigen Antibody

**Quest Diagnostics**

**Additional Information**
PCNA antibodies are highly SLE-specific and are associated with higher incidence of diffuse glomerulonephritis among SLE patients.

**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
Red top

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**Methodology**
Immunofluorescence Assay (IFA)

**CPT Code**
86255

**EMR Interface Order Code**
45550
Propafenone, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Propafenone, S

Useful For
Monitoring propafenone therapy
Assessing potential toxicity

Specimen Type
Serum Red

Specimen Required

Patient Preparation: Samples should only be collected after patient has been receiving propafenone for at least 3 days. Trough concentrations should be collected just before administration of the next dose.

Collection Container/Tube: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1.5 mL
Collection Instructions:
1. Draw blood immediately before next scheduled dose.
2. Centrifuge within 2 hours of draw and aliquot to remove serum from spun RBCs.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

Trough Value
0.5-2.0 mcg/mL: Therapeutic concentration
>2.0 mcg/mL: Toxic concentration

Day(s) and Time(s) Performed
Monday through Saturday

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80299

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>PFN</td>
<td>Propafenone, S</td>
<td>6905-4</td>
</tr>
</tbody>
</table>

Result ID
80295

Reject Due To

Gross hemolysis OK
Gross lipemia OK
Gross icterus OK

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Secondary ID
80295

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

UPGD2 Prostaglandin D2 (PG D2), Urine

Inter Science Institute

Specimen Required

Patient Preparation: Patient should not be on aspirin, indomethacin, or anti-inflammatory medications, if possible, for at least 48 hours prior to collection of specimen. Specimen must be frozen within 30 minutes of collection.

Specimen Type: Urine
Submission Container/Tube: Plastic, 10-mL tube (T068)
Specimen Volume: 10 mL
Collection Instructions:
1. Collect random urine (NO preservative).
2. Freeze immediately and send specimen frozen in the plastic, 10-mL urine tube (T068)
3. Freeze immediately and send specimen frozen in the plastic, 10-mL urine tube (T068)

Note: 24 hours urine collection is not acceptable.

Secondary ID
75366

Method Name
Direct Immunoassay (RIA)

Reporting Name
Prostaglandin D2 (PG D2), U

Specimen Type
Urine

Specimen Minimum Volume
5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

Hemolysis NA
Lipemia NA
Icteric NA
Other NA

Reference Values

No reference intervals available for this test.

Day(s) and Time(s) Performed
Upon receipt
Test Classification
This test was performed using a kit that has not been cleared or approved by the FDA and is designated as research use only. The analytic performance characteristics of this test have been determined by Inter Science Institute. This test is not intended for diagnosis or patient management decisions without confirmation by other medically established means.

CPT Code Information
84150

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>FPD2U</td>
<td>Prostaglandin D2 (PG D2), U</td>
<td>12838-9</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>FPD2U</td>
<td>Prostaglandin D2 (PG D2), U</td>
<td>12838-9</td>
</tr>
</tbody>
</table>

ACPIMM Prostatic Acid Phosphatase (PAP), Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 03025

Reporting Name
Prostatic Acid Phosphatase, S

Useful For
Predicting recurrence after radical prostatectomy for clinically localized prostate cancer and following response to androgen ablation therapy, when used in conjunction with prostate-specific antigen

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Red top
Acceptable: Serum gel
Specimen Volume: 1 mL

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
≤0.1 ng/mL

Research for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Methodology
Clot based assay

Days and Times Performed
Test performed once per week.

Turnaround Time
2 - 5 days

Reference Ranges
74-151%

CPT Code
85303

LOINC Code
27819-2

EMR Interface Order Code
32985
**PROTC  Protein C Antigen**

*LabCorp*

**Collection Container**
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Special Handling Instructions**
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**
Platelet poor plasma: 1 mL aliquots, Whole blood: 2.7 mL

**Minimum Specimen Volume**
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

**Transport Temperature**
Platelet poor plasma: frozen, Whole blood: ambient temperature

**Specimen Stability**
Whole blood: 4 hours

**Reasons for Rejection**
Hemolyzed, clotted, Whole blood >4 hours old

**Methodology**
ELISA

**Days and Times Performed**
Test sent to reference lab Monday - Saturday

**Turnaround Time**
2 - 10 Days

**Reference Ranges**
Reported with result

**CPT Code**
85302

**EMR Interface Order Code**
12000

---

**S_FX  Protein S Activity, Plasma**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Protein S Activity, P

**Useful For**
Second-order testing for diagnosis of congenital or acquired protein S deficiency for example, as an adjunct to initial testing based on results of protein S antigen assay (free protein S antigen, with or without total protein S antigen assay)

Evaluating patients with a history of venous thromboembolism

**Specimen Type**
Plasma Na Cit

**Specimen Required**

**Patient Preparation:** Patient must not be receiving Coumadin.

**Specimen Type:** Platelet-poor plasma

**Collection Container/Tube:** Light-blue top (3.2% sodium citrate)

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 1 mL

**Collection Instructions:**
1. Centrifuge, transfer all plasma into a plastic vial, and centrifuge plasma again.
2. Aliquot plasma into a plastic vial leaving 0.25 mL in the bottom of centrifuged vial.
3. Freeze specimen immediately (no longer than 4 hours after collection) at ≤-40°C, if possible.

**Additional Information:**
1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.
2. Each coagulation assay requested should have its own vial.

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma Na Cit</td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**
- Coagulation Guidelines for Specimen Handling and Processing
Reference Values
Males: 65-160%
Females
<50 years: 50-160%
≥50 years: 65-160%
Newborn infants have normal or near-normal free protein S antigen (≥50%), although total protein S antigen is usually below the adult reference range. There are insufficient data concerning protein S activity in normal neonates, infants, and children; but normal or near-normal activity (≥50%) probably is present by age 3 to 6 months.

Day(s) and Time(s) Performed
Monday through Friday; 12 p.m.

Test Classification
This test has been modified from the manufacturer’s instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
85306

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>S_FX</td>
<td>Protein S Activity, P</td>
<td>27822-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>S_FX</td>
<td>Protein S Activity, P</td>
<td>27822-6</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis Reject
Gross lipemia Reject
Gross icterus Reject

Method Name
Optical Clot-Based

Secondary ID
80775

Forms
If not ordering electronically, complete, print, and send a Coagulation Test Request (T753) with the specimen.

PROTS  Protein S Antigen

LabCorp

Collection Container
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 1 mL aliquots, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Methodology
LIA

Days and Times Performed
Test sent to reference lab Monday - Saturday

Turnaround Time
2 - 10 Days

Reference Ranges
Reported with result

CPT Code
85305

LOINC Code
27823-4

EMR Interface Order Code
33023

PSTF  Protein S Antigen, Plasma

Mayo Clinic Laboratories in Rochester

Reporting Name
Protein S Ag, P

Useful For
Investigation of patients with a history of thrombosis

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSF</td>
<td>Protein S Ag, Free, P</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>PST</td>
<td>Protein S Ag, Total, P</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm
If this test is abnormal, then total plasma protein S antigen will be performed at an additional charge.

Specimen Type
Plasma Na Cit

Specimen Required

Patient Preparation: Patient must not be receiving heparin or Coumadin.

Specimen Type: Platelet-poor plasma
Collection Container/Tube: Light-blue top (citrate)
Submission Container/Tube: Plastic vials
Specimen Volume: 1 mL in 2 plastic vials each containing 0.5 mL
Collection Instructions:
1. Centrifuge, remove plasma, and centrifuge plasma again.
2. Freeze specimens immediately at ≤-40° C, if possible.
3. Send specimens in the same shipping container.

Additional Information:
1. A double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.
2. If the patient is being treated with Coumadin, this should be noted. Coumadin will lower protein S.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma Na Cit</td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Coagulation Guidelines for Specimen Handling and Processing

Reference Values

**TOTAL**
- Males: 80-160%
- Females
  - <50 years: 70-160%
  - ≥50 years: 80-160%

**FREE**
- Males: 65-160%
- Females
  - <50 years: 50-160%
  - ≥50 years: 65-160%

Normal, full-term newborn infants or healthy premature infants may have decreased levels of total protein S (15-50%); but because of low levels of C4b-binding protein, free protein S may be normal or near the normal adult level (≥50%). Total protein S reaches adult levels by 90 to 180 days postnatal.

Day(s) and Time(s) Performed
Monday through Friday

Test Classification
See Individual Test IDs

CPT Code Information
85306-Free
85305-Total (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSTF</td>
<td>Protein S Ag, P</td>
<td>87557-5</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSF</td>
<td>Protein S Ag, Free, P</td>
<td>27821-8</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

Method Name
PSF, PST: Latex Immunoassay (LIA)

Forms
If not ordering electronically, complete, print, and send a Coagulation Test Request (T753) with the specimen.

Secondary ID
83049

PRSPF  Protein S Deficiency Profile

Collection Container
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 3 mL aliquots, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 2 mL, Whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
- Hemolyzed, clotted, Whole blood ≥4 hours old

Methodology
LIA

Days and Times Performed
Test sent to reference lab Monday - Saturday

Turnaround Time
2 - 10 Days

Reference Ranges
Reported with result

Units of Measure
%

CPT Code
85305; 85306

LOINC Code
5892-5

EMR Interface Order Code
65410

PROTSF  Protein S, Free

Collection Container
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 2 mL aliquots, Whole blood: 2.7 mL
Minimum Specimen Volume
Platelet poor plasma: 1 mL, Whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Methodology
LIA

Days and Times Performed
Test sent to reference lab Monday - Saturday

Turnaround Time
2 - 10 Days

Reference Ranges
Reported with result

Units of Measure
%

CPT Code
85305

LOINC Code
27821-8

EMR Interface Order Code
33025

FPRTS  Protein S, Functional

Collection Container
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 2 mL aliquots, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 1 mL, Whole blood: 2.7 mL.

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Methodology
Clot based

Days and Times Performed
Test sent to reference lab Monday - Saturday

UTPR  Protein, Urine

Collection Container
Urine

Random Urine

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Reasons for Rejection
Acidified urine, or use of any preservative during collection.

Methodology
Spectrophotometric; benzethonium chloride

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
Male and female: 0-12 mg/dL

Units of Measure
mg/dL

CPT Code
84156

EMR Interface Order Code
10645

PRO  Protime Profile (PT/INR)

Collection Container
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 24 hours of collection
Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 1 mL aliquots, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, whole blood: ambient temperature

Specimen Stability
Whole blood: 24 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Methodology
CA7000

Days and Times Performed
24 hours a day, 7 days a week

Turnaround Time
Daily

Reference Ranges
PT: 9.7 - 12.2 Seconds
INR: 0.9 - 1.1 Ratio

CPT Code
85610

LOINC Code
5902-2

EMR Interface Order Code
33050

Critical Values
0-2 Months: >1.5 INR
>2 Months: >5.0 INR

Advisory Information
This test is for assessment for protoporphyria. The preferred test for lead toxicity in children is blood lead. For more information see PBDV / Lead, Venous with Demographics, Blood or PBDC / Lead, Capillary, with Demographics, Blood. The preferred screening test for suspicion of a hepatic porphyria is urine porphyrins. For more information see PQNRU / Porphyrins, Quantitative, Random, Urine.

Necessary Information
Include a list of medications the patient is currently taking.

Specimen Required
All porphyrin tests on whole blood can be performed on 1 tube.

Patient Preparation: Patient should abstain from alcohol for 24 hours.

Container/Tube:
Preferred: Green top (sodium heparin)
Acceptable: Dark blue top (metal free heparin) or green top (lithium heparin)

Specimen Volume:
Full tube

Collection Instructions:
Immediately place specimen on wet ice.

Specimen Minimum Volume
3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- The Heme Biosynthetic Pathway
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm

Reference Values
FREE PROTOPORPHRYIN
<20 mcg/dL

ZINC-COMPLEXED PROTOPORPHYRIN
<60 mcg/dL

Day(s) and Time(s) Performed
Monday, Wednesday, Friday; 11 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82542

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>PPFE</td>
<td>Protoporphyrins, Fractionation, WB</td>
<td>In Process</td>
</tr>
</tbody>
</table>
Result ID | Test Result Name | Result LOINC Value
---|---|---
2327 | Zinc-Complexed Protoporphyrin | 2895-1
2326 | Free Protoporphyrin | In Process
29511 | Interpretation | 59462-2

Reject Due To
- Gross hemolysis | Reject

Method Name
High-Performance Liquid Chromatography (HPLC) with Fluorescence Detection

Forms
If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

VIVACT  Protriptyline (Vivactyl)

Medtox Laboratories, Inc.

Additional Test Codes
EMR Interface Order Code: 09475

Reporting Name
Protriptyline (Vivactyl)

Specimen Type
Varies

Specimen Required
Submit only 1 of the following specimens:

Plasma
Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial.

Serum
Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>180</td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>72</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
- Hemolysis | NA
- Lipemia | NA
- Icterus | NA
- Other | NA

Reference Values
Reference Range: 50 - 170 ng/mL

Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information
80335

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>PROTR</td>
<td>Protriptyline (Vivactyl)</td>
<td>3999-0</td>
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</table>

<table>
<thead>
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<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>Z1053</td>
<td>Protriptyline (Vivactyl)</td>
<td>3999-0</td>
</tr>
</tbody>
</table>

Method Name
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

Secondary ID
9797

PSA  PSA, Diagnostic or Monitor

Baystate Reference Laboratories

Additional Information
Manipulation of the prostate by rectal exam within 48 hrs of specimen collection may result in elevated results

Collection Container
Serum gel
Serum

Specimen Volume
1 mL

Minimum Specimen Volume
0.3 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 1 day, Refrigerated: 3 days, Frozen: 24 weeks freeze/thaw cycle 1

Reasons for Rejection
Gross hemolysis

Methodology
Electrochemiluminescence immunoassay (ECLIA)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
0 - 4 ng/mL

Units of Measure
ng/mL

CPT Code
84153

EMR Interface Order Code
08900
FRPSA  PSA, Free and Total

Baystate Reference Laboratories

Important Note
Please contact Chemistry lab before adding this test to a prior sample.

Collection Container
Serum gel
Serum

Specimen Volume
2 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 8 hours, Refrigerated: 3 days, Frozen: 12 weeks freeze/thaw cycle 1

Reasons for Rejection
Gross hemolysis

Methodology
Electrochemiluminescence immunoassay (ECLIA)

Days and Times Performed
Test performed Mon, Wed and Friday

Turnaround Time
24 hours

Reference Ranges
0 - 4 ng/mL

Units of Measure
ng/mL

CPT Code
84153

LOINC Code
12841-3

EMR Interface Order Code
08950

PSASC  PSA, Screen

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Specimen Volume
1 mL

Minimum Specimen Volume
0.3 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 1 day, Refrigerated: 3 days, Frozen: 24 weeks freeze/thaw cycle 1

Reasons for Rejection
Gross hemolysis

Methodology
Electrochemiluminescence immunoassay (ECLIA)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
0 - 4 ng/mL

Units of Measure
ng/mL

CPT Code
84153

LOINC Code
2857-1

EMR Interface Order Code
08895

ULTPSA  PSA, Ultrasensitive

LabCorp

Additional Information
PSA sampling should not be performed for at least 6 weeks after prostatic biopsy. This test is used as an aid in the management of patients following a surgical or medical treatment for prostatic cancer.

Collection Container
Serum gel
Serum

Specimen Volume
0.8 mL

Minimum Specimen Volume
0.3 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 7 days, Refrigerated: 7 days, Frozen: 14 days

Methodology
Electrochemiluminescence immunoassay (ECLIA)

Days and Times Performed
Monday - Friday

CPT Code
84153

LOINC Code
35741-8

EMR Interface Order Code
65340

PTM50  PT Mixing Study

Baystate Reference Laboratories

Additional Information
Testing is only performed if the PT is outside of the upper limit of the normal range.
Collection Container
Light Blue
Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Special Handling Instructions**
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**
Platelet poor plasma: 3 mL, Whole blood: Two 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 2 mL, Whole blood: 2.7 mL

**Transport Temperature**
Platelet poor plasma: frozen, Whole blood: ambient temperature

**Specimen Stability**
Whole blood: 24 hours

**Reasons for Rejection**
Hemolyzed, clotted, Whole blood >4 hours old

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Daily

**Reference Ranges**
9.7 - 12.2 Seconds

**CPT Code**
85610, 85611 (if indicated)

**LOINC Code**
5959-2

**EMR Interface Order Code**
34325

### PTH  **PTH, Intact**

*Baystate Reference Laboratories*

**Collection Container**
Lavender (EDTA)
Plasma

**Specimen Volume**
4 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 2 days, Refrigerated: 3 days, Frozen: 6 months

**Reasons for Rejection**
Specimen not separated within 24 hours; hemolysis

**Methodology**
Electrochemiluminescence immunoassay (ECLIA)

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
15 - 65 pg/mL

**Units of Measure**
pg/mL

**CPT Code**
83970

**EMR Interface Order Code**
27285

### PTHAN  **Pthalic Anhydride IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49105

**Container**
Serum gel or red top tube

### 50MPTT  **PTT Mixing Study**

*Baystate Reference Laboratories*

**Additional Information**
Testing is only performed if the APTT is greater than 8 seconds outside the upper limit of the normal range.

**Collection Container**
Light Blue
Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Special Handling Instructions**
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**
Platelet poor plasma: 3 mL, Whole blood: Two 2.7 mL
Minimum Specimen Volume
Platelet poor plasma: 2 mL, whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, Whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Days and Times Performed
24 hours a day, 7 days a week

Turnaround Time
Daily

Reference Ranges
24.3 - 33.1 Seconds

CPT Code
85730, 85732 x2 (if indicated), 85611 (if indicated)

LOINC Code
5946-9

EMR Interface Order Code
34251

UPUPYM  Purines and Pyrimidines Panel, Urine

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 07710

Secondary ID
41977

Useful For
Evaluating patients with symptoms suspicious for disorders of purine and pyrimidine metabolism
Monitoring patients with disorders of purine and pyrimidine metabolism
Laboratory evaluation of primary and secondary hyperuricemias

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Reporting Name
Purines and Pyrimidines Panel, U

Specimen Type
Urine

Necessary Information
Patient's age is required.

Specimen Required
Supplies: Urine Tubes, 10 mL (T068)
Container/Tube: Plastic, 10-mL urine tube
Specimen Volume: 2 mL
Collection Instructions: Collect a random urine specimen.

Specimen Minimum Volume
2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Frozen</td>
<td>90 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Day(s) and Time(s) Performed
Tuesday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82542

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUPYU</td>
<td>Purines and Pyrimidines Panel, U</td>
<td>79673-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
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Forms
If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.
# Reference Values — Purines and Pyrimidines Panel, Urine

## Purines and Pyrimidines Panel, Urine Reference Values (all results reported as mmol/mol creatinine)

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<thead>
<tr>
<th>Age range</th>
<th>0-6 years</th>
<th>4-6 years</th>
<th>7-12 years</th>
<th>13-18 years</th>
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**ANTIYO  Purkinje Cell (Yo) Autoantibody**

*Quest Diagnostics*

**Additional Information**

Also called Neuronal Nuclear antibody

**Reflex Tests**

Western Blot if positive. If Western Blot is positive, reflexes to titer.

**Collection Container**

Serum gel  
Serum

**Other Acceptable Specimen Types**

Red top

**Special Handling Instructions**

Overnight fasting is preferred.

**Specimen Volume**

0.5 mL

**Minimum Specimen Volume**

0.2 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

14 days

**Methodology**

Immunofluorescence Assay (IFA)

**Reference Ranges**

Titer: <1:40

**CPT Code**

86255 (Reflex CPT: 84181 (Western Blot), 86256 (titer))

**LOINC Code**

14249-7

**EMR Interface Order Code**

48350

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**CFPURK  Purkinje Cell Antibody, CSF**

*Quest Diagnostics*

**Additional Information**

Also called Neuronal Nuclear antibody

**Reflex Tests**

Western Blot if positive. If Western Blot is positive, reflexes to titer.

**Collection Container**

Sterile container  
CSF

**Specimen Volume**

0.8 mL

**Minimum Specimen Volume**

0.5 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

7 days

**Reasons for Rejection**

Received at room temperature

**Methodology**

Immunofluorescence Assay (IFA)

**CPT Code**

86255 (Reflex CPT: 84181 (Western Blot), 86256 (titer))

**LOINC Code**

14247-1

**EMR Interface Order Code**

48040

---

**PYRAZ  Pyrazinamide Level**

*National Jewish Health*

**Important Note**

Serum or plasma should be separated from cells within 45 minutes

**Collection Container**

Red top tube OR Green top (sodium heparin) tube  
Serum OR plasma

**Specimen Volume**

2 mL

**Minimum Specimen Volume**

0.5 mL

**Transport Temperature**

Frozen

**Specimen Stability**

Room temp: 24 hours  
Sample should be frozen

**Reasons for Rejection**

Gel top tube, severe hemolysis

**Methodology**

GC/MS

**CPT Code**

80299

**EMR Interface Order Code**

71149

---

**PYD  Pyridostigmine, Serum/Plasma**

*NMS Labs*

**Additional Test Codes**

EMR Interface Order Code: 07625

**Reporting Name**

Pyridostigmine

**Specimen Type**

Varies

**Specimen Required**

Submit only 1 of the following specimens:
Serum
Draw blood in a plain, red-top tube(s). **(Serum gel tube is not acceptable.)** Spin down and freeze immediately. Send 5 mL of serum frozen in a plastic vial.

**Note:**
1. Indicate serum on request form.
2. Label specimen appropriately (serum).

Plasma
Draw blood in a lavender-top tube(s) or a green-top tube(s). **(Plasma gel tube is not acceptable.)** Spin down and freeze immediately. Send 5 mL of EDTA or heparinized plasma frozen in a plastic vial.

**Note:**
1. Indicate plasma on request form.
2. Label specimen appropriately (plasma).

Specimen Minimum Volume
2.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
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<tbody>
<tr>
<td>Varies</td>
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Reference Values
Reporting limit determined each analysis

Synonym(s): Mestinon

30-125 ng/mL plasma in myasthenia gravis patients restores normal neuronal transmission.
Specimens must be kept frozen.

Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information
80375

LOINC Code Information

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<th>Test ID</th>
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<td>Pyridostigmine</td>
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<tr>
<td>Z1870</td>
<td>Reporting Limit</td>
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</table>

Reject Due To

- Specimens other than Serum, plasma
- Anticoagulants other than Plain red-top, EDTA, heparin
- Hemolysis NA
- Lipemia NA
- Icteric NA

Method Name
Gas Chromatography (GC)

**CFP5P** *Pyridoxal 5 Phosphate, CSF*

Medical Neurogenetics

Collection Container
Call Lab
Call Lab for Instructions

Specimen Volume
3 mL

Transport Temperature
Frozen

Reasons for Rejection
Failure to fill collection tubes at bedside. Samples not received in lab on ice or frozen.

Turnaround Time
2 - 3 weeks

CPT Code
82542

EMR Interface Order Code
65135

**PYRU Pyruvate**

Contracted Reference Lab

Collection Container
Gray top (potassium oxalate/sodium fluoride) tube and 8% perchloric acid tube

Clear supernatant

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 5 days, Refrigerated: 7 days, Frozen: 7 days

Reasons for Rejection
Whole blood, gray top tube not prepared with perchloric acid

CPT Code
84210

EMR Interface Order Code
11875

**PYRKI Pyruvate Kinase, Erythrocytes**

*Mayo Clinic Laboratories in Rochester*

Additional Test Codes
EMR Interface Order Code: 09500

Reporting Name
Pyruvate Kinase, RBC

Useful For
Evaluation of nonspherocytic hemolytic anemia

Evaluation of neonatal anemia

Evaluation of unusually severe hemoglobin S trait

Evaluation of unusually severe glucose-6-phosphate dehydrogenase deficiency

Investigating families with pyruvate kinase deficiency to determine inheritance pattern and for genetic counseling

Specimen Type
Whole Blood ACD-B
Specimen Required

Container/Tube:
Preferred: Yellow top (ACD solution B)
Acceptable: EDTA
Specimen Volume: 6 mL
Collection Instructions: Do not transfer blood to other containers.

Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
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<tr>
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</table>

Reference Values
≥12 months: 6.7-14.3 U/g Hb
Reference values have not been established for patients who are <12 months of age.

Day(s) and Time(s) Performed
Monday through Saturday

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
84220

LOINC Code Information

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Result ID

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<th>Test Result Name</th>
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<td>PK_</td>
<td>Pyruvate Kinase, RBC</td>
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</table>

Reject Due To

Gross hemolysis | Reject

Method Name
Kinetic Spectrophotometry (KS)

Secondary ID
8659

Forms
If not ordering electronically, complete, print, and send a Benign Hematology Test Request Form (T755) with the specimen.

CFPYRU  Pyruvate, Spinal Fluid

Mayo Clinic Laboratories in Rochester

Reporting Name
Pyruvic Acid, CSF

Useful For
Investigating possible disorders of mitochondrial metabolism, when used in conjunction with cerebrospinal fluid lactate collected at the same time to determine the lactate-to-pyruvate (L:P) ratio

Evaluating patients with neurologic dysfunction and normal blood lactate-to-pyruvate L:P ratios

Specimen Type
CSF

Additional Testing Requirements
This test does not calculate the lactate:pyruvate ratio. To obtain this information, both LABF / Lactate, Body Fluid and PYRC / Pyruvate, Spinal Fluid must be ordered. The ratio can be calculated from the results of those tests.

Specimen Required

Container/Tube: Sterile vial
Specimen Volume: 0.6 mL
Collection Instructions: Send specimen from vial 2.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
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<tr>
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<td>Ambient</td>
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</tr>
<tr>
<td></td>
<td>Refrigerated</td>
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</table>

Reference Values
0.06-0.19 mmol/L

Day(s) and Time(s) Performed
Tuesday, Friday; Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
84210

LOINC Code Information

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Result ID

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Reject Due To

Gross hemolysis | Reject

Method Name
Spectrophotometry (SP)

Forms
1. Biochemical Genetics Patient Information (T602) in Special Instructions.
2. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

Special Instructions

• Biochemical Genetics Patient Information
• Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm
Testing Algorithm
See Epilepsy: Unexplained Refractory and/or Familial Testing Algorithm in Special Instruction.

QFEVER  Q Fever Antibody, IgG and IgM, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Q Fever Ab, IgG and IgM, S

Useful For
Diagnosing Q fever

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top

Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.25 mL

Specimen Stability Information

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<th>Specimen Type</th>
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<tr>
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</table>

Reference Values

Q FEVER PHASE I ANTIBODY, IgG <1:16

Q FEVER PHASE II ANTIBODY, IgG <1:16

Q FEVER PHASE I ANTIBODY, IgM <1:16

Q FEVER PHASE II ANTIBODY, IgM <1:16

Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Friday; 9 a.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86638 x 4

LOINC Code Information

<table>
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<td>Q Fever Ab, IgG and IgM, S</td>
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Reject Due To

Gross hemolysis  Reject

Gross lipemia  Reject

Method Name
Indirect Immunofluorescence

Testing Algorithm

Special Instructions

• Infective Endocarditis: Diagnostic Testing for Identification of Microbiological Etiology

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

QUAD1  Quad Screen (Second Trimester)
Maternal, Serum

Mayo Clinic Laboratories in Rochester

Necessary Information
In order to provide the best results, either answer the order entry questions or provide the required information using the Second Trimester Maternal Screening Alpha-Fetoprotein (AFP)/QUAD Screen Patient Information (T595) (see Special Instructions).

Specimen Required

Container/Tube:
Preferred: Red top
Acceptable: Serum gel

Specimen Volume: 1 mL

Collection Instructions:
1. Do not draw specimen after amniocentesis as this could affect results.
2. Centrifuge immediately

Additional Information:
1. For an assessment that includes neural tube defect results, gestational age must be between 15 weeks, 0 days and 22 weeks, 6 days.
2. Assessments for trisomy 21 (Down syndrome) and trisomy 18 (Edwards syndrome) only are available between 14 weeks, 0 days and 22 weeks, 6 days.
3. Initial or repeat testing is determined in the laboratory at the time of report and will be reported accordingly. To be considered a repeat test for the patient, the testing must be within the same pregnancy and trimester, with interpretable results for the same tests, and both tests are performed at Mayo Clinic.
4. Maternal Serum Screening patient education brochure (T522) is available upon request.
Forms
Second Trimester Maternal Screening Alpha-Fetoprotein (AFP)/QUAD Screen Patient Information (T595) is required; see Special Instructions

Secondary ID
113145

Useful For
Prenatal screening for open neural tube defect (alpha-fetoprotein only), trisomy 21 (alpha-fetoprotein, human chorionic gonadotropin, estriol, and inhibin A) and trisomy 18 (alpha-fetoprotein, human chorionic gonadotropin, and estriol)

Testing Algorithm
See Prenatal Aneuploidy Screening and Diagnostic Testing Options in Special Instructions

Special Instructions
- Second Trimester Maternal Screening Alpha-Fetoprotein (AFP)/Quad Screen Patient Information
- Prenatal Aneuploidy Screening and Diagnostic Testing Options

Method Name
Immunoenzymatic Assay

Reporting Name
QUAD SCRN (2nd Tri) Maternal, S

Specimen Type
Serum

Specimen Minimum Volume
0.75 mL

Specimen Stability Information

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<th>Specimen Type</th>
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Reject Due To
| Gross hemolysis | Reject |
| Gross lipemia   | OK     |

Reference Values
NEURAL TUBE DEFECTS
An AFP multiple of the median (MoM) <2.5 is reported as screen negative. AFP MoMs ≥2.5 (singleton and twin pregnancies) are reported as screen positive.

DOWN SYNDROME
Calculated screen risks <1/270 are reported as screen negative, risks ≥1/270 are reported as screen positive.

TRISOMY 18
Calculated screen risks <1/100 are reported as screen negative, risks ≥1/100 are reported as screen positive.

An interpretive report will be provided.

Day(s) and Time(s) Performed
Monday through Friday; 8 a.m.-4:30 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
81511

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUAD1</td>
<td>QUAD SCRN (2nd Tri) Maternal, S</td>
<td>48800-7</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value
---|-------------------|-------------------|
7058      | Recalculated Maternal Serum Screen | 32399-8 |
113146    | Results Summary | 32399-8 |
10334     | Down syndrome screen risk estimate | 43995-0 |
10335     | Down syndrome maternal age risk | 49090-4 |
10337     | Trisomy 18 screen risk estimate | 43994-3 |
113147    | Neural tube defect risk estimate | 48803-1 |
10351     | AFP | 83073-7 |
113148    | AFP MoM | 23811-3 |
601921    | AFP MoM (14.0-14.6) | 23811-3 |
10352     | uE3 | 2250-9 |
113149    | uE3 MoM | 21264-7 |
10353     | hCG, TOTAL | 83086-9 |
113150    | hCG, TOTAL MoM | 23841-0 |
113151    | INHIBIN MoM | 36904-1 |
10354     | INHIBIN | 2478-6 |
10356     | INTERPRETATION | 49092-0 |
10357     | RECOMMENDED FOLLOW UP | 80615-8 |
10248     | Additional comments | 48767-8 |
3009      | Specimen collection date | 33882-2 |
7623      | Maternal date of birth | 21112-8 |
7834      | Calculated age at EDD | 43993-5 |
26717     | Maternal Weight | 29463-7 |
26718     | Maternal Weight | 29463-7 |
IDD       | Insulin dependent diabetes | 44877-9 |
RACE1     | Patient race | 21484-1 |
SMKNG     | Current cigarette smoking status | 64234-8 |
10054     | EDD by U/S scan | 11781-2 |
7203      | GA on collection by U/S scan | 11885-5 |
7753      | EDD by LMP | 11779-6 |
7204      | GA on collection by dates | 11885-1 |
7830      | GA used in risk estimate | 21299-3 |
MULTF     | Number of Fetuses | 55281-0 |
CHOR_     | Number of Chorions | 92568-5 |
IVFP      | IVF pregnancy | 47224-1 |
PRHIS     | Prev Down (T21) / Trisomy Pregnancy | 53826-4 |
PRNTD     | Prev Pregnancy w/ Neural Tube Defect | 53827-2 |
PTNTD     | Patient or father of baby has a NTD | 53827-2 |
INTL      | Initial or repeat testing | 77202-0 |
DRPHN     | Physician Phone Number | 68340-9 |
10358     | GENERAL TEST INFORMATION | 62364-5 |

**QTBM4M**  **Quantiferon TB Gold Plus**

Baystate Reference Laboratories

Important Note

**BLOOD COLLECTION:**
1. Collect 1 mL of blood into each of 4 tubes.(Tubes fill slowly.)
   When the tube is upright, blood must meet the small black mark on the label.
   Specimens with volumes outside of black mark will be rejected.
2. Immediately shake the tubes firmly 10 times.
Entire inner surface of tubes must be coated with blood. Overly energetic shaking may cause gel disruption and could lead to aberrant results. Thorough mixing is required to ensure complete integration of the tubes contents into the blood. (DO NOT CENTRIFUGE OR REFRIGERATE SPECIMENS)

3. Label tubes appropriately. The label should be placed below colored Quantiferon band so back window and black marks are visible on all 4 collection tubes.

4. Maintain tubes at room temperature (17°C to 27°C) until incubation. Do not refrigerate or freeze.

5. Samples must be sent to the Referral Lab for incubation as quickly as possible. Incubation of the 4 tubes must be started within 16 hours of collection.

Collection Container
4 Tube QuantiFERON-TB Gold Plus Collection Kit

Reasons for Rejection
Specimen centrifuged, refrigerated, or frozen; Specimen more than 70 hours old after incubation receipt by reference lab; Not incubated within 16 hours of collection; Unlabeled tubes, expired collection tubes; Specimens with volumes outside of black mark.

Days and Times Performed
Monday through Sunday

Turnaround Time
3-5 days

CPT Code
86480

EMR Interface Order Code
70798

QUETPN  Quetiapine (Seroquel)

Medtox Laboratories, Inc.

Reporting Name
Quetiapine (Seroquel), Serum

Specimen Type
Varies

Specimen Required
Submit only 1 of the following specimens:

Plasma
Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in a plastic vial.

Serum
Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume
0.6 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180</td>
<td>days</td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72</td>
<td>hours</td>
</tr>
</tbody>
</table>

Reject Due To

Hemolysis | NA
Lipemia   | NA
Icterus   | NA
Other     | NA

Reference Values

Units: ng/mL

Therapeutic and toxic ranges have not been established. Expected steady-state Quetiapine plasma levels in patients receiving recommended daily dosages: 100 - 1000 ng/mL.

Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information

80342

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FQUET</td>
<td>Quetiapine (Seroquel), Serum</td>
<td>26776-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z1216</td>
<td>Quetiapine (Seroquel), Serum</td>
<td>26776-5</td>
</tr>
</tbody>
</table>

Method Name
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

Test Classification
This test was developed and its performance characteristics determined by LabCorp. It has not been cleared or approved by the Food and Drug Administration.

RABEP  Rabbit Epithelia IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmuNoCAP
**RABIES  Rabies Antibody Endpoint**

*RFFIT/K-State Rabies Laboratory Manhattan/K-State Innovation Center*

**Reporting Name**
Rabies RFFIT Endpoint, S

**Specimen Type**
Serum

**Specimen Required**

- **Specimen Type**: Serum
- **Container/Tube**: Red
- **Specimen Volume**: 2 mL
- **Collection Instructions**: Draw blood in a plain red-top tube(s), Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Note**: 1. Serum gel tube is acceptable, but must be poured off into plastic vial.
   2. Collection date is required.

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>60 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

- Reportable range is 0.1 to 15.0 IU/mL
- Less than 0.1 IU/mL: Below detection limit

In humans a results of 0.5 IU/mL or higher is considered an acceptable response to rabies vaccination according to the World Health Organization (WHO) guidelines; see WHO and Advisory Committee on Immunization Practices documents for additional guidance.

**Day(s) and Time(s) Performed**
Monday, Wednesday, Thursday

**CPT Code Information**
86382

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>FFRF1</td>
<td>Rabies RFFIT Endpoint, S</td>
<td>6524-3</td>
</tr>
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**Reject Due To**

<table>
<thead>
<tr>
<th>Reject Due To</th>
<th>Acceptance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>Mild OK; Gross reject</td>
</tr>
<tr>
<td>Lipemia</td>
<td>Mild OK; Gross reject</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Method Name**
Serum Neutralization Fluorescent Antibody

**Secondary ID**
90330

**FRAJI  Raji Cell Immune Complex Assay**

*ARUP Laboratories*

**Specimen Required**

Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum frozen in a plastic vial.

**Method Name**
Quantitative Flow Cytometry

**Reporting Name**
Raji Cell Immune Complex Assay

**Specimen Type**
Serum

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Reject Due To</th>
<th>Acceptance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>Mild OK; Gross OK</td>
</tr>
<tr>
<td>Lipemia</td>
<td>Mild OK; Gross OK</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Reference Values**

≤ 37 ugE/mL

Many autoimmune disorders, chronic infections and malignancies are associated with circulating immune complexes. Quantitation of immune complexes assists in staging immunologic disorders.

**Day(s) and Time(s) Performed**
Tuesday

**Test Classification**
Analyte specific reagents (ASR) are used in many laboratory tests necessary for standard medical care and generally do not require U.S. Food and Drug Administration (FDA) approval or clearance. This test was developed and its performance characteristics determined by ARUP Laboratories. The U.S. Food and Drug Administration has not approved or cleared this test; however, FDA clearance or approval is not currently required for clinical use. The results are not intended to be used as the sole means for clinical diagnosis or patient decisions. This test should not be regarded as investigational or for research use.
CPT Code Information
86332

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>FRAJi</td>
<td>Raji Cell Immune Complex Assay</td>
<td>10864-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRAJi</td>
<td>Raji Cell Immune Complex Assay</td>
<td>10864-7</td>
</tr>
</tbody>
</table>

**RAPMCN  Rapamycin**

Baystate Reference Laboratories

Additional Information
Trough level: 1/2 to 1 hour before next oral dose

Collection Container
Lavender (EDTA)
Whole Blood

Specimen Volume
3 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Reasons for Rejection
Frozen specimen; specimen spun and separated

Methodology
LCMS/MS - Liquid chromatography/mass spectrometry (LC-MS)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
3.0 - 20.0 ng/mL

Units of Measure
ng/mL

CPT Code
80195

EMR Interface Order Code
07960

**RASTIHI  RAST Inhalant Panel**

*Contracted Reference Lab*

Important Note
TEST INCLUDES: Alternaria tenuis, Cat Epithelium, Cladosporium, Dog Dander, House Dust Mites/DF, June Grass, Oak, Short Ragweed, Timothy Grass, Lambs Quarter

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
1.5 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

CPT Code
86003 x10

EMR Interface Order Code
49360

**RATEP  Rat Epithelia IgE**

*Contracted Reference Lab*

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL
Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49655

Container
Serum gel or red top tube

**RBCEE  Red Blood Cell (RBC) Enzyme Evaluation**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
RBC Enzyme Evaluation

**Useful For**
Identifying defects of red cell enzyme metabolism
Evaluating patients with hemolytic anemia

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEEV</td>
<td>Erythrocyte Enzyme Interpretation</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>G6PD</td>
<td>G-6-PD, QN, RBC</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>PK</td>
<td>Pyruvate Kinase, RBC</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>GPI</td>
<td>Glucose Phosphate Isomerase, B</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>HEXK</td>
<td>Hexokinase, B</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Reflex Tests**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLTI</td>
<td>Glutathione, B</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>RBCE</td>
<td>Reflected RBC Enzymes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Testing Algorithm**

This is a consultative evaluation in which the case will be evaluated at Mayo Clinic Laboratories, the appropriate tests performed at an additional charge, and the results interpreted.

**Note**: RBCEE / Reflected RBC Enzymes, Blood includes: adenylate kinase, phosphofructokinase, phosphoglycerate kinase, triosephosphate isomerase, and pyrimidine 5’ nucleotidase.

See Benign Hematology Evaluation Comparison in Special Instructions.

**Specimen Type**
Whole Blood ACD-B

**Specimen Required**

<table>
<thead>
<tr>
<th>Container/Tube:</th>
<th>Yellow top (ACD solution B)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Specimen Volume</strong>:</td>
<td>12 mL</td>
</tr>
</tbody>
</table>

**Collection Instructions**: Do not transfer blood to other containers.

**Specimen Minimum Volume**
5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood ACD-B</td>
<td>Refrigerated</td>
<td>8 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
Definitive results and an interpretive report will be provided.

**Day(s) and Time(s)Performed**
Monday through Friday; Varies

**Test Classification**

See Individual Test IDs

**CPT Code Information**

<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>82955-G-6-PD</td>
<td>G-6-PD</td>
</tr>
<tr>
<td>84087-Glucose phosphate isomerase</td>
<td>Glucose phosphate isomerase</td>
</tr>
<tr>
<td>84220-Pyruvate kinase</td>
<td>Pyruvate kinase</td>
</tr>
<tr>
<td>82657-Hexokinase</td>
<td>Hexokinase</td>
</tr>
<tr>
<td>82978-Glutathione (if appropriate)</td>
<td>Glutathione</td>
</tr>
<tr>
<td>83915-RBC Enzymes (if appropriate)</td>
<td>RBC Enzymes</td>
</tr>
</tbody>
</table>

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEEVP</td>
<td>RBC Enzyme Evaluation</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>21065</td>
<td>Erythrocyte Enzyme Interpretation</td>
<td>59466-3</td>
</tr>
<tr>
<td>G6PD_</td>
<td>G-6-PD, QN, RBC</td>
<td>32546-4</td>
</tr>
<tr>
<td>GPI_</td>
<td>Glucose Phosphate Isomerase, B</td>
<td>44050-3</td>
</tr>
<tr>
<td>HEXK_</td>
<td>Hexokinase, B</td>
<td>49216-5</td>
</tr>
<tr>
<td>PK_</td>
<td>Pyruvate Kinase, RBC</td>
<td>32552-2</td>
</tr>
</tbody>
</table>

**Reject Due To**

| Gross hemolysis | Reject |

**Method Name**

EEEV: Consultative Interpretation
G6PD, GPI, PK, GLTI, HEXK, RBCE: Kinetic Spectrophotometry (KS)

**Forms**

1. Metabolic Hematology Patient Information (T810) is available in Special Instructions
2. If not ordering electronically, complete, print, and send a Benign Hematology Test Request Form (T755) with the specimen.

**Special Instructions**

- Metabolic Hematology Patient Information
- Benign Hematology Evaluation Comparison

**REDMPL  Red Maple Tree IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
48965

Container
Serum gel or red top tube

REDTOP  Red Top Grass IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49140

Container
Serum gel or red top tube

RDSNAP  Red Snapper IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49215

Container
Serum gel or red top tube

FRS  Reducing Substances, Feces

Baystate Reference Laboratories

Additional Information
Bacterial fermentation may give falsely low results if specimen is not analyzed within 1 hour In the neonatal period, high Clinitest results may be observed

Collection Container
Plastic stool container with lid

Special Handling Instructions
Stool, (loose stool)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Additional Information
Bacterial fermentation may give falsely low results if specimen is not analyzed within 1 hour In the neonatal period, high Clinitest results may be observed

Collection Container
Plastic stool container with lid

Special Handling Instructions
Stool, (loose stool)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours
**Reference Ranges**
Readings of 0.25 g/dL (1/4%) to 0.5 g/dL (1/2%) are regarded as suspicious.
Readings >0.5 g/dL indicate abnormal amounts of reducing substance.

**CPT Code**
84376

**EMR Interface Order Code**
08975

---

**RLMISC  Referral Laboratory Miscellaneous Test**

*Baystate Reference Laboratories*

**Important Note**
This code is used for testing that doesn't have an orderable code. If unsure of the draw requirements and specimen transport, call Baystate Reference Laboratories for assistance.

**EMR Interface Order Code**
68670

---

**RENBX  Renal Biopsy**

*Baystate Reference Laboratories*

**Important Note**
Consultation with a pathologist is advised prior to collection

**Additional Information**
Consultation with renal pathologist required
Renal cortex

**Special Handling Instructions**
One core renal cortex in Zeus fixative, one core renal cortex in 10 % neutral buffered formalin, one core renal cortex in glutaraldehyde solution. Alternatively, tissue may be submitted wrapped in saline soaked gauze, placed in a container with crushed ice and transported immediately to the EM lab.

**Specimen Volume**
Three 18 gauge needle cores of renal cortex

**Minimum Specimen Volume**
Each core should have at least 5 glomeruli

**Transport Temperature**
In fixative or on ice

**Specimen Stability**
Transport specimen to the EM laboratory within 2 hours

**Reasons for Rejection**
Mishandling of specimen during collection and processing, such as frozen, dried out, or exposed to extreme heat

**Methodology**
Light microscopy, immunofluorescence and electron microscopy

**Turnaround Time**
2 - 7 days depending on additional studies

**CPT Code**
88305, 88313, 88346, 88348

---

**RENALP  Renal Function Panel**

*Baystate Reference Laboratories*

**Important Note**
This panel includes: Albumin, Bicarbonate, Calcium, Chloride, Creatinine, Glucose, Phosphorus, Potassium, Sodium, BUN

**Collection Container**
Serum gel
Serum

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Methodology**
See individual tests

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
See individual tests

**CPT Code**
88305, 88313, 88346, 88348

**LOINC Code**
24362-6

**EMR Interface Order Code**
14095

---

**RENNIN  Renin, Plasma Activity**

*LabCorp*

**Additional Information**
To facilitate interpretation of test results, the patient should be taken off medications for at least 3 weeks prior to sample collection (only with the permission of the physician)

Since patient posture prior to collection affects renin levels, it is recommended that the patient be ambulatory for at least 30 minutes before blood collection

**Collection Container**
Lavender (EDTA)
Plasma

**Special Handling Instructions**
Keep at room temperature before and during centrifugation. Whole blood (unspun) is stable for 6 hours at room temperature.

**Specimen Volume**
1.0 mL

**Minimum Specimen Volume**
0.8 mL

**Transport Temperature**
Whole blood room temperature, plasma frozen
**Specimen Stability**
Room temperature: 6 hours (Whole blood and plasma), Refrigerated: unstable, Frozen: 14 days (plasma)

**Reasons for Rejection**
Refrigeration at anytime is unacceptable, whole blood frozen unacceptable

**Methodology**
Radioimmunoassay (RIA)

**Turnaround Time**
3 - 7 days

**CPT Code**
84244

**EMR Interface Order Code**
27200

---

**RESPRF  Respiratory (RSV/FLU) Reflex Panel**
Baystate Reference Laboratories

**Important Note**
Test Includes: Influenza A & B and Respiratory Syncytial Virus (RSV). Negative specimens reflex to Respiratory Pathogen Panel by PCR (at an additional charge).

**Collection Container**
Nasopharyngeal swab: Submit using a fine-tipped flocked swab with a flexible shaft. Place the swab into a viral transport medium (such as red-capped Microtest M4RT Transport Tube)

**Reasons for Rejection**
Nasal swab, unbendable wire shafted swab, specimen received on dry swab, cotton swab, wood shafted swab or calcium alginate tip swab, excessive delay in transport, specimens that have leaked into bag.

**Days and Times Performed**
Daily

**Turnaround Time**
Within 6 hours

**Reference Ranges**
Negative, Not Detected

**CPT Code**
87502, 87798

**EMR Interface Order Code**
69784

---

**RFUNC  Respiratory Fungal Culture**
Baystate Reference Laboratories

**Additional Information**
Fungal smear included

**Collection Container**
Sterile sealed container
Sputum, bronchial washings, esophageal washings, lung aspirate

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
3-5 days depending on specimen type

**Reasons for Rejection**
E-swabs are not acceptable for specimen collection.

**Turnaround Time**
30 days

**Reference Ranges**
No growth after 28 days

**LOINC Code**
580-1

**EMR Interface Order Code**
51676

---

**ARETIC  Reticulin Antibodies, Serum**
Mayo Clinic Laboratories in Rochester

**Reporting Name**
Reticulin Abs, S

**Useful For**
Investigation of celiac disease (CD)

Reticulin antibodies are not useful in the diagnosis of CD. See Advisory Information.

**Specimen Type**
Serum

**Advisory Information**
Reticulin antibodies are not useful in the diagnosis of celiac disease (CD). For evaluation of patients suspected of CD or dermatitis herpetiformis Mayo Clinic recommends ordering 1 of the following:
-TTGA / Tissue Transglutaminase (tTG) Antibody, IgA, Serum
- EMA / Endomysial Antibodies (IgA), Serum

**Specimen Required**

**Container/Tube:**
- **Preferred:** Serum gel
- **Acceptable:** Red top
- **Specimen Volume:** 0.8 mL

**Specimen Minimum Volume**
0.4 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

Negative
If positive, results are titered.

Reference values apply to all ages.

**Day(s) and Time(s) Performed**
Monday through Sunday; 11 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
86255
86256 (if appropriate)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTA</td>
<td>Reticulin Abs, S</td>
<td>57414-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>9275</td>
<td>Reticulin Abs, S</td>
<td>57414-5</td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: OK

**Method Name**
Indirect Immunofluorescence

**Forms**
If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Client Test Request (T728) with the specimen.

**Secondary ID**
9275

---

**EMR Interface Order Code**
32895

---

**RETICC  Reticulocyte Count**

**Baystate Reference Laboratories**

**Collection Container**
Lavender (EDTA)

**Special Handling Instructions**
Positive identification of the patient. When applicable, compare the hospital wristband with the patient information on the request form. Label the tubes with the patients' full name, unique identification number (eg: medical record number, typanex number), date, time, and initials of collector (usually two sets of initials for patients to be transfused)

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
4 mL

**Reasons for Rejection**
Specimen improperly labeled; specimen grossly hemolyzed

**Methodology**
Hemagglutination (HA)

**Days and Times Performed**
Daily, 24 hours

**Reference Ranges**
Report includes interpretation as appropriate

**CPT Code**
86901 (Rh(D))
RF  Rheumatoid Factor

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
Li Heparinized and EDTA plasma

Specimen Volume
1.0 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 1 day, Refrigerated: 3 days, Frozen: 4 weeks

Methodology
Immunoturbidometric

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
Males and females: <14 IU/mL

CPT Code
86431

EMR Interface Order Code
60070

RHUT  Rheumatoid Factor, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Rheumatoid Factor, S

Useful For
Diagnosis and prognosis of rheumatoid arthritis

Specimen Type
Serum

Additional Testing Requirements
Anticyclic citrullinated peptide (CCP) antibody (CCP / Cyclic Citrullinated Peptide Antibodies, IgG, Serum) is an alternative or complementary assay to rheumatoid factor (RF) that has also demonstrated utility in the diagnosis and assessment of rheumatoid arthritis (RA). Utilization of both of these tests can provide clinical value in the diagnosis of RA. RF is not specific and may be present in other inflammatory rheumatic diseases and nonrheumatic diseases as well as in nonaffected individuals especially in those 60 years of age or older.

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.6 mL

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
<15 IU/mL

Day(s) and Time(s) Performed
Monday through Friday; 5 a.m.-12 a.m.
Saturday; 6 a.m.-6 p.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86431

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RHUT</td>
<td>Rheumatoid Factor, S</td>
<td>11572-5</td>
</tr>
</tbody>
</table>
Testing Algorithm
See Connective Tissue Disease Cascade (CTDC) in Special Instructions.

Specimen Type
Serum

Specimen Required

Container/Tube:
- Preferred: Serum gel
- Acceptable: Red top

Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.35 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Connective Tissue Disease Cascade (CTDC)

Reference Values
- <1.0 U (negative)
- ≥1.0 U (positive)

Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday; 4 p.m.

Test Classification

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
83516

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RIB</td>
<td>Ribosome P Ab, IgG, S</td>
<td>53892-6</td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis | Reject
Gross lipemia  | Reject
Gross icterus  | OK

Method Name
Multiplex Flow Immunoassay

Secondary ID
87837

Rhut
Rheumatoid Factor, S
11572-5

Reject Due To

Gross hemolysis | Reject
Gross lipemia  | OK
Gross icterus  | OK

Method Name
Turbidimetry

Secondary ID
603415

Rhizopus nigricans IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
00600

Container
Serum gel or red top tube

Ribosome P Antibodies, IgG, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Ribosome P Ab, IgG, S

Useful For
As an adjunct in the evaluation of patients with lupus erythematosus (LE)

Aids in the differential diagnosis of neuropsychiatric symptoms in patients with LE
**RICE  Rice IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
80375/G0480

**EMR Interface Order Code**
09050

---

**RISPER  Risperdone (Risperdal) and 9-Hydroxyrisperidone**

*Medtox Laboratories, Inc.*

**Reporting Name**
Risperdone and Metabolite

**Specimen Type**
Varies

**Specimen Required**
Submit only 1 of the following specimens:

- **Plasma**
  
  **Specimen Type:** Plasma (Preferred)
  **Container/Tube:** Green-top (sodium heparin) tube(s).
  **Specimen volume:** 3 mL
  **Collection Instructions:** Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 3 mL sodium heparin plasma refrigerated in a plastic vial.

- **Serum**
  
  **Specimen Type:** Serum
  **Container/Tube:** Red-top tube, serum gel is not acceptable.
  **Specimen volume:** 3 mL
  **Collection Instructions:** Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**
0.6 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
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</table>

**Reject Due To**

<table>
<thead>
<tr>
<th></th>
<th>NA</th>
<th>NA</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lipemia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Icterus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

Units: ng/mL

Expected steady state concentrations of risperidone and 9-hydroxyrisperidone (combined total) in patients receiving recommended daily dosages: 10 - 120 ng/mL.
Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information
80342

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRISP</td>
<td>Risperidone and Metabolite</td>
<td>55157-2</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name         | Result LOINC Value |
----------|--------------------------|--------------------|
Z1183     | Risperidone (Risperdal)  | 9393-0             |
Z1056     | 9-Hydroxyrisperidone     | 9383-1             |
Z1057     | Combined Total           | 9394-8             |

Method Name
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

Secondary ID
91105

Test Classification
This test was developed and its performance characteristics determined by LabCorp. It has not been cleared or approved by the Food and Drug Administration.

RNAP RNA Polymerase III Antibodies, IgG, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
RNA Polymerase III Ab, IgG, S

Useful For
Evaluating patients suspected of having systemic sclerosis, when used in conjunction with centromere and Scl70 antibodies

Providing diagnostic and prognostic information in patients with systemic sclerosis

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
<20.0 U (negative)
20.0-39.9 U (weak positive)
40.0-80.0 U (moderate positive)
>80.0 U (strong positive)

Day(s) and Time(s) Performed
Wednesday

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
83516

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNAP</td>
<td>RNA Polymerase III Ab, IgG, S</td>
<td>79182-2</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name         | Result LOINC Value |
----------|--------------------------|--------------------|
RNAP      | RNA Polymerase III Ab, IgG, S | 79182-2          |

Reject Due To
Gross hemolysis | Reject
Gross lipemia   | Reject
Gross icterus   | OK

Method Name
Enzyme-Linked Immunosorbent Assay (ELISA)

Secondary ID
83397

ROHYP Rohypnol, Urine

LabCorp

Additional Information
Detect presence of flunitrazepam, a potent sedative-hypnotic with a reputation as a date-rape drug

Collection Container
Urine
Random Urine

Special Handling Instructions
Urine specimen provides a longer detection time of drug and/or metabolites. Detection window is 3 - 4 days.

Specimen Volume
10 mL

Minimum Specimen Volume
3.0 ml

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 3 days, Refrigerated: 2 weeks, Frozen: 6 months

Reasons for Rejection
Urine from a preservative tube

Methodology
High performance liquid chromatography/tandem mass spectrometry (LC-MS/MS)

CPT Code
80307
**ROS1 Lung Ca  ROS1 (6q22) Lung Cancer FISH**

*Baystate Reference Laboratories (Cytology)*

**Additional Information**
Tested in conjunction with KRAS, EGFR and ALK

**Collection Container**
Paraffin Embedded Tissue

**Transport Temperature**
Stable at room temperature.

**Reasons for Rejection**
Insufficient Tumor

**CPT Code**
88271 x2, 88274

---

**ROTVIR  Rotavirus Antigen**

*Baystate Reference Laboratories*

**Collection Container**
Other
Stool

**Specimen Volume**
1 mL

**LOINC Code**
5880-0

**EMR Interface Order Code**
54400

---

**RMARSH  Rough Marsh Elder IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49155

**Container**
Serum gel or red top tube

---

**RSVFLU  RSV and Influenza A/B Panel, PCR**

*Baystate Reference Laboratories*

**Collection Container**
Other
Nasopharyngeal flocked swab in M4RT transport

**Specimen Volume**
5 mL

**Reasons for Rejection**
Specimen not collected using an NP flocked swab, Specimen not received in M4RT transport

**Methodology**
PCR

**Reference Ranges**
Negative

**EMR Interface Order Code**
66125
**RUBIS**  
*Rubella Antibody, IgG*

*Baystate Reference Laboratories*

**Collection Container**
Gel
Gel serum

**Other Acceptable Specimen Types**
Red top serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
7 days refrigerated

**Reasons for Rejection**
Specimens not centrifuged within 24 hours, specimens older than 7 days.

**Methodology**
Chemiluminescence

**LOINC Code**
8014-3

**EMR Interface Order Code**
54525

---

**RTHIS**  
*Russian Thistle IgE*

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49160

---

**RUB**  
*Rubella Antibody, IgM*

*LabCorp*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Red top

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Hemolysis; lipemia; gross bacterial contamination

**Methodology**
Chemiluminescent immunoassay (CLIA)

**Turnaround Time**
1 - 3 days

**CPT Code**
86762

---

**RYE**  
*Rye Grain IgE*

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003
SCERV  *Saccharomyces cerevisiae* Antibody

**LabCorp**

**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
Red top

**Specimen Volume**
0.4 mL

**Minimum Specimen Volume**
0.2 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**Reasons for Rejection**
Gross hemolysis; Gross lipemia

**Methodology**
Enzyme immunoassay (EIA)

**Reference Ranges**
Positive: ≥ 25 units

**CPT Code**
86671 x 2

**EMR Interface Order Code**
51560

SALI  Salicylate

**Baystate Reference Laboratories**

**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
Li Heparinized plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 4 days, Refrigerated: 2 weeks, Frozen: 6 months

**Methodology**
Enzymatic

Days and Times Performed
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
Antipyretic/analgesic: 3-10 mg/dL;
Anti-inflammatory/Rheumatic Fever: 15-30 mg/dL

**Critical Results**
Outpatient: >30 mg/dL, Inpatient: >50 mg/L

**Units of Measure**
mg/dL

**CPT Code**
80329

**EMR Interface Order Code**
09075

SADOA9  Salivary Drug Panel 9

**LabCorp**

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

**Additional Information**
Test includes: Amphetamines, benzodiazepines, buprenorphine, cocaine metabolite, cannabinoids, methadone, opiates, oxycodone/hyromorphine, PCP

**Patient Instructions**
Follow direction in kit to collect specimen

**Collection Container**
Obtain kit from BRL lab services

**Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Methodology**
Immunoassay screen with LCMS or GCMS Confirmation

**Days and Times Performed**
Monday - Friday

**Turnaround Time**
Negative results report 24 hours, Positive results 48 - 72 hours due to confirmatory testing

**CPT Code**
80307

**EMR Interface Order Code**
68280
**SALMON  *Salmon IgE*  

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49175

**Container**
Serum gel or red top tube

---

**SCALE  *Scale IgE*  

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49180

**Container**
Serum gel or red top tube

---

**SARD  *Sardine IgE*  

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49175

**Container**
Serum gel or red top tube

---

**SCALOP  *Scallop IgE*  

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49185

**Container**
Serum gel or red top tube
**SCHSAB**  *Schistosoma species Antibody, IgG, Serum*

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 04485

**Specimen Required**

**Container/Tube:**
- **Preferred:** Serum gel
- **Acceptable:** Red top

**Specimen Volume:** 1 mL

**Forms**
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

**Useful For**
Detection of antibodies to *Schistosoma* species

**Method Name**
Enzyme Immunoassay (EIA)

**Reporting Name**
Schistosoma Ab, IgG, S

**Specimen Type**
Serum

**Specimen Minimum Volume**
0.50 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis  
  Reject
- Gross lipemia  
  Reject

**Reference Values**

- Negative

**Day(s) and Time(s) Performed**

- Tuesday, Thursday; 9 a.m.

**Test Classification**

- This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

- 86682

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BILHA</td>
<td>Schistosoma Ab, IgG, S</td>
<td>33317-9</td>
</tr>
</tbody>
</table>

**SCLAB**  *Scl 70 Antibodies, IgG, Serum*

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Scl 70 Ab, IgG, S

**Useful For**
Evaluating patients with signs and symptoms of scleroderma and other connective tissue diseases in whom the test for antinuclear antibodies is positive

Testing for Scl 70 antibodies are not useful in patients without demonstrable antinuclear antibodies.

**Testing Algorithm**
See Connective Tissue Disease Cascade (CTDC) in Special Instructions.

**Specimen Required**

**Container/Tube:**
- **Preferred:** Serum gel
- **Acceptable:** Red top

**Specimen Volume:** 0.5 mL

**Specimen Minimum Volume**
0.4 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**

- Connective Tissue Disease Cascade (CTDC)

**Reference Values**

- <1.0 U (negative)
- ≥1.0 U (positive)

Reference values apply to all ages.

**Day(s) and Time(s) Performed**

- Monday through Saturday; 4 p.m.

**Test Classification**

- This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**

- 86235

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>SCL70</td>
<td>Scl 70 Ab, IgG, S</td>
<td>47322-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BILHA</td>
<td>Schistosoma Ab, IgG, S</td>
<td>33317-9</td>
</tr>
</tbody>
</table>
**Method Name**
Multiplex Flow Immunoassay

**Secondary ID**
80178

**RASTSF  Seafood IgE Panel**

**Contracted Reference Lab**

**Important Note**
TEST INCLUDES: Codfish, Crab, Lobster, Shrimp, Tuna

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003 x5

**EMR Interface Order Code**
49390

**ESR  Sedimentation Rate**

**Baystate Reference Laboratories**

**Collection Container**
Lavender (EDTA)

EDTA whole blood

**Specimen Volume**
4 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
24 hours refrigerated

**Reasons for Rejection**
Specimen clotted, <1.0 mL, greater than 24 hours old, specimen frozen

**Methodology**
Photometrical measurement of RBC aggregation

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Daily

**Reference Ranges**
Male: 0 - 15mm/hr; Female: 0 - 20mm/hr

**CPT Code**
85651

**LOINC Code**
30341-2

**EMR Interface Order Code**
32325

**SEWB  Selenium, Blood**

**Mayo Clinic Laboratories in Rochester**

**Specimen Required**

**Patient Preparation:** High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Supplies:** Metal Free B-D Tube (EDTA), 6 mL (T183)

**Container/Tube:** Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube

**Specimen Volume:** 0.8 mL

**Collection Instructions:**
1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.
2. Send specimen in original tube.

**Secondary ID**
65600

**Useful For**
Assessment of tissue stores of selenium

**Special Instructions**

- Trace Metals Analysis Specimen Collection and Transport

**Method Name**
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

**Reporting Name**
Selenium, B

**Specimen Type**
Whole blood

**Specimen Minimum Volume**
0.3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature (preferred)</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>
SLN  Selenium, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 09125

Reporting Name
Selenium, S

Useful For
Monitoring selenium replacement therapy

Specimen Type
Serum

Specimen Required

Patient Preparation: High concentrations of gadolinium, iodine, and barium are known to interfere with most metals tests. If gadolinium-, iodine, or barium-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Supplies:
- Metal Free B-D Tube (No Additive), 6 mL (T184)
- Metal Free Specimen Vial (T173)

Collection Container/Tube: 6-mL Plain, royal blue-top Vacutainer plastic trace element blood collection tube

Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial

Specimen Volume: 0.8 mL

Collection Instructions:
1. Allow the specimen to clot for 30 minutes; then centrifuge the specimen to separate serum from the cellular fraction.
2. Remove the stopper. Carefully pour specimen into a Mayo metal-free, polypropylene vial, avoid transferring the cellular components of blood. Do not insert a pipette into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer.

Method Name
Dynamic Reaction Cell-Inductively Coupled Plasma-Mass Spectrometry (DRC-ICP-MS)

USLNQ  Selenium, Urine Quant.

LabCorp

Collection Container
24 hour urine jug
24 hour urine

NOTE: High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.
Specimen Volume
20 mLs of 24 hour urine

Minimum Specimen Volume
5 mLs of 24 hour urine

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 7 day, Refrigerated: 14 days, Frozen: 14 days.

CPT Code
84255

EMR Interface Order Code
09130

SAN Semen Analysis

Baystate Reference Laboratories

Collection Container
Semen

Specimen Volume
5 mL

EMR Interface Order Code
49425

SEROT Serotonin

LabCorp

Collection Container
Red

Serum

Special Handling Instructions
Specimen must be separated from cells within 30 minutes of collection. Freeze serum as soon as possible (within 24 hrs)

Specimen Volume
2 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 1 day, Refrigerated: 1 day, Frozen: 13 days

Reasons for Rejection
Serum not frozen within 1 day

Methodology
High-pressure liquid chromatography (HPLC) with electrochemical (EC) detection

Days and Times Performed
Monday - Friday

Turnaround Time
3 - 6 days

CPT Code
84260

EMR Interface Order Code
09150

SERA Serotonin Release Assay

Blood Center of Wisconsin

Collection Container
Red

Serum

Specimen Volume
5 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Frozen

Methodology
SRA

Days and Times Performed
Monday - Saturday

Turnaround Time
1 - 3 Days

Reference Ranges
Reported with result

CPT Code
86022

LOINC Code
50734-3

EMR Interface Order Code
34475

SERTRA Sertraline (Zoloft) and Desmethylsertraline

Medtox Laboratories, Inc.

Reporting Name
Sertraline (Zoloft)

Specimen Type
Varies

Specimen Required
Submit only 1 of the following specimens:

Plasma
Specimen Type: Plasma
Container/Tube: Green Top
Specimen Volume: 2 mL
Collection Instructions: Draw blood in a green-top (sodium heparin) tube, plasma gel tube is not acceptable. Spin down and send 2 mL of sodium heparin plasma refrigerated in a plastic vial.

Serum
Specimen Type: Serum
Container/Tube: Red
Specimen Volume: 2 mL
Collection Instructions: Draw blood in a plain, red-top tube, serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

Specimen Minimum Volume
1.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
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<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: SST

Reference Values

Sertraline:
Reference Range: 30 - 200 ng/mL
Report Limit 10 ng/mL

Desmethylsertraline: ng/mL
No reference range provided

The stated reference range is the range of observed steady-state concentrations in individuals receiving therapeutic dosage regimens of sertraline. This is not a defined therapeutic range.
Report Limit 10 ng/mL

Day(s) and Time(s) Performed
Monday through Sunday

CPT Code Information
80332

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>FSERT</td>
<td>Sertraline (Zoloft)</td>
<td>78438-9</td>
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</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>Z2298</td>
<td>Sertraline</td>
<td>6906-2</td>
</tr>
<tr>
<td>Z2299</td>
<td>Desmethylsertraline</td>
<td>6897-3</td>
</tr>
</tbody>
</table>

Method Name
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

Test Classification
This test was developed and its performance characteristics determined by LabCorp. It has not been cleared or approved by the Food and Drug Administration.

SESAME  Sesame Seed IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmucoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49190

Container
Serum gel or red top tube

XYFSH  Sex Chromosome FISH

Mayo Medical Laboratories

Additional Information
Do not refrigerate sample

Collection Container
Green (Sodium Heparin)

Peripheral Blood or Buccal swab

Special Handling Instructions
Send to Referral Laboratory with copy of ordering requisition. If sending buccal swab, please call 413-322-4667 for collection kit.

Specimen Volume
5 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Ambient

Specimen Stability
Stable at ambient temperature

Reasons for Rejection
Incorrect tube, insufficient quantity

Methodology
Fluorescent in-situ hybridization

Turnaround Time
Preliminary results available after 4 - 5 days, final report within 7 - 10 days.

Reference Ranges
Laboratory to provide interpretive report.

CPT Code
88230, 88271, 88275
SHBG  Sex Hormone Binding Globulin (SHBG)

Baystate Reference Laboratories

Collection Container
Serum gel
Serum, Lithium Heparin Plasma also acceptable

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 2 days, Refrigerated, 7 days Frozen: 2 months

Methodology
Chemiluminescent

Days and Times Performed
Testing performed daily.

Turnaround Time
3 - 6 days

Reference Ranges
Adults:
  Male: 10.0 - 57.0 nm/L
  Female: 18.0 - 144.0 nm/L

Units of Measure
nmol/L

CPT Code
84270

EMR Interface Order Code
69212

SHEEP  Sheep Epithelia IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3 - 5 days

CPT Code
86003

EMR Interface Order Code
49195

Container
Serum gel or red top tube

SHSOR  Sheep Sorrel IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3 - 5 days

CPT Code
86003

EMR Interface Order Code
49200

Container
Serum gel or red top tube

SHRIMP  Shrimp IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3 - 5 days

CPT Code
86003

EMR Interface Order Code
49200

Container
Serum gel or red top tube

Page 596
BSIAL  Sialic Acid, Blood

Jefferson Medical College Lysosomal Diseases Testing Laboratory

Additional Information
A clinical history of the case must accompany the sample

Collection Container
Serum gel or red top tube

Container
Serum gel or red top tube

SIAL  Sialic Acid, Blood

Jefferson Medical College Lysosomal Diseases Testing Laboratory

Important Note
Before sending a urine sample please contact the laboratory.
Preferred preliminary testing is on a blood specimen, which requires a
Green, sodium heparin tube kept at room temperature.

Additional Information
First morning preferred but random collection is acceptable

Collection Container
Serum gel or red top tube

Special Handling Instructions
A clinical history form must accompany the sample.

Specimen Volume
10 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Room Temperature

Reasons for Rejection
Specimen spun, not protected from extremes in temperature, not
received within 24 hours of collection.

CPT Code
86003

EMR Interface Order Code
49205

USIAL  Sialic Acid, Urine

Jefferson Medical College Lysosomal Diseases Testing Laboratory

Transport Temperature
Freeze

Turnaround Time
14 - 21 days

CPT Code
84275

EMR Interface Order Code
68732

SDEX  Sickledex

Baystate Reference Laboratories

Collection Container
Lavender (EDTA)

EDTA whole blood

Special Handling Instructions
A clinical history of the case must accompany the sample

Specimen Volume
10 mL

Minimum Specimen Volume
2 mL

Transport Temperature
Room Temperature

Reasons for Rejection
Specimen spun, not protected from extremes in temperature, not
received within 24 hours of collection.

CPT Code
82675

EMR Interface Order Code
05715

SILK  Silk IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25
mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP
Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49210

Container
Serum gel or red top tube

ASMA  Smooth Muscle Antibody

LabCorp

Additional Information
Also called Actin antibody

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
Red top

Specimen Volume
1 mL

Minimum Specimen Volume
0.3 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Gross hemolysis; Gross lipemia

Methodology
Enzyme linked immunosorbent assay (ELISA)

CPT Code
83516

LOINC Code
26971-2

EMR Interface Order Code
45725

NA  Sodium

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
Heparinized plasma

Specimen Volume
1 mL

Minimum Specimen Volume
0.3 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Reasons for Rejection
Sodium heparin tubes not filled.

Methodology
Ion-selective electrode (ISE), indirect

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges

<p>| SODIUM (NA) |</p>
<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>133 - 145</td>
<td>133 - 145</td>
<td>mmol/L</td>
</tr>
</tbody>
</table>

Critical Results
<120 mmol/L or >150 mmol/L

CPT Code
84295

LOINC Code
2951.2

EMR Interface Order Code
09175

CSFNA  Sodium, CSF

Baystate Reference Laboratories

Collection Container
Call Lab
Cerebral Spinal Fluid

Specimen Volume
1 mL

Minimum Specimen Volume
0.3 mL

Transport Temperature
Refrigerate

Methodology
Ion-selective electrode (ISE), indirect

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mmol/L

CPT Code
84132
**FNA  Sodium, Fluid**

*Baystate Reference Laboratories*

**Collection Container**
Fluid

**Identify source of body fluid**

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerate

**Methodology**
Ion-selective electrode (ISE), indirect

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Units of Measure**
mmol/L

**CPT Code**
84302

**EMR Interface Order Code**
67042

---

**UNAR  Sodium, Urine**

*Baystate Reference Laboratories*

**Collection Container**
Urine

**Random Urine**

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerate

**Reasons for Rejection**
Preservative added

**Methodology**
Ion-selective electrode (ISE), indirect

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Units of Measure**
mmol/L

**CPT Code**
84302

**EMR Interface Order Code**
12650

---

**UNAQ  Sodium, Urine, Quantitative**

*Baystate Reference Laboratories*

**Collection Container**
Jug

**24 Hour urine**

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerate

**Reasons for Rejection**
Preservative added

**Methodology**
Ion-selective electrode (ISE), indirect

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
40-200 mmol/24 Hr

**Units of Measure**
mmol/24 Hr

**CPT Code**
84300

**LOINC Code**
2955-3

**EMR Interface Order Code**
09195

---

**SOLEF  Sole IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated
**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
68562

**Container**
Serum gel or red top tube

---

**FSLAA  Soluble Liver Antigen (SLA) Autoantibody**

*Quest Diagnostics Nichols Institute*

**Specimen Required**

**Specimen Type:** Serum  
**Container/Tube:** Red or SST  
**Specimen Volume:** 1mL  
**Collection Instructions:** Draw blood in a plain red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Secondary ID**
57735

**Method Name**
Enzyme Linked Immunoabsorbent Immunoassay (ELISA)

**Reporting Name**
SLA Autoantibody

**Specimen Type**
Serum

**Specimen Minimum Volume**
0.3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>8 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>48 hours</td>
<td></td>
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</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Phenomenon</th>
<th>Acceptance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>Mild OK; Gross reject</td>
</tr>
<tr>
<td>Lipemia</td>
<td>Mild OK; Gross reject</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>Microbiologically contaminated serum; Heavy visible particulate in specimen</td>
</tr>
</tbody>
</table>

**Reference Values**

<table>
<thead>
<tr>
<th>Reference Range</th>
<th>Negative</th>
<th>0.0 Å£â–œ â–œ 20.0 U</th>
<th>Equivocal</th>
<th>20.1 Å£â–œ â–œ 24.9 U</th>
<th>Positive</th>
<th>&gt;25.0 U</th>
</tr>
</thead>
</table>

Anti-SLA antibodies may be detected in some patients with the primary biliary cirrhosis-AIH overlap syndrome, but not in healthy controls.

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**SOMSTN  Somatostatin (Somatotropin Release-Inhibiting Factor, SRIF)**

*Inter Science Institute*

**Reporting Name**
Somatostatin (Plasma)

**Specimen Type**
GI Plasma

**Specimen Required**

**Patient preparation:**
1. Patient should be fasting 10-12 hours prior to collection.  
2. Patient should not be on any medications that affect insulin secretion or intestinal motility, if possible for at least 48 hours prior to collection.

**Specimen Type:** Plasma  
**Container/Tube:** EDTA tube containing GI preservative: EDTAGI  
**Specimen Volume:** 1 mL  
**Collection Instructions:** Collect 10 mL of blood in special tube containing G.I. Preservative (T125). Specimen should be separated immediately and send 3 mL plasma frozen as soon as possible.

**Specimen Minimum Volume**
1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>GI Plasma</td>
<td>Frozen</td>
<td>90 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

Up to 25 pg/mL

**Day(s) and Time(s) Performed**
Monday through Friday

**Test Classification**

This test was developed and its performance characteristics determined by Inter Science Institute. It has not been cleared or approved by the US Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary.
CPT Code Information
84307

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
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<tbody>
<tr>
<td>FSOMA</td>
<td>Somatostatin (Plasma)</td>
<td>2961-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z0933</td>
<td>Somatostatin, (Plasma)</td>
<td>2961-1</td>
</tr>
</tbody>
</table>

Reject Due To

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>Mild reject; Gross reject</td>
</tr>
<tr>
<td>Lipemia</td>
<td>Mild reject; Gross reject</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>Specimens other than Plasma collected in GI preservative (T125). Test is strict frozen</td>
</tr>
</tbody>
</table>

Method Name
Direct Radioimmunoassay (RIA)

Secondary ID
90172

SOTAL  Sotalol

LabCorp

Additional Information
Trough levels are most reproducible

Collection Container
Red
Serum

Other Acceptable Specimen Types
Heparinized plasma

Special Handling Instructions
Serum/plasma should be separated from cells within 2 hours of collection.

Specimen Volume
2 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Room temperature

Specimen Stability
Room temperature: 3 days, Freeze: > 3 days

Reasons for Rejection
Collected in gel barrier tube

Methodology
Liquid chromatography/tandem mass spectrometry (LC/MS-MS)

CPT Code
80375/G0480

LOINC Code
12416-4

EMR Interface Order Code
65765

SOYBN  Soybean IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49220

Container
Serum gel or red top tube

HISTS  Special Stains, Histology

Baystate Reference Laboratories

Unstained slides

Transport Temperature
Room Temperature

Methodology
Various, contact Client Service for test menu and methodology

Turnaround Time
2 - 3 days

CPT Code
88312, 88313

USGR  Specific Gravity, Urine

Baystate Reference Laboratories

Collection Container
Tiger Top tube, urine cup
Urine

Specimen Volume
3 mL

Minimum Specimen Volume
1 mL
Transport Temperature
Tiger Top Tube: Room temperature, Yellow top tube, urine cup: refrigerated

Specimen Stability
24 hrs

Methodology
IQ200

Days and Times Performed
24 hours a day, 7 days a week

Turnaround Time
Daily

Reference Ranges
0-1 month: 1.002-1.006
>1 month: 1.002-1.030

CPT Code
81002

LOINC Code
5811-5

EMR Interface Order Code
64185

**SPHING**  
*Sphingomyelinase, WBC*

*Jefferson Medical College Lysosomal Diseases Testing Laboratory*

**Additional Information**
A clinical and/or family history form MUST accompany the sample.

**Collection Container**
Green

Whole Blood

**Special Handling Instructions**
Collect samples Monday - Wednesday only.
Sample must arrive in Chemistry lab by 2 pm.
Do not chill or spin.
A clinical history form of the case must accompany the sample.

**Specimen Volume**
10 mL

**Minimum Specimen Volume**
8 mL

**Transport Temperature**
Room temperature

**Reasons for Rejection**
Specimen spun, not protected from extremes in temperature, not received within 24 hours of collection.

**CPT Code**
82657

**EMR Interface Order Code**
13875

**SPNACH**  
*Spinach IgE*

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
00535

**Container**
Serum gel or red top tube

**SMACAR**  
*Spinal Muscular Atrophy Carrier Test*

*Integrated Genetics*

**Additional Information**
Patient insurance will be billed directly by testing laboratory.

**Collection Container**
Lavender top (EDTA)

Whole blood

**Other Acceptable Specimen Types**
Yellow top (ACD-A)

**Special Handling Instructions**
Informed Consent Form must be completed and on file with ordering clinician. Requisition with physicians' signature, indicating consent was obtained, must accompany sample. Also include patient insurance and ICD-10 code.

**Specimen Volume**
10 mL

**Minimum Specimen Volume**
5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
3 days

**Reasons for Rejection**
ACD-B

**CPT Code**
81329

**EMR Interface Order Code**
67028
SFGP  Spotted Fever Group Antibody, IgG and IgM, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Spotted Fever Group Ab, IgG, IgM, S

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
IgG: <1:64
IgM: <1:64
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Friday; 9 a.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer’s instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86757 x 2

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFGP</td>
<td>Spotted Fever Group Ab, IgG, IgM, S</td>
<td>90260-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>84342</td>
<td>Spotted Fever Group Ab, IgG, IgM, S</td>
<td>5313-2</td>
</tr>
<tr>
<td>84346</td>
<td>Spotted Fever Group Ab, IgG, IgM, S</td>
<td>5315-7</td>
</tr>
</tbody>
</table>

Testing Algorithm
See Acute Tick-Borne Disease Testing Algorithm in Special Instructions.

Special Instructions
• Acute Tick-Borne Disease Testing Algorithm

Useful For
Aids in the diagnosis of spotted fever group rickettsial infections

Reject Due To
• Gross hemolysis  Reject
• Gross lipemia   Reject

Method Name
Immunofluorescence

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

SQUASH  Squash IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Type
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
Immunocap

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49225

Container
Serum gel or red top tube

SQUID  Squid/Calamari IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Type
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
Immunocap

Turnaround Time
3-5 days
**SRYFSH  SRY FISH**

**Mayo Medical Laboratories**

**Additional Information**
Do not refrigerate sample.

**Reflex Tests**
Chromosome analysis, additional FISH probes

**Collection Container**
Green (Sodium Heparin)
Peripheral Blood

**Special Handling Instructions**
Send to Referral Laboratory with copy of ordering requisition.

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Ambient

**Specimen Stability**
Stable at ambient temperature

**Reasons for Rejection**
Incorrect tube, insufficient quantity

**Methodology**
Fluorescent in-situ hybridization

**Turnaround Time**
Final report within 7 - 10 days.

**Reference Ranges**
Laboratory to provide interpretive report.

**CPT Code**
86235 x 2

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>SSAB</td>
<td>SSA/SSB</td>
<td>87555-9</td>
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</table>

**Specimen Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**
- Connective Tissue Disease Cascade (CTDC)

**Reference Values**

**SS-A/Ro ANTIBODIES, IgG**

<table>
<thead>
<tr>
<th>Value</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1.0 U</td>
<td>Negative</td>
</tr>
<tr>
<td>≥1.0 U</td>
<td>Positive</td>
</tr>
</tbody>
</table>

Reference values apply to all ages.

**SS-B/La ANTIBODIES, IgG**

<table>
<thead>
<tr>
<th>Value</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1.0 U</td>
<td>Negative</td>
</tr>
<tr>
<td>≥1.0 U</td>
<td>Positive</td>
</tr>
</tbody>
</table>

Reference values apply to all ages.

**SSAB  SS-A and SS-B Antibodies, IgG, Serum**

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
SSA/SSB

**Useful For**
Evaluating patients with signs and symptoms of a connective tissue disease in whom the test for antinuclear antibodies is positive, especially those with signs and symptoms consistent with Sjogren syndrome or lupus erythematosus

Testing for SS-A/Ro and SS-B/La antibodies is not useful in patients without demonstrable antinuclear antibodies.
Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: OK

Method Name
Multiplex Flow Immunoassay

Secondary ID
82403

STLEAB  *St. Louis Encephalitis Antibodies (IgG, IgM)*

*Mass. Department of Public Health*

Additional Information
Testing referred to State Laboratory

Collection Container
Serum gel or CSF
Serum or CSF

Other Acceptable Specimen Types
Red top

Special Handling Instructions
State submission form must accompany specimen

Specimen Volume
1 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
7 days

Reasons for Rejection
Specimens without complete and accurate submission forms

Turnaround Time
10 - 15 days

LOINC Code
20806-6

EMR Interface Order Code
59900

FSTAB  *Stachybotrys Chartarum/AT IgE*

*Contracted Reference Lab*

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Specimens without complete and accurate submission forms

Turnaround Time
3-5 days

LOINC Code
86003

EMR Interface Order Code
68612

Container
Serum gel or red top tube

STMBOT  *Stemphylium botryosum IgE*

*Contracted Reference Lab*

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Specimens without complete and accurate submission forms

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
68612

Container
Serum gel or red top tube

RASTST  *Stinging Insect IgE Panel*

*Contracted Reference Lab*

Important Note
TEST INCLUDES: Honeybee Venom, Wasp Venom, White Faced Hornet Venom, Yellow Faced Hornet Venom, Yellow Jacket Venom

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
1 mL
### Minimum Specimen Volume
0.5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003 x5

**EMR Interface Order Code**
49395

#### JCVSTI  *Stratify JCV Antibody with Index*
*Quest Diagnostics*

**Reflex Tests**
If indeterminant result, test will reflex to the Inhibition Assay

**Collection Container**
Serum gel or red top tube

0.5 mL serum, EDTA plasma also acceptable

**EMR Interface Order Code**
70100

#### STWBER  *Strawberry IgE*
*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49230

**Container**
Serum gel or red top tube

---

### STPAG  *Streptococcus pneumoniae Antigen, Urine*
*Baystate Reference Laboratories*

**Collection Container**
Sterile sealed container or yellow BD urine tube

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
24 hours

**Reasons for Rejection**
Specimen received in a gray top BD tube or any container/tube with additives. Specimens stored at room temperature for more than 24 hours.

**Methodology**
Lateral Flow

**Days and Times Performed**
7 days/week

**Turnaround Time**
24 hours

**Reference Ranges**
Negative

**LOINC Code**
77949-6

**EMR Interface Order Code**
65740

#### SPAB23  *Streptococcus pneumoniae IgG Antibodies, 23 Serotypes, Serum*
*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
S. pneumoniae IgG Ab, 23 serotypes, S

**Useful For**
Assessing the IgG antibody response to active immunization with nonconjugated, 23-valent vaccines

Assessing the IgG antibody response to active immunization with conjugated, 13-valent vaccines

Determining the ability of an individual to produce an antibody response to polysaccharide antigens, as part of an evaluation for humoral or combined immunodeficiencies

**Specimen Type**
Serum

**Specimen Required**

**Container/Tube:**
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td>Special Container</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td>Special Container</td>
</tr>
</tbody>
</table>

Reference Values
Results are reported in mcg/mL.

<table>
<thead>
<tr>
<th>Serotype</th>
<th>Normal Value</th>
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<tbody>
<tr>
<td></td>
<td>≥2.3</td>
</tr>
<tr>
<td>2 (2)</td>
<td>≥1.0</td>
</tr>
<tr>
<td>3 (3)</td>
<td>≥1.8</td>
</tr>
<tr>
<td>4 (4)</td>
<td>≥0.6</td>
</tr>
<tr>
<td>5 (5)</td>
<td>≥10.7</td>
</tr>
<tr>
<td>8 (8)</td>
<td>≥2.9</td>
</tr>
<tr>
<td>9N (9)</td>
<td>≥9.2</td>
</tr>
<tr>
<td>12F (12)</td>
<td>≥0.6</td>
</tr>
<tr>
<td>14 (14)</td>
<td>≥7.0</td>
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<tr>
<td>17F (17)</td>
<td>≥7.8</td>
</tr>
<tr>
<td>19F (19)</td>
<td>≥15.0</td>
</tr>
<tr>
<td>20 (20)</td>
<td>≥1.3</td>
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<tr>
<td>22F (22)</td>
<td>≥7.2</td>
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<tr>
<td>23F (23)</td>
<td>≥8.0</td>
</tr>
<tr>
<td>6B (26)</td>
<td>≥4.7</td>
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<tr>
<td>10A (34)</td>
<td>≥2.9</td>
</tr>
<tr>
<td>11A (43)</td>
<td>≥2.4</td>
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<tr>
<td>7F (51)</td>
<td>≥3.2</td>
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<tr>
<td>15B (54)</td>
<td>≥3.3</td>
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<tr>
<td>18C (56)</td>
<td>≥3.3</td>
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<tr>
<td>19A (57)</td>
<td>≥17.1</td>
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<tr>
<td>9V (68)</td>
<td>≥2.6</td>
</tr>
<tr>
<td>33F (70)</td>
<td>≥1.7</td>
</tr>
</tbody>
</table>

Day(s) and Time(s) Performed
Monday through Friday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
86317 x 23

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PN23</td>
<td>S. pneumoniae IgG Ab, 23 serotypes, S</td>
<td>42366-5</td>
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</table>

Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>23979</td>
<td>Serotype 1 (1)</td>
<td>85954-6</td>
</tr>
<tr>
<td>23949</td>
<td>Serotype 2 (2)</td>
<td>86039-5</td>
</tr>
<tr>
<td>23950</td>
<td>Serotype 3 (3)</td>
<td>86080-9</td>
</tr>
<tr>
<td>23951</td>
<td>Serotype 4 (4)</td>
<td>86107-0</td>
</tr>
<tr>
<td>23952</td>
<td>Serotype 5 (5)</td>
<td>86130-2</td>
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<tr>
<td>23953</td>
<td>Serotype 8 (8)</td>
<td>86147-6</td>
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<tr>
<td>23954</td>
<td>Serotype 9N (9)</td>
<td>86169-0</td>
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<tr>
<td>23955</td>
<td>Serotype 12F (12)</td>
<td>85977-7</td>
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<tr>
<td>23956</td>
<td>Serotype 14 (14)</td>
<td>85991-8</td>
</tr>
<tr>
<td>23957</td>
<td>Serotype 17F (17)</td>
<td>86009-8</td>
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<tr>
<td>23958</td>
<td>Serotype 19F (19)</td>
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<tr>
<td>23959</td>
<td>Serotype 20 (20)</td>
<td>86045-2</td>
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<tr>
<td>23960</td>
<td>Serotype 22F (22)</td>
<td>86052-8</td>
</tr>
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<td>23961</td>
<td>Serotype 23F (23)</td>
<td>86064-3</td>
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<tr>
<td>23962</td>
<td>Serotype 6B (26)</td>
<td>27118-9</td>
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<tr>
<td>23963</td>
<td>Serotype 10A (34)</td>
<td>86098-1</td>
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<tr>
<td>23964</td>
<td>Serotype 11A (43)</td>
<td>86122-9</td>
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<td>23965</td>
<td>Serotype 7F (51)</td>
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<td>23966</td>
<td>Serotype 15B (54)</td>
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<td>23967</td>
<td>Serotype 18C (56)</td>
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<td>23968</td>
<td>Serotype 19A (57)</td>
<td>40974-8</td>
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<td>23969</td>
<td>Serotype 9V (68)</td>
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<tr>
<td>23970</td>
<td>Serotype 33F (70)</td>
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</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: OK

Method Name
Microsphere Photometry

Forms
If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

Secondary ID
83640

SPNTYP Streptococcus pneumoniae Serotype

Baystate Reference Laboratories

Collection Container
Other

Specimen Volume
2 mL

EMR Interface Order Code
59870

STRAB Striational (Striated Muscle) Antibodies, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Striational (Striated Muscle) Ab, S

Useful For
As a serological aid in the diagnosis of thymoma, especially in patients with onset of myasthenia gravis (MG) younger than 45 years
As a screening test for MG in older patients, especially when tests for muscle acetylcholine receptor (AChR) antibodies are negative.

Serial measurements are useful in monitoring the efficacy of immunosuppressant treatment in patients with MG.

Serial measurements are useful after treatment of thymoma.

Serial measurements in recipients of D-penicillamine or bone marrow allografts may be useful in monitoring autoimmune complications and graft-versus-host disease, respectively.

**Specimen Type**

Serum

**Specimen Required**

Container/Tube:
Preferred: Red top
Acceptable: Serum gel

**Specimen Volume**: 1.5 mL

**Specimen Minimum Volume**: 1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

<1:120

**Day(s) and Time(s) Performed**

Monday through Friday; 4 a.m. and 3 p.m.
Saturday; 6 a.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

83520

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>STR</td>
<td>Striational (Striated Muscle) Ab, S</td>
<td>8097-8</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>8746</td>
<td>Striational (Striated Muscle) Ab, S</td>
<td>8097-8</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

**Testing Algorithm**

See Paraneoplastic Evaluation Algorithm in Special Instructions

**Special Instructions**

- Paraneoplastic Evaluation Algorithm

---

**Method Name**

Enzyme Linked Immunosorbent Assay (ELISA)

**STRONG Strongyloides Antibody, IgG, Serum**

**Mayo Clinic Laboratories in Rochester**

**Useful For**

Screening for the presence of IgG-class antibodies to *Strongyloides*

**Not useful** for monitoring patient response to therapy as IgG-class antibodies to *Strongyloides* may remain detectable following resolution of infection.

**Method Name**

Enzyme-Linked Immunosorbent Assay (ELISA)

**Reporting Name**

Strongyloides Ab, IgG, S

**Specimen Type**

Serum

**Specimen Required**

Collection Container/Tube:
Preferred: Serum gel
Acceptable: Red top

Submission Container/Tube: Plastic vial

Specimen Volume: 0.5 mL

**Specimen Minimum Volume**: 0.4 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject
- Other: Heat Inactivated specimen

**Reference Values**

Negative

Reference values apply to all ages.

**Day(s) and Time(s) Performed**

Monday, Wednesday, Friday; 2 p.m.

**Test Classification**

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**

86682

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>STRNG</td>
<td>Strongyloides Ab, IgG, S</td>
<td>34376-4</td>
</tr>
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</table>
Result ID | Test Result Name         | Result LOINC Value
---------|--------------------------|----------------------
STRNG    | Strongyloides Ab, IgG, S | 80660-4              

Testing Algorithm
See Parasitic Investigation of Stool Specimens Algorithm in Special Instructions.

Special Instructions
- Parasitic Investigation of Stool Specimens Algorithm

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

Secondary ID
63866

**SUBOXP Suboxone Panel, Urine**

 CONTRAacted Reference Lab

**Additonal Information**
Includes: Gabapentin, Pregabalin, Alcohol Metabolites, Fentanyl, Amphetamines, Barbituates, Cocaine, Methadone, Opiates, Oxycodone, Benzodiazepines, Heroin Metabolite, PCP, Buprenorphine, Tramadol

**Reflex Tests**
If positive, will reflex to confirmations at an additional charge

**Collection Container**
Urine cup or tube

**Urine**

**Specimen Volume**
30 mL

**Minimum Specimen Volume**
7 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Days and Times Performed**
Daily

**Turnaround Time**
1 – 3 days

**CPT Code**
83519

**EMR Interface Order Code**
14575

**USUCC Succinylacetone, Urine**

**LabCorp**

**Important Note**
Sample must be frozen immediately after collection

**Collection Container**
Urine

**Random Urine**

**Specimen Volume**
10 mL

**Minimum Specimen Volume**
5 mL

**Transport Temperature**
Frozen

**Turnaround Time**
1 - 2 weeks

**CPT Code**
82542, 82570

**EMR Interface Order Code**
71521

**SUBP Substance P**

**LabCorp**

**Additional Information**
Patient should be fasting 10-12 hours prior to collection

**Collection Container**
Serum gel

**Serum**

**Special Handling Instructions**
Specimen MUST be centrifuged, split into 2 aliquot tubes and frozen immediately.

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Frozen

**Specimen Stability**
Room temperature: unstable, Refrigerated: unstable, Frozen: 4 weeks

**Reasons for Rejection**
Specimens received refrigerated or room temperature.

**Methodology**
EIA

**CPT Code**
83519

**EMR Interface Order Code**
14575

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.
CFSUCA  Succinyladenosine, CSF

*Medical Neurogenetics*

**Collection Container**
Call Lab
CSF

**Specimen Volume**
0.5 mL

**Transport Temperature**
On ice

**Turnaround Time**
2 - 3 weeks

**CPT Code**
82542

**EMR Interface Order Code**
65230

---

SUCANE  Sugar Cane IgE

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
68426

**Container**
Serum gel or red top tube

---

SULSOX  Sulfamethoxazole, Serum

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
EMR Interface Order Code: 09300

**Reporting Name**
Sulfamethoxazole, S

**Useful For**
Monitoring therapy to ensure drug absorption, clearance, or compliance

**Specimen Type**
Serum Red

**Specimen Required**
Collection Container/Tube: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL

**Collection Instructions:**
1. Serum for a peak level should be drawn 60 minutes after dose.
2. Spin down within 2 hours of draw.

**Specimen Minimum Volume**
0.2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
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</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
>50 mcg/mL

**Day(s) and Time(s) Performed**
Monday, Thursday; 1 p.m.

---

SBSE  Sugarbeet Seed IgE

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
68426

**Container**
Serum gel or red top tube
**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

80299

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>SFZ</td>
<td>Sulfamethoxazole, S</td>
<td>10342-4</td>
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<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>8238</td>
<td>Sulfamethoxazole, S</td>
<td>10342-4</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

**Method Name**

High-Performance Liquid Chromatography (HPLC)

**Forms**

If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

**SULFON  Sulfonylurea Drug Screen**

**Contracted Reference Lab**

**Collection Container**

Red top tube or green (Na hep) top tube NO GEL

Serum or plasma

**Specimen Volume**

2 mL

**Minimum Specimen Volume**

1 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Room temp: 3 days, Refrigerated: 14 days, Frozen: 14 days

**Reasons for Rejection**

Specimen collected in a gel barrier tube

**CPT Code**

80377

**EMR Interface Order Code**

14025

---

**SUNFS  Sunflower Seed IgE**

**Contracted Reference Lab**

**Collection Container**

Serum gel or red top tube

Serum

**Specimen Volume**

For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**

0.1 mL

**Transport Temperature**

Refrigerated

**Specimen Stability**

Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**

ImmunoCAP

**Turnaround Time**

3-5 days

**CPT Code**

86003

**EMR Interface Order Code**

68396

**Container**

Serum gel or red top tube

---

**SLFPYR  Sulfinpyridine**

*LabCorp*

**Collection Container**

Red

Serum

**Other Acceptable Specimen Types**

EDTA plasma

**Special Handling Instructions**

Serum/plasma should be separated from cells within 2 hours of venipuncture.

**Specimen Volume**

1 mL

**Minimum Specimen Volume**

0.4 mL

**Transport Temperature**

Room temperature

**Specimen Stability**

Room temperature: 7 days, Refrigerated: 7 days, Frozen: 4 months

**Reasons for Rejection**

Collected in gel barrier tube

**Turnaround Time**

5 - 7 days

**CPT Code**

84311

**EMR Interface Order Code**

09325
**SSHSV  Sure Swab HSV 1, 2 PCR**

**Quest Diagnostics**

**Additional Information**
Can be shared with SSVP

**Collection Container**
APTIMA Vaginal Swab Collection Kit
Swab in APTIMA Tube

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Ambient

**Specimen Stability**
7 days

**Reasons for Rejection**
Leaking

**Methodology**
Real-Time Polymerase Chain Reaction (RT-PCR)

**CPT Code**
87529 x 2

**EMR Interface Order Code**
68438

---

**SSVP  Sure Swab Vaginosis Vaginitis Plus**

**Quest Diagnostics**

**Additional Information**
SureSwab Chlamydia trachomatis/Neisseria gonorrhoeae RNA, TMA, SureSwab Bacterial Vaginosis DNA, Quantitative, Real-Time PCR (Lactobacillus species, Atopobium vaginae, Megasphaera species, Gardnerella vaginalis), SureSwab Trichomonas vaginalis RNA, Qualitative, TMA SureSwab, Candidiasis, PCR (C. albicans, C. glabrata, C. tropicalis, C. parapsilosis)

**Collection Container**
APTIMA Vaginal Swab Collection Kit
Swab in APTIMA Tube

**Specimen Volume**
3 mL

**Minimum Specimen Volume**
3 mL

**Transport Temperature**
Ambient

**Specimen Stability**
7 days

**Reasons for Rejection**
Leaking

**CPT Code**
87481 x4, 87491, 87512, 87591, 87661, 87799 x3

**EMR Interface Order Code**
68444

---

**SWT  Sweat Test**

**Baystate Reference Laboratories**

**Important Note**
To book inpatients, call 413-794-5227 and ask for Chemistry.
To book outpatients, call 413-794-2222 Diagnostic Scheduling.

**Collection Container**
Fluid container
Sweat

**Days and Times Performed**
Tuesday and Friday

**Reference Ranges**

Normal ranges for babies less than or equal to 6 months old:
- Normal: Less than 30 mmol/L chloride
- Borderline: 31-59 mmol/L chloride
- Abnormal: Equal to or greater than 60 mmol/L chloride

Normal ranges for children greater than 6 month old:
- Normal: Less than 40 mmol/L chloride
- Borderline: 40-59 mmol/L chloride
- Abnormal: Equal to or greater than 60 mmol/L chloride

Normal ranges for adults: 0-60 mmol/L.
An occasional unaffected adult can have values above 60 mmol/L

**EMR Interface Order Code**
09525

---

**SWTPOT  Sweet Potato IgE**

**Contracted Reference Lab**

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
00520

**Container**
Serum gel or red top tube
**SWEETV  Sweet Vernal Grass IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49240

**Container**
Serum gel or red top tube

---

**PIGEP  Swine (Pig) Epithelia IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49245

**Container**
Serum gel or red top tube

---

**SWORD  Swordfish IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49250

**Container**
Serum gel or red top tube

---

**SYCA  Sycamore Tree IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49255

**Container**
Serum gel or red top tube
**QCAN**  *Synthetic Cannabinoids Screen w/ Confirmation, Urine*

**Contracted Reference Lab**

**Additional Information**

**Reflex Tests**
If positive, test will reflex to confirmation at an additional charge.

**Urine**

**Specimen Volume**
20 mL

**Minimum Specimen Volume**
7 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Methodology**
LC/MS/MS

**Days and Times Performed**
Daily

**Turnaround Time**
Screen: 2 days; Confirms: 3 - 5 days

**Reference Ranges**
Negative

**Units of Measure**
ng/mL

**CPT Code**
80307 (if positive, confirm is 80352 (G0480))

**LOINC Code**
67126-3, 40464-0, 8251-1

**EMR Interface Order Code**
70298

---

**DEX**  *Synthetic Glucocorticoid Screen, Serum*

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
Synthetic Glucocorticoid Screen, S

**Useful For**
Confirming the presence of listed synthetic glucocorticoids (see Interpretation)

Confirming the cause of secondary adrenal insufficiency

**Specimen Type**
Serum

---

**Specimen Required**

**Collection Container/Tube:**
- **Preferred:** Red top
- **Acceptable:** Serum gel

**Submission Container/Tube:** Plastic vial

**Specimen Volume:** 2 mL

**Specimen Minimum Volume**
1.1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
Negative

Cutoff concentrations
- Betamethasone: 0.10 mcg/dL
- Budesonide: 0.20 mcg/dL
- Dexamethasone: 0.10 mcg/dL
- Fludrocortisone: 0.10 mcg/dL
- Flunisolide: 0.10 mcg/dL
- Fluorometholone: 0.10 mcg/dL
- Megestrol acetate: 0.10 mcg/dL
- Methylprednisolone: 0.10 mcg/dL
- Prednisolone: 0.10 mcg/dL
- Prednisone: 0.10 mcg/dL
- Triamcinolone: 0.30 mcg/dL
- Triamcinolone acetonide: 0.10 mcg/dL

Values for normal patients not taking these synthetic glucocorticoids should be less than the cutoff concentration (detection limit).

**Day(s) and Time(s) Performed**
Tuesday, Thursday; 9 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
80299

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>SGSS</td>
<td>Synthetic Glucocorticoid Screen, S</td>
<td>43141-1</td>
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<tr>
<td>Result ID</td>
<td>Test Result Name</td>
<td>Result LOINC Value</td>
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<tr>
<td>23593</td>
<td>Betamethasone</td>
<td>41745-1</td>
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<tr>
<td>23594</td>
<td>Budesonide</td>
<td>41747-7</td>
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<td>23595</td>
<td>Dexamethasone</td>
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<td>23596</td>
<td>Fluorocortisone</td>
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<td>23597</td>
<td>Flunisolide</td>
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<td>23598</td>
<td>Flurometholone</td>
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<tr>
<td>23599</td>
<td>Fluticasone Propionate</td>
<td>41757-6</td>
</tr>
<tr>
<td>23600</td>
<td>Megestrol Acetate</td>
<td>41762-6</td>
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<tr>
<td>23601</td>
<td>Methylprednisolone</td>
<td>14186-1</td>
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<tr>
<td>23602</td>
<td>Prednisolone</td>
<td>12727-4</td>
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<tr>
<td>23603</td>
<td>Prednisone</td>
<td>12434-7</td>
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<tr>
<td>23604</td>
<td>Triamcinolone</td>
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<tr>
<td>23605</td>
<td>Triamcinolone Acetonide</td>
<td>41767-5</td>
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</tbody>
</table>

Reject Due To
- Gross hemolysis  OK
- Gross lipemia    OK
- Gross icterus    OK

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
Stable Isotope Dilution Analysis

**QSTI  Synthetic Stimulants, Quant, Urine**

<table>
<thead>
<tr>
<th>Contracted Reference Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baystate Reference Laboratories</td>
</tr>
</tbody>
</table>

**Additional Information**
Includes MDPV, Mephedrone, Methylone, Butylone

**Specimen Volume**
- 7 mL

**Minimum Specimen Volume**
- 3 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**Reasons for Rejection**
Preserved samples

**Methodology**
Chemiluminescence

**Reference Ranges**
Negative

**EMR Interface Order Code**
67834

**SYPH  Syphilis Testing**

Baystate Reference Laboratories

**Additional Information**
This test follows the Syphilis reverse testing algorithm. This test should be used for routine screening for Syphilis.

**Reflex Tests**
RPRPZ and TPAB if screen is positive

**Collection Container**
Gel
Gel serum

**Other Acceptable Specimen Types**
Red top serum

**Specimen Volume**
- 3 mL

**Minimum Specimen Volume**
- 1.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
5 days refrigerated

**Reasons for Rejection**
Specimens not centrifuged within 24 hours, specimens older than 5 days.

**Methodology**
Chemiluminescence

**Reference Ranges**
Negative

**EMR Interface Order Code**
67834

**TCGR  T-Cell Receptor Gene Rearrangement, PCR, Blood**

Mayo Clinic Laboratories in Rochester

**Reporting Name**
T Cell Receptor Gene Rearrange, B

**Useful For**
Determining whether a T-cell population is polyclonal or monoclonal

**Specimen Type**
Whole blood

**Shipping Instructions**
Specimen must arrive within 7 days (168 hours) of draw.

**Necessary Information**
Include relevant clinical information and cytogenetics results, if available.
Specimen Required

Container/Tube:
Preferred: EDTA (lavender top)
Acceptable: ACD (yellow top)
Specimen Volume: 4 mL

Collection Instructions:
1. Invert several times to mix blood.
2. Send specimen in original tube.

Specimen Volume:
4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Ambient (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Hematopathology Patient Information

Reference Values
An interpretive report will be provided.
Positive, negative, or indeterminate for a clonal T-cell population

Day(s) and Time(s) Performed
Monday through Friday

Test Classification
This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
81340-TCB (T cell antigen receptor, beta) (eg, leukemia and lymphoma), gene rearrangement analysis to detect abnormal clonal population(s); using amplification methodology (eg, PCR)
81342-TCG (T cell receptor, gamma) (eg, leukemia and lymphoma), gene rearrangement analysis, evaluation to detect abnormal clonal population(s)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCGR</td>
<td>T Cell Receptor Gene Rearrange, B</td>
<td>In Process</td>
</tr>
</tbody>
</table>

Result ID
18210

Test Result Name
Final Diagnosis: 22637-3

Reject Due To
- Gross hemolysis
- Other Moderately to severely clotted

Method Name
DNA Extracted for Analysis/Polymerase Chain Reaction (PCR)

Forms
1. Hematopathology Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

TCGBM  T-Cell Receptor Gene Rearrangement, PCR, Bone Marrow

Mayo Clinic Laboratories in Rochester

Reporting Name
T Cell Receptor Gene Rearrange, BM

Useful For
Determining whether a T-cell population is polyclonal or monoclonal

Specimen Type
Bone Marrow

Shipping Instructions
Specimen must arrive within 7 days (168 hours) of collection.

Necessary Information
Include relevant clinical information and cytogenetics results, if available.

Specimen Required

Container/Tube:
Preferred: EDTA (lavender top)
Acceptable: ACD (yellow top)
Specimen Volume: 2 mL

Collection Instructions:
1. Invert several times to mix bone marrow.
2. Send specimen in original tube.

Specimen Volume:
2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone Marrow</td>
<td>Ambient (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Hematopathology Patient Information
- Bone Marrow Staging for Known or Suspected Malignant Lymphoma Algorithm

Reference Values
An interpretive report will be provided.
Positive, negative, or indeterminate for a clonal T-cell population

Day(s) and Time(s) Performed
Monday through Friday

Test Classification
This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
81340-TCB (T cell antigen receptor, beta) (eg, leukemia and lymphoma), gene rearrangement analysis to detect abnormal clonal population(s); using amplification methodology (eg, PCR)
81342-TCG@ (T cell receptor, gamma) (eg, leukemia and lymphoma), gene rearrangement analysis, evaluation to detect abnormal clonal population(s)

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCGBM</td>
<td>T Cell Receptor Gene Rearrange, BM</td>
<td>In Process</td>
</tr>
</tbody>
</table>

**Result ID**  
19957  

**Result Test Name**  
Final Diagnosis:  
22637-3

**Testing Algorithm**
See Bone Marrow Staging for Known or Suspected Malignant Lymphoma Algorithm in Special Instructions.

**Reject Due To**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>Reject</td>
</tr>
<tr>
<td>Other</td>
<td>Moderately to severely clotted</td>
</tr>
</tbody>
</table>

**Method Name**
DNA Extracted for Analysis/Polymerase Chain Reaction (PCR)

**Forms**
1. Hematopathology Patient Information (T676) in Special Instructions
2. If not ordering electronically, complete, print, and send a Hematopathology/Cytogenetics Test Request (T726) with the specimen.

**IMISC T-Cell Subsets, Naive, Memory and Activated, Blood**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
T Cell Phenotyping, Advanced

**Useful For**
Determining the presence of naive, memory, and activated T cells in various clinical contexts including autoimmune diseases, immunodeficiency states, T-cell recovery posthematopoietic stem cell transplant, DiGeorge syndrome, and as a measure for T-cell immune competence

Naive T-cells results can be used as a surrogate marker for thymic-derived T-cell reconstitution, when used in conjunction with assessment of T-cell receptor excision circles (TREC / T-Cell Receptor Excision Circles [TREC] Analysis for Immune Reconstitution)

Assessing a patient's relative risk for infections

Evaluation of patients with cellular or combined primary immunodeficiencies

Evaluation of T-cell reconstitution after hematopoietic stem cell transplant, chemotherapy, biological therapy, immunosuppression or immunomodulator therapy

Evaluation of patients with autoimmune diseases

Evaluation of HIV-positive patients for naive and memory subsets

Evaluation of T-cell immune competence (presence of memory and activated T cells) in patients with recurrent infections

**Specimen Type**
Whole Blood EDTA

**Shipping Instructions**
Specimens are required to be received in the laboratory weekdays and by 4 p.m. on Friday. Draw and package specimen as close to shipping time as possible.

It is recommended that specimens arrive within 24 hours of draw.

Samples arriving on the weekend and observed holidays may be canceled.

**Necessary Information**
Ordering physician's name and phone number are required.

**Specimen Required**
For serial monitoring, we recommend that specimen draws be performed at the same time of day.

**Container/Tube:** Lavender top (EDTA)

**Specimen Volume:** 3 mL

**Collection Instructions:** Send specimen in original tube. Do not aliquot.

**Specimen Minimum Volume**
1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood</td>
<td>Ambient</td>
<td>72 hours</td>
<td>PURPLE OR PINK TOP/EDTA</td>
</tr>
</tbody>
</table>

**Reference Values**
The appropriate age-related reference values will be provided on the report.

**Day(s) and Time(s) Performed**
Monday through Friday

**Do not send specimen after Thursday.** Specimen must be received by 10 a.m. on Friday.

**Test Classification**
This test was developed using an analyte specific reagent. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
86356 x 7

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP</td>
<td>T Cell Phenotyping, Advanced</td>
<td>In Process</td>
</tr>
</tbody>
</table>
Result ID | Test Result Name | Result LOINC Value
--- | --- | ---
29151 | %CD4+CD45RA+ naive T cells | 89360-2
29152 | %CD4+CD62L+CD27+ naive T cells | 89340-4
29153 | %CD8+CD45RA+ naive T cells | In Process
29154 | %CD8+CD62L+CD27+ naive T cells | 89339-6
29155 | %CD4+CD45RO+ memory T cells | 89362-8
29156 | %CD4+CD62L+CD27+CD45RO+ (Tcm) | 89338-8
29157 | %CD4+CD62L-CD27-CD45RO+ naive T cells | In Process
29158 | %CD8+CD45RA+ naive T cells | 89332-1
29159 | %CD8+CD62L+CD27+CD45RO+ (Tcm) | 89335-4
29160 | %CD4+CD45RA+ naive T cells | In Process
29161 | %CD4+CD62L+CD27+ naive T cells | 89333-9
29162 | %CD4+CD62L+CD27+ naive T cells | 89332-1
29163 | %CD8+CD45RO+ memory T cells | 89329-7
29164 | %CD8+CD62L+CD27+CD45RO+ (Tcm) | 89328-9
29165 | %CD4+CD62L+CD27+ naive T cells | In Process
29166 | %CD4+CD62L+CD27+ naive T cells | 89330-5
29167 | %CD8+CD45RO+ memory T cells | 85790-4
29168 | %CD8+CD62L+CD27+CD45RO+ (Tcm) | In Process
29169 | Activated CD4 T cells (4+CD25+) | 26982-9
29170 | CD4+CD62L+CD27+CD45RO+ (Tcm) | 89327-1
29171 | CD8+CD62L+CD27+CD45RO+ (Tcm) | 89326-3
29172 | CD8+HLA DR+CD28+ T cells | 89325-5
29173 | CD8+HLA DR+CD28+ T cells | 89324-3
29174 | Interpretation | 69052-9

Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: Reject

Method Name
Flow Cytometry

RT3  T3 (Triiodothyronine), Reverse, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
T3 (Triiodothyronine), Reverse, S

Useful For
An aid in the diagnosis of the "sick euthyroid" syndrome

Specimen Type
Serum

Specimen Required

Collection Container/Tube:
Preferred: Red top
Acceptable: Serum gel
Submission Container/Tube: Plastic vial
Specimen Volume: 0.8 mL

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td>Serum</td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td>Serum</td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
10-24 ng/dL

Day(s) and Time(s) Performed
Monday, Wednesday, Thursday, Friday; 9 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
84482

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>RT3</td>
<td>T3 (Triiodothyronine), Reverse, S</td>
<td>3052-8</td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Forms
If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

TU  T3 Uptake

LabCorp

Collection Container
Serum gel
Serum

Specimen Volume
0.5 mL

Minimum Specimen Volume
0.3 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 14 days, Refrigerated: 14 days, Frozen: 14 days

Reasons for Rejection
Gross hemolysis

Methodology
Cloned enzyme donor immunoassay (CEDIA)
### FT3  T₃, Free

**Baystate Reference Laboratories**

**Collection Container**
- Serum gel
- Serum

**Other Acceptable Specimen Types**
- EDTA plasma

**Specimen Volume**
- 1 mL

**Minimum Specimen Volume**
- 0.5 mL

**Transport Temperature**
- Refrigerate

**Specimen Stability**
- Room temperature: 5 days, Refrigerated: 7 days, Frozen: 30 days
- freeze/thaw cycle: 1

**Methodology**
- Electrochemiluminescence immunoassay (ECLIA)

**Days and Times Performed**
- Test performed daily

**Turnaround Time**
- 24 hours

**Reference Ranges**
- Male and Female: 2.3 - 5.0 pg/mL

**Units of Measure**
- pg/mL

**CPT Code**
- 84481

**EMR Interface Order Code**
- 27725

### DDFT4  T₄ (Thyroxine), Free by Dialysis, Serum

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**
- T4 (Thyroxine), Free by Dialysis, Serum

**Useful For**
- Determining thyroid status of sick, hospitalized patients
- Determining thyroid status of patients in whom abnormal binding proteins have been identified
- Possibly useful in pediatric patients

**Specimen Type**
- Serum

**Advisory Information**
- The routine free thyroxine (FT4) test (FRT4 / T4 [Thyroxine], Free, Serum) is faster and provides useful information in most patients.

**Necessary Information**
- Include name and telephone number of contact physician.

**Specimen Required**

**Container/Tube:**
- **Preferred:** Red top
- **Acceptable:** Serum gel

**Submission Container/Tube:**
- Plastic vial

**Specimen Volume:**
- 2.6 mL

**Collection Instructions:**
1. Draw blood immediately before next scheduled dose.
2. Centrifuge and separate serum from cells or gel within 2 hours of draw.

**Specimen Minimum Volume**
1.2 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
0.8-2.0 ng/dL
Reference values apply to all ages.

**Day(s) and Time(s) Performed**
Monday, Wednesday, Thursday; 3 p.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
84439

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>FRT4D</td>
<td>T4 (Thyroxine), Free by Dialysis, S</td>
<td>6892-4</td>
</tr>
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</table>

**Result ID**

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8859</td>
<td>T4 (Thyroxine), Free by Dialysis, S</td>
<td>6892-4</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

**Method Name**
Equilibrium Dialysis/Tandem Mass Spectrometry (MS/MS)

**Secondary ID**
8859

**TT4  T4, Total**

Baystate Reference Laboratories

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Heparinized and EDTA plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 5 days, Refrigerate: 7 days, Frozen: 30 days freeze/thaw cycle: 1

**Methodology**
Electrochemiluminescence immunoassay (ECLIA)

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
Male and Female: 0.70 - 1.80 ng/dL

**Units of Measure**
ng/dL

**CPT Code**
84439

**EMR Interface Order Code**
27575

---

**FT4  T4, Free**

Baystate Reference Laboratories

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Heparinized and EDTA plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 4 days, Refrigerated: 8 days, Frozen: 12 months freeze/thaw cycle 1

**Methodology**
Electrochemiluminescence immunoassay (ECLIA)

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
Male and Female: 4.5 - 12.6 ng/dL

**Units of Measure**
ug/dL

**CPT Code**
84436

**EMR Interface Order Code**
27500
FK506  Tacrolimus

Baystate Reference Laboratories

Collection Container
Lavender (EDTA)

Whole Blood

Special Handling Instructions
Specimens received by 10:30am will be done on the same day

Specimen Volume
5 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 14 days, Refrigerated: 14 days

Reasons for Rejection
Specimen spun and separated; specimen clotted.

Methodology
Liquid chromatography/mass spectrometry (LC-MS)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
5 - 20 ng/mL

Units of Measure
ng/mL

CPT Code
80197

EMR Interface Order Code
05300

QTAP  Tapentadol, Quant, Urine

Contracted Reference Lab

Additional Information
Includes Tapentadol, Nortapentadol

Urine

Specimen Volume
20 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerated

Specimen Stability
7 days

Reasons for Rejection
Preserved samples

Methodology
LC/MS/MS

Days and Times Performed
Daily

Turnaround Time
2 days

Reference Ranges
< 50 ng/mL

CPT Code
80372 G0480)

LOINC Code
65807-0, 65808-8

EMR Interface Order Code
70278

TAYSCR  Tay Sachs Carrier Screening

Integrated Genetics

Additional Information
Testing includes enzyme and molecular analysis.

Whole blood

Other Acceptable Specimen Types
Lavender(EDTA)

Special Handling Instructions
Requisition with ethnicity and insurance information must accompany sample

Specimen Volume
20 mL

Minimum Specimen Volume
17 mL

Transport Temperature
Refrigerated
**Specimen Stability**  
Must be received in Referral Lab by 4 pm

**Reasons for Rejection**  
ACD Soln B

**CPT Code**  
83080, 81255

**EMR Interface Order Code**  
68888

---

**TBBLD  TB Cellular Blood Test (TSpot)**  
*Oxford Diagnostic Laboratories.*

**Additional Information**  
Testing referred to Oxford Diagnostic Laboratories

**Collection Container**  
Green top (sodium or lithium heparin)  
Whole blood

**Special Handling Instructions**  
Testing available 24/7. Send sample to the Referral Lab at Whitney Ave as quickly as possible due to specimen stability.

**Specimen Volume**  
8 mL

**Minimum Specimen Volume**  
Adults and children >10 yr: 8 mL  
Children 2-9 yr: 4 mL  
Children <2 yr: 2 mL

**Transport Temperature**  
Room temperature

**Reasons for Rejection**  
Refrigerated sample, delay in transport to the Referral Lab

**Turnaround Time**  
2 - 3 days

**LOINC Code**  
45323-3

**EMR Interface Order Code**  
70656

---

**TBNK  TBNK Panel**  
*Baystate Reference Laboratories*

**Additional Information**  
Determining percentages or counts of CD3+CD4+ lymphocytes can be useful in monitoring human immunodeficiency virus (HIV). Individual with HIV typically exhibit a steady decrease of CD3+CD4+ lymphocyte counts as the infection progresses. CD3+CD4+ percentages or counts and total T and B lymphocytes are used to characterize and monitor some forms of immunodeficiency and autoimmune diseases. NK lymphocytes identified as CD3- and CD16+ and/or CD56+ have been shown to mediate cytotoxicity against certain tumors and virus-infected cells. NK-mediated cytotoxicity does not require class I or class II major histocompatibility complex (MHC) molecules to be present on the target cell.

**Collection Container**  
Lavender EDTA

**Specimen Volume**  
4mL Lavender (EDTA) tube

**Minimum Specimen Volume**  
1 full lavender EDTA tube or Microtainer

**Transport Temperature**  
Room temperature

**Specimen Stability**  
Transport specimen to the Flow Cytometry laboratory as soon as possible.

**Reasons for Rejection**  
Specimen refrigerated or exposed to extreme heat; specimen clotted or hemolyzed; specimen more than 72 hours old when received in the laboratory.

**Methodology**  
Numeration of specific subpopulations and monoclonal antibodies to lymphocyte antigens by flow cytometry.

**Days and Times Performed**  
Draw anytime, test performed day shift Monday-Saturday, not on Sunday, or holiday (holidays include the weekdays celebrated by Baystate Medical Center when an actual holiday falls on a weekend). The specimen is acceptable as long as it is received by the Flow Cytometry Laboratory within 72 hours of collection.

**Reference Ranges**  
Adults:  
CD3+/CD4+ (T-helper cells): 39-64%, 524-1556 cells/mm³  
CD3+/CD8+ (T-suppressor cells): 9-31%, 116-762 cells/mm³  
CD3+ (total T-cells): 60-68%, 679-2382 cells/mm³  
CD19+ (B-cells): 6-26%, 83-616 cells/mm³  
CD3-(CD16+CD56)+ (Natural Killer cells): 3-20%, 41-411 cells/mm³  
CD4/CD8 ratio: 1.345-6.400

**CPT Code**  
86355; 86357; 86359; 86360

**LOINC Code**  
45268-0

**EMR Interface Order Code**  
70656

---

**TEA  Tea IgE**  
*Contracted Reference Lab*

**Collection Container**  
Serum gel or red top tube  
Serum

**Specimen Volume**  
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**  
0.1 mL

**Transport Temperature**  
Refrigerated

**Specimen Stability**  
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**  
ImmunoCAP
FTESTO  Testosterone, Free & Total (Males >15 Yrs)

Baystate Reference Laboratories

Additional Information
Measures Total Testosterone and SHBG for a calculated Free Testosterone

Collection Container
Serum gel

Specimen Volume
1.5 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
See individual tests

Methodology
Electrochemiluminescence immunoassay (ECLIA)

Days and TimesPerformed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
Free Testosterone:
- Male: 3.7 - 14.7 ng/dL
- Female: 0.07 - 0.99 ng/dL

Units of Measure
ng/dL

CPT Code
84270, 84402

LOINC Code
2986-8

EMR Interface Order Code
27310

TESTOS  Testosterone, Total (Males > 15 Yrs)

Baystate Reference Laboratories

Additional Information
Total testosterone for male patients ≥ or > 16 years old

Collection Container
Serum gel

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 5 days, Refrigerated: 14 days, Frozen: 6 months freeze/thaw cycle: 1

Methodology
Electrochemiluminescence immunoassay (ECLIA)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

PATESTO  Testosterone, Pooled

Baystate Reference Laboratories

Additional Information
A pooled testosterone consists of 3 draws at 20 min apart

Collection Container
Serum gel

Specimen Volume
2 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 2 days, Refrigerated: 7 days

Reasons for Rejection
Specimen grossly hemolyzed

Methodology
Electrochemiluminescence immunoassay (ECLIA)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
Males: >16 years: 280 - 800 ng/dL
Females: >16 years: 6 - 82 ng/dL

Units of Measure
ng/dL

CPT Code
84403

LOINC Code
2986-8

EMR Interface Order Code
27310
**Reference Ranges**

**Males:**
- 16 years or older: 280 - 800 ng/dL

**Females:**
- 16 years or older: 6 - 82 ng/dL

**Units of Measure**
- ng/dL

**CPT Code**
- 84402

**EMR Interface Order Code**
- 27300

---

**FTESED  Testosterone, Total and Free, Serum**

*Mayo Clinic Laboratories in Rochester*

**Additional Test Codes**
- EMR Interface Order Code: 05815

**Reporting Name**
- Testosterone, Total and Free, S

**Useful For**
- Alternative, second-level test for suspected increases or decreases in physiologically active testosterone (preferred: TTBS / Testosterone, Total and Bioavailable, Serum); indications:
  - Assessment of androgen status in cases with suspected or known sex hormone-binding globulin-binding abnormalities
  - Assessment of functional circulating testosterone in early pubertal boys and older men
  - Assessment of functional circulating testosterone in women with symptoms or signs of hyperandrogenism, but normal total testosterone levels
  - Monitoring of testosterone therapy or antiandrogen therapy in older men and in females

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRTST</td>
<td>Testosterone, Free, S</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>TTST</td>
<td>Testosterone, Total, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Specimen Type**
- Serum Red

**Advisory Information**

This is a second-level test for suspected increases or decreases in physiologically active testosterone. The preferred test for assessment of active testosterone is TTBS / Testosterone, Total and Bioavailable, Serum.

**Necessary Information**

- Patient's age and sex are required.

**Specimen Required**

- **Container/Tube:** Red top
- **Specimen Volume:** 2.5 mL

---

**Reference Values**

**TESTOSTERONE, FREE**

**Males (adult):**
- 20–<25 years: 5.25-20.7 ng/dL
- 25–<30 years: 5.05-19.8 ng/dL
- 30–<35 years: 4.85-19.0 ng/dL
- 35–<40 years: 4.65-18.1 ng/dL
- 40–<45 years: 4.46-17.1 ng/dL
- 45–<50 years: 4.26-16.4 ng/dL
- 50–<55 years: 4.06-15.6 ng/dL
- 55–<60 years: 3.87-14.7 ng/dL
- 60–<65 years: 3.67-13.9 ng/dL
- 65–<70 years: 3.47-13.0 ng/dL
- 70–<75 years: 3.28-12.2 ng/dL
- 75–<80 years: 3.08-11.3 ng/dL
- 80–<85 years: 2.88-10.5 ng/dL
- 85–<90 years: 2.69-9.61 ng/dL
- 90–<95 years: 2.49-8.76 ng/dL
- 95-100+ years: 2.29-7.91 ng/dL

**Females (adult):**
- 20–<25 years: 0.06-1.08 ng/dL
- 25–<30 years: 0.06-1.06 ng/dL
- 30–<35 years: 0.06-1.03 ng/dL
- 35–<40 years: 0.06-1.00 ng/dL
- 40–<45 years: 0.06-0.98 ng/dL
- 45–<50 years: 0.06-0.95 ng/dL
- 50–<55 years: 0.06-0.92 ng/dL
- 55–<60 years: 0.06-0.90 ng/dL
- 60–<65 years: 0.06-0.87 ng/dL
- 65–<70 years: 0.06-0.84 ng/dL
- 70–<75 years: 0.06-0.82 ng/dL
- 75–<80 years: 0.06-0.79 ng/dL
- 80–<85 years: 0.06-0.76 ng/dL
- 85–<90 years: 0.06-0.73 ng/dL
- 90–<95 years: 0.06-0.71 ng/dL
- 95-100+ years: 0.06-0.68 ng/dL

**Females (children):**
- <1 year: Term infants

1-15 days: 0.20-3.10 ng/dL*

16 days-1 year: Values decrease gradually from newborn (0.20-3.10 ng/dL) to prepubertal levels

*Citation: J Clin Endocrinol Metab 1973;36(6):1132-1142

1-8 years: <0.04-0.11 ng/dL
- 9 years: <0.04-0.45 ng/dL
- 10 years: <0.04-1.26 ng/dL
- 11 years: <0.04-5.52 ng/dL
- 12 years: <0.04-9.28 ng/dL
- 13 years: <0.04-12.6 ng/dL
- 14 years: 0.48-15.3 ng/dL
- 15 years: 1.62-17.7 ng/dL
- 16 years: 2.93-19.5 ng/dL
- 17 years: 4.28-20.9 ng/dL
- 18 years: 5.40-21.8 ng/dL
- 19 years: 5.36-21.2 ng/dL

**Females (adult):**
- 20–<25 years: 0.06-1.08 ng/dL
- 25–<30 years: 0.06-1.06 ng/dL
- 30–<35 years: 0.06-1.03 ng/dL
- 35–<40 years: 0.06-1.00 ng/dL
- 40–<45 years: 0.06-0.98 ng/dL
- 45–<50 years: 0.06-0.95 ng/dL
- 50–<55 years: 0.06-0.92 ng/dL
- 55–<60 years: 0.06-0.90 ng/dL
- 60–<65 years: 0.06-0.87 ng/dL
- 65–<70 years: 0.06-0.84 ng/dL
- 70–<75 years: 0.06-0.82 ng/dL
- 75–<80 years: 0.06-0.79 ng/dL
- 80–<85 years: 0.06-0.76 ng/dL
- 85–<90 years: 0.06-0.73 ng/dL
- 90–<95 years: 0.06-0.71 ng/dL
- 95-100+ years: 0.06-0.68 ng/dL

**Females (children):**
- <1 year: Term infants

1-15 days: 0.06-0.25 ng/dL*
16 days-1 year: Values decrease gradually from newborn (0.06-0.25 ng/dL) to prepubertal levels
*Citation: J Clin Endocrinol Metab, 36(6):1132-1142, 1973

1-4 years: <0.04 ng/dL
5 years: <0.04-0.07 ng/dL
6 years: <0.04-0.14 ng/dL
7 years: <0.04-0.23 ng/dL
8 years: <0.04-0.34 ng/dL
9 years: <0.04-0.46 ng/dL
10 years: <0.04-0.59 ng/dL
11 years: <0.04-0.72 ng/dL
12 years: <0.04-0.84 ng/dL
13 years: <0.04-0.96 ng/dL
14 years: <0.04-1.06 ng/dL
15-18 years: <0.04-1.09 ng/dL
19 years: 0.06-1.08 ng/dL

TESTOSTERONE, TOTAL
Males
0-5 months: 75-400 ng/dL
6 months-9 years: <7-20 ng/dL
10-11 years: <7-130 ng/dL
12-13 years: <7-800 ng/dL
14 years: <7-1,200 ng/dL
15-16 years: 100-1,200 ng/dL
17-18 years: 300-1,200 ng/dL
≥19 years: 240-950 ng/dL

Females
0-5 months: 20-80 ng/dL
6 months-9 years: <7-20 ng/dL
10-11 years: <7-44 ng/dL
12-16 years: <7-75 ng/dL
17-18 years: 20-75 ng/dL
≥19 years: 8-60 ng/dL

Tanner Stages*
I (prepubertal): <7-20
II: 8-66
III: 26-800
IV: 85-1,200
V (young adult): 300-950

Day(s) and Time(s) Performed
Monday through Friday; 2 p.m. Saturday and Sunday; Varies

CPT Code Information
84402
84403

Relevant Information
16 days-1 year: Values decrease gradually from newborn (0.06-0.25 ng/dL) to prepubertal levels

Method Name
FRTST: Equilibrium Dialysis
TTST: Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Forms
If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

Secondary ID
8508

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

TESTOE Testosterone, Total by Mass Spectrometry, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 06890

Reporting Name
Testosterone, Total, S

Useful For
Evaluation of men with symptoms or signs of possible hypogonadism, such as loss of libido, erectile dysfunction, gynecomastia, osteoporosis, or infertility
Evaluation of boys with delayed or precocious puberty
Monitoring testosterone replacement therapy
Monitoring antiandrogen therapy (eg, used in prostate cancer, precocious puberty, treatment of idiopathic hirsutism, male-to-female transgender disorders, etc.)
Evaluation of women with hirsutism, virilization, and oligoamenorrhea
Evaluation of women with symptoms or signs of possible testosterone deficiency
Evaluation of infants with ambiguous genitalia or virilization
Diagnosis of androgen-secreting tumors

Testing Algorithm
See Steroid Pathways in Special Instructions

Specimen Type
Serum Red

Necessary Information
Patient's age and sex are required.
**Specimen Required**

**Container/Tube:** Red top  
**Specimen Volume:** 1 mL

**Specimen Minimum Volume**  
0.215 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
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</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>60 days</td>
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</tr>
</tbody>
</table>

**Special Instructions**
- Steroid Pathways

**Reference Values**

**Males**
- 0-5 months: 75-400 ng/dL  
- 6 months-9 years: <7-20 ng/dL  
- 10-11 years: <7-130 ng/dL  
- 12-13 years: <7-800 ng/dL  
- 14 years: <7-1,200 ng/dL  
- 15-16 years: 100-1,200 ng/dL  
- 17-18 years: 300-1,200 ng/dL  
- ≥19 years: 240-950 ng/dL  

**Tanner Stages**
- I (prepubertal): <7-20  
- II: 8-66  
- III: 26-800  
- IV: 85-1,200  
- V (young adult): 300-950

**Females**
- 0-5 months: 20-80 ng/dL  
- 6 months-9 years: <7-20 ng/dL  
- 10-11 years: <7-44 ng/dL  
- 12-16 years: <7-75 ng/dL  
- 17-18 years: 20-75 ng/dL  
- ≥19 years: 8-60 ng/dL  

**Tanner Stages**
- I (prepubertal): <7-20  
- II: <7-47  
- III: 17-75  
- IV: 20-75  
- V (young adult): 12-60

*Puberty onset (transition from Tanner stage I to Tanner stage II) occurs for boys at a median age of 11.5 (±2) years and for girls at a median age of 10.5 (±2) years. There is evidence that it may occur up to 1 year earlier in obese girls and in African American girls. For boys, there is no definite proven relationship between puberty onset and body weight or ethnic origin. Progression through Tanner stages is variable. Tanner stage V (young adult) should be reached by age 18.

**Day(s) and Time(s) Performed**

Monday through Saturday; Continuous until 2 p.m.

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
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<tbody>
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**Result ID**  
**Test Result Name**  
**Result LOINC Value**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>8533</td>
<td>Testosterone, Total, S</td>
<td>2986-8</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: OK  
- Gross lipemia: OK  
- Gross icterus: OK  
- Other: Serum Gel

**Method Name**

Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)  
Portions of this test are covered by patents held by Quest Diagnostics

**CPT Code Information**

84403

**Forms**

If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

**Secondary ID**

8533

**BITEST Testosterone, Total, Bioavailable, and Free, Serum**

Mayo Clinic Laboratories in Rochester

**Additional Test Codes**

EMR Interface Order Code: 06900

**Reporting Name**

Testosterone, Total, Bio, Free, S

**Useful For**

Second- or third-order test for evaluating testosterone status (eg, when abnormalities of sex hormone-binding globulin are present)

**Profile Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
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<tbody>
<tr>
<td>TTST</td>
<td>Testosterone, Total, S</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>FRTST</td>
<td>Testosterone, Free, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>BATS</td>
<td>Testosterone, Bioavailable, S</td>
<td>No</td>
<td>Yes</td>
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</table>

**Specimen Type**

Serum Red

**Necessary Information**

Patient's age and sex are required.

**Specimen Required**

**Container/Tube:** Red top  
**Specimen Volume:** 3.5 mL

**Specimen Minimum Volume**  
2 mL
Specimen Stability Information

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<tr>
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<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>60 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

TESTOSTERONE, TOTAL

**Males**

- 0-5 months: 75-400 ng/dL
- 5-6 months: <7-20 ng/dL
- 6-11 months: <7-130 ng/dL
- 12-13 months: <7-800 ng/dL
- 14 months: <7,120 ng/dL
- 15-16 months: 100-1,200 ng/dL
- 17-18 months: 300-1,200 ng/dL
- ≥19 years: 240-950 ng/dL

**Tanner Stages**

- I (prepubertal): <7-20
- II: 8-66
- III: 26-800
- IV: 85-1,200
- V (young adult): 300-950

**Females**

- 0-5 months: 20-80 ng/dL
- 5-6 months: <7-20 ng/dL
- 6-11 months: <7-44 ng/dL
- 12-16 months: <7-75 ng/dL
- 17-18 months: 20-75 ng/dL
- ≥19 years: 8-60 ng/dL

**Tanner Stages**

- I (prepubertal): <7-20
- II: <7-47
- III: 17-75
- IV: 20-75
- V (young adult): 12-60

*Puberty onset (transition from Tanner stage I to Tanner stage II) occurs for boys at a median age of 11.5 (±2) years and for girls at a median age of 10.5 (±2) years. There is evidence that it may occur up to 1 year earlier in obese girls and in African American girls. For boys, there is no definite proven relationship between puberty onset and body weight or ethnic origin. Progression through Tanner stages is variable. Tanner stage V (young adult) should be reached by age 18.

**TESTOSTERONE, FREE**

**Males (adult):**

- 20-29 years: 5.25-20.7 ng/dL
- 25-30 years: 5.05-19.8 ng/dL
- 30-35 years: 4.85-19.0 ng/dL
- 35-40 years: 4.65-18.1 ng/dL
- 40-45 years: 4.46-17.1 ng/dL
- 45-50 years: 4.26-16.4 ng/dL
- 50-55 years: 4.06-15.6 ng/dL
- 55-60 years: 3.87-14.7 ng/dL
- 60-65 years: 3.67-13.9 ng/dL
- 65-70 years: 3.47-13.0 ng/dL
- 70-75 years: 3.28-12.2 ng/dL
- 75-80 years: 3.08-11.3 ng/dL
- 80-85 years: 2.88-10.5 ng/dL
- 85-90 years: 2.69-9.61 ng/dL
- 90-95 years: 2.49-8.76 ng/dL
- 95-100+ years: 2.29-7.91 ng/dL

**Males (children):**

- <1 year: Term infants

  - 1-15 days: 0.20-3.10 ng/dL
  - 16 days-1 year: Values decrease gradually from newborn (0.20-3.10 ng/dL) to prepubertal levels

*Citation: J Clin Endocrinol Metab 1973;36(6):1132-1142

**Females (adult):**

- 20-25 years: 0.06-1.08 ng/dL
- 25-30 years: 0.06-1.06 ng/dL
- 30-35 years: 0.06-1.03 ng/dL
- 35-40 years: 0.06-1.00 ng/dL
- 40-45 years: 0.06-0.98 ng/dL
- 45-50 years: 0.06-0.95 ng/dL
- 50-55 years: 0.06-0.92 ng/dL
- 55-60 years: 0.06-0.90 ng/dL
- 60-65 years: 0.06-0.87 ng/dL
- 65-70 years: 0.06-0.84 ng/dL
- 70-75 years: 0.06-0.82 ng/dL
- 75-80 years: 0.06-0.79 ng/dL
- 80-85 years: 0.06-0.76 ng/dL
- 85-90 years: 0.06-0.73 ng/dL
- 90-95 years: 0.06-0.71 ng/dL
- 95-100+ years: 0.06-0.68 ng/dL

**Females (children):**

- <1 year: Term infants

  - 1-15 days: 0.06-0.25 ng/dL
  - 16 days-1 year: Values decrease gradually from newborn (0.06-0.25 ng/dL) to prepubertal levels

*Citation: J Clin Endocrinol Metab 1973;36(6):1132-1142

**TESTOSTERONE, BIOAVAILABLE**

**Males**

- ≤19 years: not established
- 20-29 years: 83-257 ng/dL
- 25-30 years: 72-235 ng/dL
- 30-39 years: 61-213 ng/dL
- 40-49 years: 50-190 ng/dL
- 50-59 years: 40-168 ng/dL
- 60-69 years: 30-140 ng/dL
- ≥70 years: not established

**Females (non-oophorectomized)**

- ≤19 years: not established
- 20-25 years (on oral estrogen): 0.8-4.0 ng/dL
- 20-50 years (not on oral estrogen): 0.8-10 ng/dL
- >50 years: not established

**Day(s) and Time(s) Performed**

Testosterone, bioavailable: Monday through Friday
Testosterone, free: Monday through Saturday, 1 p.m.
Testosterone, total: Monday through Saturday, 1 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
84402
84403
84410

LOINC Code Information

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<td>3631</td>
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<tr>
<td>8533</td>
<td>Testosterone, Total, S</td>
<td>2986-8</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject
- Other: Serum Gel

Method Name
- FRTST: Equilibrium Dialysis
- TTST: Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
- BATS: Differential Precipitation

Secondary ID
83686

TETNAB  Tetanus Toxoid IgG Antibody, Serum

Mayo Clinic Laboratories in Rochester

Useful For
Assessment of an antibody response to the tetanus toxoid vaccine, which should be performed at least 3 weeks after immunization

An aid to diagnose immunodeficiency

Method Name
Enzyme Immunoassay (EIA)

Reporting Name
Tetanus Toxoid IgG Ab, S

Specimen Type
Serum

Specimen Required
- Container/Tube:
  - Preferred: Serum gel
  - Acceptable: Red top
- Specimen Volume: 0.5 mL
- Specimen Minimum Volume
  - 0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: Reject

Reference Values
- Vaccinated: Positive (≥0.01 IU/mL)
- Unvaccinated: Negative (<0.01 IU/mL)

Day(s) and Time(s) Performed
Monday through Friday; 9 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
86317

LOINC Code Information

<table>
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<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
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<td>Tetanus IgG Ab</td>
<td>33469-8</td>
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<tr>
<td>DEXTG</td>
<td>Tetanus IgG Value</td>
<td>53935-3</td>
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</tbody>
</table>

Secondary ID
36667

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

CFTHBT  Tetrahydrobiopterin Neopterin Profile, CSF

Medical Neurogenetics

Additional Information
This test includes Neopterin

Collection Container
Call Lab
CSF

Specimen Volume
3.5 mL

Transport Temperature
Frozen

CPT Code
82542

EMR Interface Order Code
13610
Thallium, 24 Hour, Urine

**Additional Test Codes**
EMR Interface Order Code: 09600

**Reporting Name**
Thallium, 24 Hr, U

**Useful For**
Detecting toxic thallium exposure in 24-hour urine specimens

**Specimen Type**
Urine

**Necessary Information**
24-Hour volume is required.

**Specimen Required**

**Patient Preparation:** High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Supplies:** Urine Tubes, 10 mL (T068)

**Collection Container/Tube:** Clean, plastic urine container with no metal cap or glued insert

**Submission Container/Tube:** Plastic, 10-mL urine tube or a clean, plastic aliquot container with no metal cap or glued insert

**Specimen Volume:** 10 mL

**Collection Instructions:**
1. Collect urine for 24 hours.
2. Refrigerate specimen within 4 hours of completion of 24-hour collection.
3. Aliquot 10 mL in a plastic 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert.
4. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Additional Information:** See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

**Specimen Minimum Volume**
0.3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tr>
<td>Urine</td>
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<tr>
<td></td>
<td>Ambient</td>
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</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

**Special Instructions**
- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens
- Trace Metals Analysis Specimen Collection and Transport

**Reference Values**
0-17 years: not established
≥18 years: <2 mcg/24 hours

**Day(s) and Time(s) Performed**
Tuesday, Friday; 8 a.m.

---

Thallium, Blood

**Additional Test Codes**
EMR Interface Order Code: 09605

**Reporting Name**
Thallium, B

**Useful For**
Detecting toxic thallium exposure in whole blood specimens

**Specimen Type**
Whole blood

**Specimen Required**

**Patient Preparation:** High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Supplies:** Metal Free B-D Tube (EDTA), 6 mL (T183)
Container/Tube: Royal blue-top (EDTA) Vacutainer plastic trace element blood collection tube (T183)
Specimen Volume: Full tube
Collection Instructions:
1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.
2. Send specimen in original tube.
Additional Information: If ordering the trace element blood collection tube from BD, order catalog #368381.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
- Trace Metals Analysis Specimen Collection and Transport

Reference Values
0-17 years: not established
≥18 years: <2 ng/mL

Day(s) and Time(s) Performed
Tuesday, Friday; 8 a.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83018

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>TLB</td>
<td>Thallium, B</td>
<td>5743-0</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8149</td>
<td>Thallium, B</td>
<td>5743-0</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

THEO Theophylline

Baystate Reference Laboratories

Additional Information
IV: Prior to IV infusion (if patient is on theophylline)
- 30 minutes after loading dose
- 4-6 hours after beginning constant rate infusion
- 12-18 hours after beginning constant rate infusion, then at 24-hour intervals until discontinuance
Oral:
- Peak: 2 hours after rapid release dose,
  4 hours after sustained release dose,
  12 hours after 24 hour dosing preparation

Trough: immediately before the next dose

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
Heparinized plasma

Specimen Volume
1 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 4 hours, Refrigerated: 7 days, Frozen: 2 months

Methodology
Kinetic interaction of microparticles in a solution (KIMS)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges
Therapeutic: 10 - 20 mg/L

Critical Results
>20 mg/L

Units of Measure
mg/L

CPT Code
80198

EMR Interface Order Code
09625

THIAM Thiamine (Vitamin B1), Whole Blood

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 09650

Secondary ID
42356

Useful For
Assessment of thiamine deficiency
Measuring thiamine levels in patients with behavioral changes, eye signs, gait disturbances, delirium, and encephalopathy; or in patients with questionable nutritional status, especially those who appear at risk and who also are being given insulin for hyperglycemia

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Reporting Name
Thiamin (Vitamin B1), WB

Specimen Type
Whole Blood EDTA
Shipping Instructions

Ship specimen in amber vial to protect from light.

Specimen Required

Patient Preparation: Fasting overnight (12-14 hours). Infants-draw prior to next feeding. Water can be taken as needed.

Supplies: Amber Frosted Tube, 5 mL (T192)

Collection Container/Tube: Lavender top (EDTA)

Submission Container/Tube: Amber vial

Specimen Volume: 4 mL

Collection Instructions:
1. Invert 8 to 10 times to mix blood.
2. Transfer whole blood into amber vial or tube and freeze within 24 hours of collection.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood EDTA</td>
<td>Frozen</td>
<td>28 days</td>
<td>LIGHT PROTECTED</td>
</tr>
</tbody>
</table>

Reject Due To

- Gross lipemia | Reject
- Other | Glass vial Clotted specimen

Reference Values

70-180 nmol/L

Day(s) and Time(s) Performed

Monday through Friday

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

84425

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDP</td>
<td>Thiamin (Vitamin B1), WB</td>
<td>32554-8</td>
</tr>
</tbody>
</table>

Reflex Tests

- Collection Container
  - Other

Other Acceptable Specimen Types

Special Handling Instructions

Specimen Volume

1 mL

Minimum Specimen Volume

Transport Temperature

Specimen Stability

Reasons for Rejection

- Methodology
- Days and Times Performed
- Turnaround Time
- Reference Ranges

CPT Code

EMR Interface Order Code

13360

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>85753</td>
<td>Thiamin (Vitamin B1), WB</td>
<td>32554-8</td>
</tr>
</tbody>
</table>

Forms

If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

CTTP THIN PREP Neisseria gonorrhoeae

Amplified Probe

Baystate Reference Laboratories

Additional Information

Reflex Tests

- Collection Container
  - Other

Other Acceptable Specimen Types

Special Handling Instructions

Specimen Volume

1 mL
**Minimum Specimen Volume**

- Transport Temperature
- Specimen Stability
- Reasons for Rejection
- Methodology
- Days and Times Performed
- Turnaround Time
- Reference Ranges
- CPT Code

**EMR Interface Order Code**

13335

---

**TCYN  Thiocyanate, Serum**

*Medtox Laboratories, Inc.*

**Additional Test Codes**

EMR Interface Order Code: 09675

**Reporting Name**

Thiocyanate, Serum

**Specimen Type**

Varies

**Specimen Required**

Submit only 1 of the following specimens:

- **Plasma**
  
  Draw blood in a green-top (sodium heparin) tube(s). **plasma gel tube is not acceptable.** Spin down and send 1 mL sodium heparin plasma refrigerated in plastic vial.

- **Serum**

  Draw blood in a plain, red-top tube(s), **serum gel tube is not acceptable.** Spin down and send 1 mL of serum refrigerated in plastic vial.

**Specimen Minimum Volume**

0.50 mL Does not allow for repeat testing

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated</td>
<td>14 days</td>
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<tr>
<td></td>
<td>(preferred)</td>
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<tr>
<td>Frozen</td>
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<td>180 days</td>
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</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

Toxic Thiocyanate concentrations: Greater than 10 mg/dL

**Day(s) and Time(s) Performed**

Monday through Sunday

**CPT Code Information**

84430

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FFTIO</td>
<td>Thiocyanate, Serum</td>
<td>3002-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>Z3316</td>
<td>Thiocyanate</td>
<td>3002-3</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: Mild OK; Gross Reject
- Lipemia: Mild OK; Gross OK
- Icterus: Mild OK; Gross OK
- Other: Anticoagulants other than Sodium heparin, EDTA, plain red-top

**Method Name**

Spectrophotometry (SPEC)

**Secondary ID**

57708

---

**THPMT  Thiopurine Metabolites**

*LabCorp*

**Important Note**

Test includes 6-TGN and 6-MMPN. Should only be used for patients currently on thiopurine therapy, including azathioprine or mercaptopurine. This test may not be useful in patients with autoimmune hepatitis.

**Collection Container**

Lavender (EDTA) top tube

Whole blood

**Specimen Volume**

3 mL

**Minimum Specimen Volume**

1 mL

**Transport Temperature**

Refrigerate

**Specimen Stability**

14 days

**Reasons for Rejection**

Frozen

**CPT Code**

80375

**EMR Interface Order Code**

69268
**TPMT  Thiopurine Methyltransferase**

*Contracted Reference Lab*

**Collection Container**
Green (Na hep) top tube; Lavender (EDTA) top tube acceptable

**Whole Blood**

**Specimen Volume**
8 mL (5 mL pediatric)

**Minimum Specimen Volume**
5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
14 days

**Reasons for Rejection**
Gross hemolysis, frozen, clotted

**CPT Code**
82657

**EMR Interface Order Code**
5100

---

**THIOR  Thioridazine, Mellaril**

*LabCorp*

**Additional Information**
Trough levels are most reproducible

**Collection Container**
Red

Serum

**Other Acceptable Specimen Types**
Heparinized plasma

**Special Handling Instructions**
Serum or plasma should be separated from cells within 2 hours of venipuncture.

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 3 days, Refrigerated: 2 weeks, Frozen: 1 year

**Reasons for Rejection**
Collected in a gel barrier tube

**Methodology**
Liquid chromatography/tandem mass spectrometry (LC/MS-MS)

**CPT Code**
80342

**EMR Interface Order Code**
07535

---

**TT  Thrombin Time**

*Baystate Reference Laboratories*

**Collection Container**
Light Blue

Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

**Special Handling Instructions**
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

**Specimen Volume**
Platelet poor plasma: 1 mL aliquots, Whole blood: 2.7 mL

**Minimum Specimen Volume**
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL.

**Transport Temperature**
Platelet poor plasma: frozen, whole blood: ambient temperature

**Specimen Stability**
Whole blood: 4 hours

**Reasons for Rejection**
Hemolyzed, clotted, Whole blood >4 hours old

**Methodology**
Clot based assay

**Days and Times Performed**
24 hours a day, 7 days a week

**Turnaround Time**
Daily

**Reference Ranges**
<21.0 Seconds

**CPT Code**
85670

**LOINC Code**
3243-3

**EMR Interface Order Code**
33515

---

**TGMS  Thyroglobulin Mass Spectrometry, Serum**

*Mayo Clinic Laboratories in Rochester*

**Useful For**
Accurate measurement of serum thyroglobulin (Tg) in patients with known or suspected antithyroglobulin autoantibodies (TgAB) or heterophile antibodies (HAB)

Reflex testing of samples with previously unknown TgAB status that prove TgAB positive during immunoassay testing

Rarely, in patients without thyroid cancer to assist in the differential diagnosis of early phase silent thyroiditis versus Graves’ disease (the mass spectrometry-based method would only be required if these patients have TgAB or HAB)

**Reporting Name**
Thyroglobulin, Mass Spec., S
Specimen Type
Serum Red

Specimen Required
Container/Tube: Red top
Specimen Volume: 1.25 mL

Specimen Minimum Volume
0.75 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>416 days</td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: OK
- Gross icterus: OK
- Other: Plasma, whole blood, SST Serum Gel Tubes

Reference Values

Healthy individuals with intact, functioning thyroid: ≤33 ng/mL

The reference ranges listed below, however, are for thyroid cancer follow up of athyrotic patients and apply to unstimulated and stimulated thyroglobulin measurements. Ranges are based on best practice guidelines and the literature, which includes Mayo Clinic studies, and represent clinical decision levels.

Decision levels for thyroid cancer patients, who are not completely athyrotic (ie, patient has some remnant normal thyroid tissue), have not been established, but are likely to be somewhat higher: remnant normal thyroid tissue contributes to serum Tg concentrations 0.5-1.0 ng/mL per gram of remnant tissue, depending on the thyroid-stimulating hormone (TSH) level.

Tg <0.5 ng/mL: Thyroglobulin (Tg) levels must be interpreted in the context of TSH levels, serial Tg measurements, and radiiodine ablation status. Undetectable Tg levels in athyrotic individuals on suppression therapy indicate a minimal risk (<1%-2%) of clinically detectable recurrent papillary/follicular thyroid cancer.

Tg ≥0.5 ng/mL to 2.0 ng/mL: Thyroglobulin (Tg) levels must be interpreted in the context of TSH levels, serial Tg measurements, and radiiodine ablation status. Tg levels of 0.5-2.0 ng/mL in athyrotic individuals on suppressive therapy indicate a low risk of clinically detectable recurrent papillary/follicular thyroid cancer.

Tg 2.1 ng/mL to 9.9 ng/mL: Thyroglobulin (Tg) levels must be interpreted in the context of TSH levels, serial Tg measurements and radiiodine ablation status. Tg levels of 2.1-9.9 ng/mL in athyrotic individuals on suppression therapy indicate an increased risk of clinically detectable recurrent papillary/follicular thyroid cancer.

Tg ≥10 ng/mL: Thyroglobulin (Tg) levels must be interpreted in the context of TSH levels, serial Tg measurements and radiiodine ablation status. Tg levels of ≥10 ng/mL in athyrotic individuals on suppressive therapy indicate a significant (>25%) risk of clinically detectable recurrent papillary/follicular thyroid cancer.

Day(s) and Time(s) Performed
Monday through Friday; 4 p.m.
**Specimen Minimum Volume**

1.0 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
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**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
</tbody>
</table>

**Reference Values**

Thyroglobulin Antibody: <4.0 IU/mL

**Day(s) and Time(s) Performed**

TGABR and HTGT: Monday through Friday 6 a.m.-12 a.m., Saturday 6 a.m.-6 p.m.

TGMS: Monday through Friday, 4 p.m.

**Test Classification**

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**

86800

**LOINC Code Information**

<table>
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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>HTGR</td>
<td>Thyroglobulin Reflex to MS or IA</td>
<td>56536-6</td>
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<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>TGABR</td>
<td>Thyroglobulin Antibody, S</td>
<td>56536-6</td>
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**Reflex Tests**

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<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
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<tbody>
<tr>
<td>HTGT</td>
<td>Thyroglobulin, Tumor Marker, IA, S</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>TGMS</td>
<td>Thyroglobulin, Mass Spec., S</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

**Method Name**

Immunoenzymatic Assay

**Forms**

If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

---

**FTHYGB** Thyroglobulin, Tumor Marker, Fine-Needle Aspiration (FNA)-Needle Wash, Lymph Node

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**

Thyroglobulin, FNA, Lymph Node

**Useful For**

An adjunct to cytologic examination of fine-needle aspiration specimens in athyrotic individuals treated for differentiated thyroid cancer, to confirm or exclude metastases in enlarged or ultrasonographically suspicious lymph nodes

This test is not useful for screening asymptomatic individuals for neoplastic disease.

**Specimen Type**

Fine Needle Wash

**Necessary Information**

The biopsied site of each specimen must be clearly identified in LIS or on batch sheet.

**Specimen Required**

**Patient Preparation:** For 12 hours before this test do not take multivitamins or dietary supplements containing biotin (vitamin B7), which is commonly found in hair, skin, and nail supplements and multivitamins.

**Collection Container/Tube:** Plain, plastic, screw-top tube

**Specimen Volume:** 1 to 1.5 mL

**Collection Instructions:**

1. Needle wash specimens for analysis should be collected in conjunction with cytology specimens.
2. Have saline available prior to start of procedure. Saline is the only acceptable solution for needle washings.
3. After each fine-needle aspiration biopsy (FNAB) has been collected and the material in the needle has been expelled onto a slide for cytologic analysis, attach the used FNAB needle to an empty syringe.
4. Withdraw between 0.10 mL and 0.25 mL of saline up through the needle until the saline starts to fill the hub of the needle or end of the syringe.
5. Expel this fluid back through the needle into a separate plastic screw-top tube. This is the needle washing used for analysis.
6. Repeat steps 2 through 4 for each needle pass of the same biopsied site and empty into the same tube, accumulating a total of 0.5 mL to 1.5 mL of fluid to send to the laboratory. (If more than 1 site is biopsied, see Additional Information)
7. Inspect specimen for visible blood or tissue contamination:
   - a. If bloody, centrifuge specimen and transfer supernatant to a new plastic aliquot tube (5-mL standard tube) to send to laboratory. The supernatant, not the cellular material, is used for analysis.
   - b. If specimen is clear, centrifugation is not necessary.
8. Refrigerate within 1 to 2 hours of collection. Send specimen frozen (preferred) or refrigerate to Mayo Clinic Laboratories for analysis.

**Additional Information**

1. If more than 1 site is biopsied, each washing material should be submitted on a separate tube and under a different order number.
2. A minimum of 0.5 mL is required for testing; however, the total collection volume should not exceed 1.5 mL. Sample volumes outside these parameters may be rejected.
3. Do not send saline control. This test has been validated to rule-out saline matrix effect.

**Specimen Minimum Volume**

0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine Needle Wash</td>
<td>Frozen (preferred)</td>
<td>90 days</td>
<td></td>
</tr>
</tbody>
</table>

|                   | Refrigerated       | 14 days|                   |

**Reference Values**

≤1.0 ng/mL

This cutoff has been validated for total needle wash volumes of ≤1.5 mL of normal saline. If wash volumes are substantially larger, a lower cutoff might apply.
Day(s) and Time(s) Performed
Monday through Friday; 6 a.m.-9 p.m.
Saturday; 6:30 a.m.-1 p.m.

Test Classification
This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
84432

LOINC Code Information
<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTGFN</td>
<td>Thyroglobulin, FNA, Lymph Node</td>
<td>53920-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TGFN</td>
<td>Thyroglobulin, FNA, Lymph Node</td>
<td>53920-5</td>
</tr>
<tr>
<td>SITEJ</td>
<td>Site</td>
<td>39111-0</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis | Reject

Method Name
Immunoenzymatic Assay

Forms
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

Secondary ID
61842

THYRP  Thyroid Panel (TSH, FT4)

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
Heparinized and EDTA plasma

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
See individual tests

Methodology
Electrochemiluminescence immunoassay (ECLIA)

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
See individual tests

Units of Measure
See individual tests

CPT Code
84439, 84443

EMR Interface Order Code
14510

TPO  Thyroid Peroxidase (Antimicrosomal) Antibodies

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Specimen Volume
2 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 2 days, Frozen: 2 months

Methodology
Chemiluminescent

Days and Times Performed
Monday and Wednesday

Turnaround Time
2 - 7 days

Reference Ranges
0 - 35 IU/mL

Units of Measure
IU/mL

CPT Code
86376

EMR Interface Order Code
27410

TSIGB  Thyroid-Stimulating Immunoglobulin, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Thyroid-Stimulating Immunoglob, S

Useful For
Second-order testing for autoimmune thyroid disease, including:
- Differential diagnosis of etiology of thyrotoxicosis in patients with ambiguous clinical signs or contraindicated (eg, pregnant or breastfeeding) or indeterminate thyroid radioisotope scans
- Diagnosis of clinically suspected Graves disease (eg, extrathyroidal manifestations of Graves disease: endocrine exophthalmos, pretibial myxedema, thyroid acropachy) but normal thyroid function tests
- Determining the risk of neonatal thyrotoxicosis in a fetus of a pregnant female with active or past Graves disease

Reference Ranges
See individual tests

Units of Measure
See individual tests

CPT Code
84439, 84443

EMR Interface Order Code
14510

TPO  Thyroid Peroxidase (Antimicrosomal) Antibodies

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Specimen Volume
2 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 2 days, Frozen: 2 months

Methodology
Chemiluminescent

Days and Times Performed
Monday and Wednesday

Turnaround Time
2 - 7 days

Reference Ranges
0 - 35 IU/mL

Units of Measure
IU/mL

CPT Code
86376

EMR Interface Order Code
27410

TSIGB  Thyroid-Stimulating Immunoglobulin, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Thyroid-Stimulating Immunoglob, S

Useful For
Second-order testing for autoimmune thyroid disease, including:
- Differential diagnosis of etiology of thyrotoxicosis in patients with ambiguous clinical signs or contraindicated (eg, pregnant or breastfeeding) or indeterminate thyroid radioisotope scans
- Diagnosis of clinically suspected Graves disease (eg, extrathyroidal manifestations of Graves disease: endocrine exophthalmos, pretibial myxedema, thyroid acropachy) but normal thyroid function tests
- Determining the risk of neonatal thyrotoxicosis in a fetus of a pregnant female with active or past Graves disease

Reference Ranges
See individual tests
Differential diagnosis of gestational thyrotoxicosis versus first-trimester manifestation or recurrence of Graves disease

Assessing the risk of Graves disease relapse after antithyroid drug treatment

A combination of TSI / Thyroid-Stimulating Immunoglobulin (TSI), Serum and THYRO / Thyrotropin Receptor Antibody, Serum is useful as an adjunct in the diagnosis of unusual cases of hypothyroidism (eg, Hashitoxicosis).

**Specimen Type**
Serum

**Specimen Required**

**Container/Tube:**
- **Preferred:** Red top
- **Acceptable:** Serum gel

**Specimen Volume:**
- **5 mL**

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>60 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**
≤1.3 TSI index

Reference values apply to all ages.

**Day(s) and Time(s) Performed**
Monday through Friday; 10 a.m.

**Test Classification**

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions.

Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**
84445

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSI</td>
<td>Thyroid-Stimulating Immunoglob, S</td>
<td>30567-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8634</td>
<td>Thyroid-Stimulating Immunoglob, S</td>
<td>30567-2</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Gross hemolysis: Reject
- Gross lipemia: OK
- Gross icterus: OK

**Method Name**
Recombinant Bioassay

**Forms**

If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.
**Thyrotropin Receptor Ab, S**  
**LOINC Value:** 5385-0

**Reject Due To**
- Gross hemolysis: Reject
- Gross lipemia: OK

**Method Name**
Electrochemiluminescence Immunoassay

**Forms**
If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

---

**Thyroxine-Binding Globulin (TBG), Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
Thyroxine Binding Globulin, S

**Useful For**
Determination of thyroxine-binding globulin levels is particularly useful for cases in which total thyroid hormone levels do not correlate with the thyrometabolic status, most commonly with pregnancy or the use of contraceptive steroids

**Specimen Type**
Serum

**Specimen Required**

| Container/Tube: | 
| --- | --- |
| Preferred: | Red top |
| Acceptable: | Serum gel |

**Specimen Volume:** 0.5 mL

**Specimen Minimum Volume:** 0.35 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>30 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

- Males: 12-26 mcg/mL
- Females: 11-27 mcg/mL

For SI unit Reference Values, see [https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html](https://www.mayocliniclabs.com/order-tests/si-unit-conversion.html)

**Day(s) and Time(s) Performed**

Monday through Friday; 5 a.m.-3pm., Saturday; 6 a.m.-3pm

**Test Classification**
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**
84442

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBGI</td>
<td>Thyroxine Binding Globulin, S</td>
<td>3021-3</td>
</tr>
</tbody>
</table>

---

**Tiagabine (Gabitril), Serum**

*Medtox Laboratories, Inc.*

**Method Name**
Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

**Reporting Name**
Tiagabine (Gabitril), S

**Specimen Type**
Serum Red

**Specimen Required**

Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 3 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**

0.6 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

**Reference Values**

**Report Limit:** 5.0 ng/mL

**Reference Range:** <235.0 ng/mL

Therapeutic and toxic ranges have not been established.

Peak concentrations are expected at 45 minutes post dose; steady state is generally attained within 2 days.

Observed tiagabine concentrations in clinical trials (30 – 56 mg/day): <1 – 234 ng/mL.

Measured tiagabine concentrations, post marketing (95% confidence interval): 0 Α±440 ng/mL.

Note: The 95% confidence interval for tiagabine concentrations determined by MEDTOX Laboratories will be updated periodically as more information becomes available.
**Day(s) and Time(s) Performed**
Monday through Sunday

**CPT Code Information**
80199

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FGTIA</td>
<td>Tiagabine (Gabitril), S</td>
<td>21565-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z4403</td>
<td>Tiagabine</td>
<td>21565-7</td>
</tr>
</tbody>
</table>

**Secondary ID**
75019

**FFTIL  Tilapia IgE**

*Contracted Reference Lab*

*Collection Container*
Serum gel or red top tube

*Specimen Volume*
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

*Minimum Specimen Volume*
0.1 mL

*Transport Temperature*
Refrigerated

*Specimen Stability*
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

*Methodology*
ImmunoCAP

*Turnaround Time*
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49265

**Container**
Serum gel or red top tube

**TIMY  Timothy Grass IgE**

*Contracted Reference Lab*

*Collection Container*
Serum gel or red top tube

*Specimen Volume*
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

*Minimum Specimen Volume*
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49265

**Container**
Serum gel or red top tube

**TTGIGA  Tissue Transglutaminase Antibody, IgA, Serum**

*Mayo Clinic Laboratories in Rochester*

*Reporting Name*
Tissue Transglutaminase Ab, IgA, S

*Useful For*
Evaluating patients suspected of having celiac disease, including patients with compatible clinical symptoms, patients with atypical symptoms, and individuals at increased risk (family history, previous diagnosis with associated disorder, positivity for HLA DQ2 and/or DQ8)

Screening test for dermatitis herpetiformis, in conjunction with endomysial antibody test

Monitoring adherence to gluten-free diet in patients with dermatitis herpetiformis and celiac disease
### Testing Algorithm

The following algorithms are available in Special Instructions:

- Celiac Disease Comprehensive Cascade
- Celiac Disease Diagnostic Testing Algorithm
- Celiac Disease Gluten-Free Cascade
- Celiac Disease Routine Treatment Monitoring Algorithm
- Celiac Disease Serology Cascade

### Specimen Type

Serum

### Advisory Information

Cascade testing is recommended for celiac disease. Cascade testing ensures that testing proceeds in an algorithmic fashion. The following cascades are available; select the appropriate one for your specific patient situation.

- **CDCOM / Celiac Disease Comprehensive Cascade**: complete testing including HLA DQ
- **CDSP / Celiac Disease Serology Cascade**: complete testing excluding HLA DQ
- **CDGF / Celiac Disease Gluten-Free Cascade**: for patients already adhering to a gluten-free diet

To order individual tests, see Celiac Disease Diagnostic Testing Algorithm in Special Instructions.

### Specimen Required

**Container/Tube:**
- **Preferred**: Serum gel
- **Acceptable**: Red top

**Specimen Volume**: 0.5 mL

**Specimen Minimum Volume**: 0.4 mL

### Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td>Serum</td>
<td>Frozen</td>
<td>21 days</td>
<td></td>
</tr>
</tbody>
</table>

### Special Instructions

- Celiac Disease Diagnostic Testing Algorithm
- Celiac Disease Comprehensive Cascade
- Celiac Disease Gluten-Free Cascade
- Celiac Disease Routine Treatment Monitoring Algorithm
- Celiac Disease Serology Cascade

### Reference Values

- <4.0 U/mL (negative)
- 4.0-10.0 U/mL (weak positive)
- >10.0 U/mL (positive)

Reference values apply to all ages.

### Day(s) and Time(s) Performed

Monday through Saturday; 7 a.m.-9 p.m.

### Test Classification

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

### CPT Code Information

83516

### LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTGA</td>
<td>Tissue Transglutaminase Ab, IgA, S</td>
<td>46128-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTGA</td>
<td>Tissue Transglutaminase Ab, IgA, S</td>
<td>46128-5</td>
</tr>
</tbody>
</table>

### Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: OK

### Method Name

Enzyme-Linked Immunosorbent Assay (ELISA)

### Forms

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:

- General Request (T239)
- Gastroenterology and Hepatology Client Test Request (T728)

### Secondary ID

82587

### TTGG  Tissue Transglutaminase Antibody, IgG, Serum

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**

Tissue Transglutaminase Ab, IgG, S

**Useful For**

For individuals with IgA deficiency:

- Evaluating patients suspected of having celiac disease, including patients with compatible clinical symptoms, patients with atypical symptoms, and individuals at increased risk (family history, previous diagnosis with associated disorder, positivity for HLA DQ2 and/or DQ8)
- Screening test for dermatitis herpetiformis, in conjunction with endomysial antibody test
- Monitoring adherence to gluten-free diet in patients with dermatitis herpetiformis and celiac disease

### Testing Algorithm

The following algorithms are available in Special Instructions:

- Celiac Disease Comprehensive Cascade
- Celiac Disease Diagnostic Testing Algorithm
- Celiac Disease Gluten-Free Cascade
- Celiac Disease Routine Treatment Monitoring Algorithm
- Celiac Disease Serology Cascade

### Specimen Type

Serum

### Advisory Information

Cascade testing is recommended for celiac disease. Cascade testing ensures that testing proceeds in an algorithmic fashion. The following cascades are available; select the appropriate one for your specific patient situation.

- **CDCOM / Celiac Disease Comprehensive Cascade**: complete testing including HLA DQ
- **CDSP / Celiac Disease Serology Cascade**: complete testing excluding HLA DQ
- **CDGF / Celiac Disease Gluten-Free Cascade**: for patients already adhering to a gluten-free diet
To order individual tests, see Celiac Disease Diagnostic Testing Algorithm in Special Instructions.

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td>21 days</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions

- Celiac Disease Diagnostic Testing Algorithm
- Celiac Disease Comprehensive Cascade
- Celiac Disease Gluten-Free Cascade
- Celiac Disease Routine Treatment Monitoring Algorithm
- Celiac Disease Serology Cascade

Reference Values

<6.0 U/mL (negative)
6.0-9.0 U/mL (weak positive)
>9.0 U/mL (positive)
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday; 4 p.m.

Test Classification

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

83516

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTGG</td>
<td>Tissue Transglutaminase Ab, IgG, S</td>
<td>56537-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTGG</td>
<td>Tissue Transglutaminase Ab, IgG, S</td>
<td>56537-4</td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: OK

Method Name

Enzyme-Linked Immunosorbent Assay (ELISA)

Forms

If not ordering electronically, complete, print, and send a Gastroenterology and Hepatology Client Test Request (T728) with the specimen.

Secondary ID

83660
CFTOBR  Tobramycin, CSF

Baystate Reference Laboratories

Collection Container
CSF

Cerebral Spinal Fluid

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Methodology
Enzyme Immunoassay

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Units of Measure
mg/L

CPT Code
80200

LOINC Code
35670-9

EMR Interface Order Code
03170

TOBRPK  Tobramycin, Peak

Baystate Reference Laboratories

Collection Container
Serum gel

Serum

Other Acceptable Specimen Types
EDTA, Heparinized, citrated or oxalated plasma

Special Handling Instructions
IV dose: 0.5 to 1 hour after 30 minute infusion
IM dose: 1 hour after dose

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 24 hours, Refrigerated: 3 days, Frozen: 1 month

Methodology
Enzyme Immunoassay

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Units of Measure
mg/L

CPT Code
80200

LOINC Code
52962-8

EMR Interface Order Code
09725

TOBRRRA  Tobramycin, Random

Baystate Reference Laboratories

Collection Container
Serum gel

Serum

Other Acceptable Specimen Types
EDTA, Heparinized, citrated or oxalated plasma

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 24 hours, Refrigerated: 3 days, Frozen: 1 month

Methodology
Enzyme Immunoassay

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Units of Measure
mg/L

CPT Code
80200

LOINC Code
52962-8

EMR Interface Order Code
09725
TOBRTR  Tobramycin, Trough

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
EDTA, Heparinized, citrated or oxalated plasma

Special Handling Instructions
Draw immediately before next dose

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temper: 24 hours, Refrigerated: 3 days, Frozen: 1 month

Methodology
Enzyme Immunoassay

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges
0.0 - 2.0 mg/L

Critical Results
>2 mg/L

Units of Measure
mg/L

CPT Code
80200

EMR Interface Order Code
09735

TOPMAX  Topiramate, Serum

Mayo Clinic Laboratories in Rochester

Additional Test Codes
EMR Interface Order Code: 03035

Reporting Name
Topiramate, S

Useful For
Monitoring serum concentrations of topiramate
Assessing compliance
Assessing potential toxicity

Specimen Type
Serum Red

Specimen Required
Collection Container/Tube: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL
Collection Instructions: Serum must be separated from cells within 2 hours of drawing.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td>Serum Red</td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td>Serum Red</td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Depends on clinical use:
Anticonvulsant: 5.0-20.0 mcg/mL
Psychiatric: 2.0-8.0 mcg/mL

Day(s) and Time(s) Performed
Monday through Saturday: 12 a.m.
Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80201

LOINC Code Information
<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>TOPI</td>
<td>Topiramate, S</td>
<td>17713-9</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value | 81546 | Topiramate, S | 17713-9 |

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Secondary ID
81546

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- Neurology Specialty Testing Client Test Request (T732)
- Therapeutics Test Request (T831)

TP  Total Protein

Baystate Reference Laboratories

Collection Container
- Serum gel
- Serum

Other Acceptable Specimen Types
EDTA, Heparinized plasma

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 1 month, Frozen: 6 months

Reasons for Rejection
Serum/plasma not separated from cells within 6 hours of collection

Methodology
Spectrophotometric

Days and Times Performed
Test performed daily

Turnaround Time
24 hours for routine, 1 hour for stats

Reference Ranges

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 30 days</td>
<td>4.0 - 6.7</td>
<td>4.0 - 6.7</td>
<td>gm/dL</td>
</tr>
<tr>
<td>1 month - 2 years</td>
<td>5.0 - 7.0</td>
<td>5.0 - 7.0</td>
<td>gm/dL</td>
</tr>
<tr>
<td>&gt; 3 years</td>
<td>6.2 - 8.2</td>
<td>6.2 - 8.2</td>
<td>gm/dL</td>
</tr>
</tbody>
</table>

CPT Code
84155

LOINC Code
2885-2

EMR Interface Order Code
09425

TPCR  Total Protein Creatinine Ratio, Urine

Baystate Reference Laboratories

Collection Container
- Urine
- Random Urine

Special Handling Instructions
Random urine obtained after 1st void and before 6PM

Specimen Volume
5 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days, Frozen: 14 days

Reasons for Rejection
Preservative added to urine

Methodology
See individual test listings

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
Total protein: 0-12 mg/dL, creatinine: undefined, ratio:0-0.2

CPT Code
82570 = CREAT, 84156 = UTP

EMR Interface Order Code
09350

CFTP  Total Protein, CSF

Baystate Reference Laboratories

Additional Information
Blood in sample will falsely increase result
**Collection Container**
CSF
Cerebral Spinal Fluid

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Room temperature

**Specimen Stability**
Room temp: 1 day; Refrigerated: 6 days; Frozen: 1 year

**Methodology**
Spectrophotometric

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours for routine, 1 hour for stats

**Reference Ranges**
15 - 45 mg/dL

**Units of Measure**
mg/dL

**CPT Code**
84157

**LOINC Code**
2880-3

**EMR Interface Order Code**
09450

---

**FTP Total Protein, Fluid**

**Collection Container**
Fluid
Identify Source of Body Fluid

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Methodology**
Spectrophotometric

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Units of Measure**
g/dL

**CPT Code**
84157

**LOINC Code**
2880-3

**EMR Interface Order Code**
09450

---

**JFTP Total Protein, Joint Fluid**

*BAYSTATE REFERENCE LABORATORIES*

**Collection Container**
Lavender (EDTA)
Joint fluid

**Special Handling Instructions**
Specimen should be transported to the laboratory ASAP after collection

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
24 hrs

**Methodology**
Refractometer

**Days and Times Performed**
7 am - 3 pm, 7 Days a week

**Turnaround Time**
1 Day

**Units of Measure**
g/dL

**CPT Code**
84160

**LOINC Code**
14437-8

**EMR Interface Order Code**
33890

---

**UTPQ Total Protein, Urine, Quantitative**

*BAYSTATE REFERENCE LABORATORIES*

**Collection Container**
Jug
24 Hour Urine

**Specimen Volume**
10 mL

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 7 days, Frozen: 14 days

**Reasons for Rejection**
Preservative added to urine
**Methodology**

Spectrophotometric

**Days and Times Performed**

Test performed daily

**Turnaround Time**

24 hours

**Reference Ranges**

0.04 - 0.23 gm/24Hr

**Units of Measure**

gm/24Hr

**CPT Code**

84156

**LOINC Code**

2888-6

**EMR Interface Order Code**

10634

**TOXSEL**  
**Toxassure (R) Select 13 (Prescription Drug Monitoring Screen)**

*LabCorp*

**Important Note**

Test Includes: Amphetamines; Barbiturates; Benzodiazepines; Buprenorphine; Cocaine and metabolite; Ethyl Alcohol; Fentanyl and analogues; Methadone; Opiates; Oxycodone/Oxymorphine; Tapentadol; Tetrahydrocannabinol; Tramadol and metabolite; Creatinine.

This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

**Patient Instructions**

Have patient give a list of drugs they are presently taking. Send this and any other paper work the patient has with the sample to the reference lab.

**Collection Container**

Urine

Random Urine

**Specimen Volume**

30 mL

**Minimum Specimen Volume**

3 mL

**Transport Temperature**

Refrigerate

**Specimen Stability**

Room temperature: 3 days, Freeze or refrigerate if longer

**Reasons for Rejection**

Preservative added to urine

**Methodology**

Immunoassay and LCMS

**Turnaround Time**

4 - 8 days

---

**CPT Code**

80307/G0480, 80346/G0480, 80324/G0480, 08353/G0480, 80358/G0480, 80361/G0480, 80348/G0480, 80354/G0480, 80365/G0480, 80372/G0480, 80373/G0480, 80359/G0480

**EMR Interface Order Code**

66848

**TOXGP**  
**Toxoplasma gondii Antibody, IgG, Serum**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**

Toxoplasma Ab, IgG, S

**Useful For**

Determining whether a patient has had previous exposure to or recent infection with *Toxoplasma gondii*

**Specimen Type**

Serum

**Specimen Required**

Container/Tube:  
Preferred: Serum gel  
Acceptable: Red top

**Specimen Minimum Volume**

0.4 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

*Toxoplasma* ANTIBODY, IgG

Negative

*Toxoplasma* IgG  
≤9 IU/mL (Negative)  
10-11 IU/mL (Equivocal)  
≥12 IU/mL (Positive)

Reference values apply to all ages.

**Day(s) and Time(s) Performed**

Monday through Saturday; 9 a.m.

**Test Classification**

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**CPT Code Information**

86777

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOXGP</td>
<td>Toxoplasma Ab, IgG, S</td>
<td>88746-3</td>
</tr>
</tbody>
</table>
**Result ID**
**Test Result Name**
**Result LOINC Value**
TOXG  Toxoplasma Ab, IgG, S 40677-7
DEXG6 Toxoplasma IgG Value 8039-0

**Reject Due To**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
<tr>
<td>Other</td>
<td>Heat-inactivated specimen</td>
</tr>
</tbody>
</table>

**Method Name**

Multiplex Flow Immunoassay (MFI)

**Forms**

If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

---

**TOXOM  Toxoplasma gondii Antibody, IgM, Serum**

_Mayo Clinic Laboratories in Rochester_

**Secondary ID**

39856

**Useful For**

Detection of recent infection with *Toxoplasma gondii*

**Method Name**

Multiplex Flow Immunoassay (MFI)

**Reporting Name**

Toxoplasma Ab, IgM, S

**Specimen Type**

Serum

**Specimen Required**

**Collection Container/Tube:**

**Preferred:** Serum gel

**Acceptable:** Red top

**Submission Container/Tube:** Aliquot tube

**Specimen Volume:** 1 mL

**Specimen Minimum Volume**

0.8 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
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</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Other</td>
<td>Heat-inactivated specimen</td>
</tr>
</tbody>
</table>

**Reference Values**

Negative

Reference values apply to all ages.

**Day(s) and Time(s) Performed**

Monday through Friday, 9 a.m.

---

**CPT Code Information**

86778

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TXM</td>
<td>Toxoplasma Ab, IgM, S</td>
<td>40678-5</td>
</tr>
</tbody>
</table>

**Test Classification**

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

**Forms**

If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

---

**TOXPCR  Toxoplasma gondii, Molecular Detection, PCR, Varies**

_Mayo Clinic Laboratories in Rochester_

**Reporting Name**

Toxoplasma gondii PCR

**Useful For**

Supporting the diagnosis of acute cerebral, ocular, disseminated, or congenital toxoplasmosis

**Specimen Type**

Varies

**Necessary Information**

Specimen source is required.

**Specimen Required**

Submit only 1 of the following specimens:

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Container/Tube</th>
<th>Specimen Volume</th>
<th>Collection Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amniotic fluid</td>
<td>Amniotic fluid container</td>
<td>0.5 mL</td>
<td>Do not centrifuge.</td>
</tr>
<tr>
<td>Spinal fluid</td>
<td>12 x 75-mm screw cap vial (T465)</td>
<td>0.5 mL</td>
<td>Do not centrifuge.</td>
</tr>
<tr>
<td>Fresh tissue</td>
<td>Multimicrobe Medium (M4-RT) (T605)</td>
<td>Entire collection</td>
<td>Do not centrifuge.</td>
</tr>
</tbody>
</table>

**Specimen Type:** Fresh tissue

**Supplies:** M4-RT (T605)

**Container/Tube:**

**Preferred:** Multimicrobe Medium (M4-RT) (T605)

**Acceptable:** Sterile container with 1 to 2 mL of sterile saline

**Specimen Volume:** Entire collection

**Collection Instructions:** Submit only fresh tissue in a sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT, M4, or M5)
Specimen Type: Ocular fluid  
Supplies: Aliquot Tube, 5 mL (T465)  
Collection Container: 12 x 75-mm screw cap vial (T465)  
Specimen Volume: 0.3 mL  
Collection Instructions: Do not centrifuge.

Specimen Minimum Volume
Amniotic Fluid, Ocular Fluid, Spinal Fluid: 0.3 mL  
Tissue: 2 x 2mm biopsy

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Negative

Day(s) and Time(s) Performed
Monday through Saturday; Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
87798

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>PTOX</td>
<td>Toxoplasma gondii PCR</td>
<td>42626-2</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRC74</td>
<td>Specimen Source</td>
<td>31208-2</td>
</tr>
<tr>
<td>81795</td>
<td>Toxoplasma gondii PCR</td>
<td>42626-2</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Polymerase Chain Reaction (PCR)/DNA Probe Hybridization

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

Testing Algorithm
See Meningitis/Encephalitis Panel Algorithm in Special Instructions.

Special Instructions
- Meningitis/Encephalitis Panel Algorithm

TRAGA  Tragacanth Gum IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

Container
Serum gel or red top tube

QTRA  Tramadol, Quant, Urine

Contracted Reference Lab

Additional Information
Includes Desmethyltramadol and Tramadol

Specimen Volume
20 mL

Minimum Specimen Volume
7 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Preserved samples

Methodology
Mass spectrometry

Days and Times Performed
Daily

Turnaround Time
2 days

Reference Ranges
< 100 ng/mL

CPT Code
80373 (G0480)

LOINC Code
17719-6, 18338-4

EMR Interface Order Code
70268
**TRF Transferrin**

*Baystate Reference Laboratories*

**Collection Container**
- Serum gel
- Serum

**Other Acceptable Specimen Types**
- Li Heparinized plasma

**Specimen Volume**
- 1 mL

**Minimum Specimen Volume**
- 0.2 mL

**Transport Temperature**
- Refrigerate

**Specimen Stability**
- Room temperature: 8 days, Refrigerated: 8 days, Frozen: 6 months

**Methodology**
- Immunoturbidimetric

**Days and Times Performed**
- Test performed daily

**Turnaround Time**
- 24 hours

**Reference Ranges**
- 200 - 360 mg/dL

**CPT Code**
- 84466

**EMR Interface Order Code**
- 47250

---

**HTRX Transfusion Reaction Work-up**

*Baystate Reference Laboratories*

**Additional Test Codes**
- BBTR

**Additional Information**
Transfusion reactions are an investigation of suspected reactions to red blood cell products; Direct Antiglobulin Testing on pre- and post-transfusion specimens with polyspecific antihuman serum and monospecific reagents (anti IgG and anti C3b, C3d). Investigation of suspected transfusion reaction to plasma derived blood products; Eluates from positive cells are prepared and antibody identification performed as indicated; visual examination of pre- and post-transfusion specimens (plasma) for hemolysis; repeat antigen screen of the donor unit(s), ABO blood type, Rh(D) typing, antibody screen, crossmatches on pre- and post-transfusion specimens when indicated; when antibody screen is positive, identification of the antibody(ies) are performed through the use of panel(s).

**Special Handling Instructions**
Positive identification of the patient. When applicable, compare the hospital wristband with the patient information on the request form. Label the tubes with the patients’ full name, unique identification number (eg: medical record number, typenex number), date, time, and initials of collector (two sets of initials)

**Specimen Volume**
- Two 4 mL tubes

**Reasons for Rejection**
Specimen improperly labeled; specimen grossly hemolyzed

**Days and Times Performed**
- Daily, 24 hours

**Reference Ranges**
- Report includes interpretation as appropriate

**CPT Code**
- 86880 (each Direct Antiglobulin Test); 86900 (ABO blood type); 86901 (Rh(D) Blood Type); 86940 (hemolysins)

**EMR Interface Order Code**
- 60080

---

**TRANXN Tranxene**

*LabCorp*

**Collection Container**
- Red
- Serum

**Other Acceptable Specimen Types**
- EDTA or Heparinized plasma

**Methodology**
- Immunoturbidimetric

**Special Handling Instructions**
Should be collected prior to next dose unless otherwise instructed.

**Specimen Volume**
- 4 mL

**Minimum Specimen Volume**
- 0.4 mL

**Transport Temperature**
- Refrigerate

**Specimen Stability**
- Room temperature: 1 day, Refrigerated: 2 weeks, Frozen: 2 wks

**Reasons for Rejection**
Collected in a gel barrier tube.

**Methodology**
- LCMS

**Turnaround Time**
- 3 - 8 days

**CPT Code**
- 80342/G0480

**EMR Interface Order Code**
- 09800

---

**TRAZO Trazadone (Desyrel)**

*Medtox Laboratories, Inc.*

**Additional Test Codes**
- EMR Interface Order Code: 09825

**Method Name**
- Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
**Specimen Required**

Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**

0.6 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

**Reference Values**

Reference Range: 800 - 1600 ng/mL

**Day(s) and Time(s) Performed**

As needed

**CPT Code Information**

80338

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FFTRZ</td>
<td>Trazodone</td>
<td>4064-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FFTRZ</td>
<td>Trazodone</td>
<td>4064-2</td>
</tr>
</tbody>
</table>

**Secondary ID**

75024

**TRICAB  Trichinella Antibody, Serum**

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**

Trichinella Ab, S

**Useful For**

As an adjunct in the diagnosis of trichinosis

**Specimen Type**

Serum

**Specimen Required**

- Container/Tube: Serum gel or red top tube
- Specimen Volume: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL
- Minimum Specimen Volume: 0.1 mL
- Transport Temperature: Refrigerated
**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
00610

**Container**
Serum gel or red top tube

**TRICTP Trichomonas Vaginalis Amplified Probe**
- **Cytology**

Baystate Reference Laboratories

**Additional Information**

**Female endocervical swab collection:**
Remove excess mucus from the cervical os and surrounding mucosa using the cleaning swab (white shaft).iscard this swab. Insert the specimen collection swab (blue shaft) into the endocervical canal. Gently rotate the swab clockwise for 10-30 seconds to ensure adequate sampling. Withdraw swab; avoid contact with vaginal mucosa. Remove cap from specimen transport tube and immediately place BLUE specimen collection swab in the transport tube. Break swab shaft at the scoreline and recap the swab specimen transport tube tightly. Use of the BLUE unisex specimen collection swab included in the GenProbe Aptima® swab collection kit is required.

**Male urethral swab collection:**
Patient should refrain from urinating for at least 1 hour prior to sample collection. Insert the specimen collection swab (blue shaft) 2-4 cm into the urethra. Gently rotate swab clockwise for 2-3 seconds to ensure adequate sampling. Withdraw swab. Remove cap from specimen transport tube and immediately place BLUE specimen collection swab into the transport tube. Break swab shaft at the scoreline and recap the swab specimen transport tube tightly.

**Urine collection:**
Patient should not have urinated for at least 1 hour prior to specimen collection. The patient should be instructed not to cleanse the area and to collect the first 20-30 mL of voided urine, the first part of the stream rather than a midstream specimen. 2 mL of collected urine specimen must be carefully transferred to an Aptima® urine transport tube within 24 hours of collection.

**ThinPrep® Specimen:** Collect ThinPrep® specimen according to the ThinPrep® test package insert.

**Collection Container**
GenProbe Aptima® swab or urine transport tube (Aptima® collection kits are available through Client Service, (413)322-4000 option 5, ThinPrep® PreservCyt® liquid Pap vial

**Urogenital swab:** Male urethral or female cervical/endocervical or vaginal swab in appropriate Unisex GenProbe Aptima® swab transport tube.

**Urine:** First void urine transferred to GenProbe Aptima® urine transport tube (see “Collection” for details).

**ThinPrep® Pap:** Cervical/endocervical or vaginal specimen collected in vial of ThinPrep® PreservCyt® Solution.

**Specimen Volume**
Swab: GenProbe Aptima® swab for each source
Urine: 20 - 30 mL

**Thin Prep® Pap:** One ThinPrep® PreservCyt® vial

**Transport Temperature**
2 - 30° C

**Specimen Stability**
Store swab and urine specimens in GenProbe Aptima®. Swab specimens must be tested within 60 days of collection. Urine: specimen in transport tube must be tested within 30 days. Fresh urine must be transferred to Aptima® tube within 24 hours of collection. ThinPrep® specimens processed for Chlamydia and GC testing by the laboratory must be tested within 14 days of processing.

**Reasons for Rejection**
Swab specimens collected into the Aptima® transport tubes received without a swab (other than urine); Aptima® transport tube received containing the white “cleaning” swab instead of the collection swab; urine specimen not transferred to Aptima® urine transport tube w/in 24 hours of collection; urine specimen collected as “clean catch” midstream; ThinPrep® specimens collected from sites other than cervical/endocervical (female). Test requests from ThinPrep® specimens received after the Pap testing has been performed cannot be tested due to risk of contamination.

**Methodology**
The GenProbe Aptima® Trichomas vaginalis assay is a second generation nucleic acid amplification test that utilized target capture, transcription-mediated amplification, and hybridization protection assay technologies to streamline specimen processing, amplify target rRNA and detect ampiclon, respectively.

**Days and Times Performed**
Depending of test volume performed 1 - 2 times per work week

**Turnaround Time**
4 working days

**Reference Ranges**
No Trichomonas vaginalis RNA detected

**CPT Code**
87331

**EMR Interface Order Code**
68028

**TRICS Trichomonas, Swab**

Baystate Reference Laboratories

**Additional Information**

**Reflex Tests**

**Collection Container**

**Other Acceptable Specimen Types**

**Special Handling Instructions**

**Specimen Volume**
1 mL
TRICU  Trichomonas, Urine

Baystate Reference Laboratories

Additional Information

- Reflex Tests
- Collection Container
  Gen-Probe Aptima
- Other Acceptable Specimen Types
- Special Handling Instructions
- Specimen Volume
  2 mL

Minimum Specimen Volume

Transport Temperature

Specimen Stability

Reasons for Rejection

Methodology

Days and Times Performed

EMR Interface Order Code
68044

UTCAS  Tricyclic Antidepressant Screen, Urine

LabCorp

Random urine

Specimen Volume
30 mL

Minimum Specimen Volume
20 mL

Transport Temperature
Room Temperature

CPT Code
80307/G0480

EMR Interface Order Code
69328

QTRI  Tricyclic Antidepressants, Qnt, Urine

Contracted Reference Lab

Additional Information
Includes Amitriptyline and Nortriptyline

Collection Container
Urine cup or tube

Urine

Specimen Volume
20 mL

Minimum Specimen Volume
7 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Preserved samples

Days and Times Performed
Daily

Turnaround Time
1 – 3 days

CPT Code
80335/G0480

EMR Interface Order Code
70873
Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

TRFLUO  Trifluoperazine, Stelazine

Collection Container
Red
Serum

Other Acceptable Specimen Types
Heparinized plasma

Special Handling Instructions
Separate from cells within 2 hours, protect from light.

Specimen Volume
3 mL
Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 3 days, Refrigerate: 2 weeks

Reasons for Rejection
Collected in a gel barrier tube, not protected from light.

Methodology
LCMS

CPT Code
80342/G0480

EMR Interface Order Code
09900

TRIG  Triglyceride

Baystate Reference Laboratories

Additional Information
EDTA plasma not recommended due to 3-5% decrease due to osmotic effects

Patient Instructions
Patient must be fasting 12-14 hours prior to drawing blood. If Physician wants it collected not fasting, append comment to test "patient not fasting".

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
Heparinized plasma

Specimen Volume
1 mL
Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days, Frozen:3 months

Reasons for Rejection
Cleared specimen

Methodology
Colorimetric

Days and Times Performed
Daily

Turnaround Time
24 hours for Routine, 1 hour for STAT

Reference Ranges

<table>
<thead>
<tr>
<th>Age</th>
<th>Acceptable</th>
<th>Males</th>
<th>Females</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 9 years:</td>
<td>&lt; 75</td>
<td>&lt; 75</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>Borderline</td>
<td>75 - 99</td>
<td>75 - 99</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>&gt; 99</td>
<td>&gt; 99</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>10 - 19 years:</td>
<td>&lt; 90</td>
<td>&lt; 90</td>
<td>mg/dL</td>
<td></td>
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<tr>
<td>Borderline</td>
<td>90 - 129</td>
<td>90 - 129</td>
<td>mg/dL</td>
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</tr>
<tr>
<td>High</td>
<td>&gt; 129</td>
<td>&gt; 129</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>20 years+:</td>
<td>&lt; 150</td>
<td>&lt; 150</td>
<td>mg/dL</td>
<td></td>
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<td>Borderline</td>
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<td>mg/dL</td>
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<td>High</td>
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<tr>
<td>Very High</td>
<td>&gt; 499</td>
<td>&gt; 499</td>
<td>mg/dL</td>
<td></td>
</tr>
</tbody>
</table>

CPT Code
84478

LOINC Code
2571-8

EMR Interface Order Code
09925

FTRIG  Triglyceride, Fluid

Baystate Reference Laboratories

Collection Container
Fluid
Identify source of body fluid

Specimen Volume
1 mL
Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days, Frozen: 3 months

Methodology
Colorimetric
TRIMP  Trimipramine, Serum

Addition Test Codes
EMR Interface Order Code: 09960

Useful For
Monitoring serum concentration during therapy
Evaluating potential toxicity
The test may also be useful to evaluate patient compliance

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Reporting Name
Trimipramine, S

Specimen Type
Serum Red

Specimen Required
Container/Tube: Red top
Specimen Volume: 1 mL
Collection Instructions:
1. Draw specimen immediately before next scheduled dose (minimum 12 hours after last dose).
2. Serum must be separated from cells within 2 hours of draw.

Specimen Minimum Volume
0.25 mL

Specimen Stability Information
<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To
<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
</tbody>
</table>

Reference Values
Therapeutic concentration: 150-300 ng/mL
Note: Therapeutic ranges are for specimens drawn at trough (i.e., immediately before next scheduled dose). Levels may be elevated in non-trough specimens.

Day(s) and Time(s) Performed
Monday through Friday; Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80335
G0480 (if appropriate)

LOINC Code Information
<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRMP</td>
<td>Trimipramine, S</td>
<td>4083-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>64269</td>
<td>Trimipramine, S</td>
<td>4083-2</td>
</tr>
</tbody>
</table>

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

TRIPEP  Tripeptidyl Peptidase 1 and Palmitoyl-Protein Thioesterase 1, Leukocytes

Reporting Name
TPP1 and PPT1, WBC

Useful For
Evaluation of patients with clinical presentations suggestive of neuronal ceroid lipofuscinoses (NCL)
Aids in the differential diagnosis of infantile and late infantile NCL

Specimen Type
Whole Blood ACD

Shipping Instructions
For optimal isolation of leukocytes, it is recommended the specimen arrive refrigerated within 144 hours of draw to be stabilized. Draw specimen Monday through Thursday only and not the day before a holiday. Specimen should be drawn and packaged as close to shipping time as possible.

Specimen Required
Container/Tube:
Preferred: Yellow top (ACD solution B)
Acceptable: Yellow top (ACD solution A)
Specimen Volume: 6 mL
Collection Instructions: Do not transfer blood to other containers.

Specimen Minimum Volume
5 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood ACD</td>
<td>Refrigerated (preferred)</td>
<td>6 days</td>
<td>YELLOW TOP/ACD</td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td>YELLOW TOP/ACD</td>
</tr>
</tbody>
</table>

Special Instructions

- Informed Consent for Genetic Testing
- Biochemical Genetics Patient Information
- Informed Consent for Genetic Testing (Spanish)

Reference Values

TRIPEPTIDYL PEPTIDASE 1
85-326 nmol/hour/mg protein

PALMITOYL-PROTEIN THIOESTERASE 1
20-93 nmol/hour/mg protein

Day(s) and Time(s) Performed

Specimens are processed Monday through Sunday. Assay is performed: Varies

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

82657

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPPTL</td>
<td>TPP1 and PPT1, WBC</td>
<td>93704-5</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>50688</td>
<td>Specimen</td>
<td>31208-2</td>
</tr>
<tr>
<td>50689</td>
<td>Specimen ID</td>
<td>57723-9</td>
</tr>
<tr>
<td>50690</td>
<td>Source</td>
<td>31208-2</td>
</tr>
<tr>
<td>50691</td>
<td>Order Date</td>
<td>82785-7</td>
</tr>
<tr>
<td>50692</td>
<td>Reason for Referral</td>
<td>42349-1</td>
</tr>
<tr>
<td>50693</td>
<td>Method</td>
<td>49549-9</td>
</tr>
<tr>
<td>50694</td>
<td>TPP1L</td>
<td>76038-9</td>
</tr>
<tr>
<td>50695</td>
<td>PPT1L</td>
<td>74935-8</td>
</tr>
<tr>
<td>50696</td>
<td>Interpretation</td>
<td>59462-2</td>
</tr>
<tr>
<td>50697</td>
<td>Amendment</td>
<td>48767-8</td>
</tr>
<tr>
<td>50698</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
<tr>
<td>50699</td>
<td>Release Date</td>
<td>82772-5</td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis | Reject

Method Name

Fluorometric

Forms

1. New York Clients-Informed consent is required. Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
   - Informed Consent for Genetic Testing (T576)
   - Informed Consent for Genetic Testing-Spanish (T826)
2. Biochemical Genetics Patient Information (T602) in Special Instructions
3. If not ordering electronically, complete, print, and send an Inborn Errors of Metabolism Test Request (T798) with the specimen.

Secondary ID

89494

TWPCR  Tropheryma whipplei, Molecular Detection, PCR, Blood

Mayo Clinic Laboratories in Rochester

Reporting Name

Tropheryma whipplei PCR, B

Useful For

Aids in the diagnosis of Whipple disease, especially for identifying inconclusive or suspicious cases

Specimen Type

Whole Blood EDTA

Specimen Required

The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Tropheryma whipplei DNA is unlikely.

Container/Tube:
- Preferred: Lavender top (EDTA)
- Acceptable: Royal blue top (EDTA), pink top (EDTA), or sterile vial containing EDTA-derived aliquot

Specimen Volume: 1 mL

Collection Instructions: Send specimen in original tube (preferred).

Specimen Minimum Volume

0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood EDTA</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

Not applicable

Day(s) and Time(s) Performed

Monday, Wednesday, Friday

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

87798

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHIPB</td>
<td>Tropheryma whipplei PCR, B</td>
<td>42602-3</td>
</tr>
</tbody>
</table>
Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name

Rapid Polymerase Chain Reaction (PCR)

Forms

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- Microbiology Test Request (T244)
- GI and Hepatology Client Test Request (T728)

Testing Algorithm


Special Instructions

- Infective Endocarditis: Diagnostic Testing for Identification of Microbiological Etiology

TWRP  
*Tropheryma whipplei, Molecular Detection, PCR, Varies

Mayo Clinic Laboratories in Rochester

Reporting Name

Tropheryma whipplei PCR

Useful For

Aiding in the diagnosis of Whipple disease, especially for identifying inconclusive or suspicious cases

Specimen Type

Varies

Necessary Information

Specimen source is required.

Specimen Required

The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by *Tropheryma whipplei* DNA is unlikely.

Submit only 1 of the following specimens:

Specimen Type: Fresh tissue or biopsy
Sources: Small intestine tissue (duodenum, ileum, or jejunum), lymph node, other visceral tissue, synovial tissue, gastrointestinal tissue, heart valve, or brain
Container/Tube: Sterile container
Specimen Volume: Entire collection or 5 mm(3)
Collection Instructions:
1. Collect fresh tissue specimen.
2. Submit tissue only, do not add fluid to tissue
3. Refrigerate or freeze specimen.
Specimen Stability Information: Refrigerated (preferred) <7 days /Frozen <7 days

Specimen Type: Paraffin-embedded tissue block
Supplies: Tissue Block Container (T553)

Specimen Type: Fluid
Sources: Cerebrospinal or ocular (eg, vitreous humor)
Container/Tube: Sterile vial
Specimen Volume: 0.5 mL
Specimen Stability Information: Refrigerated (preferred) <7 days /Frozen <7 days

Specimen Type: Synovial fluid
Container/Tube:
Preferred: Lavender top (EDTA)
Acceptable: Pink top (EDTA), royal blue top (EDTA), sterile vial containing EDTA-derived aliquot, red clot tube (no anticoagulant), or sterile container
Specimen Volume: 0.5 mL
Collection Instructions: Send specimen in original tube (preferred).
Specimen Stability Information: Refrigerated (preferred) <7 days /Frozen <7 days

Specimen Minimum Volume

Fluid: 0.5 mL
Fresh tissue or biopsy: 5 mm(3)
Paraffin-embedded tissue block: two 10-micron sections

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Varies</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

Not applicable

Day(s) and Time(s) Performed

Monday, Wednesday, Friday

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

87798

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWRP</td>
<td>Tropheryma whipplei PCR</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRC69</td>
<td>Specimen Source</td>
<td>31208-2</td>
</tr>
<tr>
<td>56064</td>
<td>Result</td>
<td>42602-3</td>
</tr>
</tbody>
</table>

Reject Due To

Other | Slides, bone marrow

Method Name

Rapid Polymerase Chain Reaction (PCR)
Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- Microbiology Test Request (T244)
- Gastroenterology and Hepatology Client Test Request (T728)

Testing Algorithm

Special Instructions
- Infective Endocarditis: Diagnostic Testing for Identification of Microbiological Etiology

Secondary ID
80909

<table>
<thead>
<tr>
<th>TROPTQ</th>
<th>Troponin T, Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baystate Reference Laboratories</td>
<td></td>
</tr>
<tr>
<td>Additional Information</td>
<td></td>
</tr>
<tr>
<td>Serum may cause a 10% bias</td>
<td></td>
</tr>
<tr>
<td>Collection Container</td>
<td></td>
</tr>
<tr>
<td>Light green tube (Lithium heperin) with gel separator.</td>
<td></td>
</tr>
<tr>
<td>Plasma</td>
<td></td>
</tr>
<tr>
<td>Other Acceptable Specimen Types</td>
<td></td>
</tr>
<tr>
<td>Serum</td>
<td></td>
</tr>
<tr>
<td>Special Handling Instructions</td>
<td></td>
</tr>
<tr>
<td>After collection spin sample tube (within and hour) and send to lab.</td>
<td></td>
</tr>
<tr>
<td>Specimen Volume</td>
<td></td>
</tr>
<tr>
<td>1 mL</td>
<td></td>
</tr>
<tr>
<td>Minimum Specimen Volume</td>
<td></td>
</tr>
<tr>
<td>0.3 mL</td>
<td></td>
</tr>
<tr>
<td>Transport Temperature</td>
<td></td>
</tr>
<tr>
<td>Refrigerate</td>
<td></td>
</tr>
<tr>
<td>Specimen Stability</td>
<td></td>
</tr>
<tr>
<td>Refrigerated: 24 hours; Frozen: 12 months</td>
<td></td>
</tr>
<tr>
<td>Reasons for Rejection</td>
<td></td>
</tr>
<tr>
<td>Add on sample &gt; 24 hours old. Heparinized whole blood sample not spun and separated within 8 hours.</td>
<td></td>
</tr>
<tr>
<td>Methodology</td>
<td></td>
</tr>
<tr>
<td>Electrochemiluminescence immunoassay (ECLIA)</td>
<td></td>
</tr>
<tr>
<td>Days and Times Performed</td>
<td></td>
</tr>
<tr>
<td>Test performed daily</td>
<td></td>
</tr>
<tr>
<td>Turnaround Time</td>
<td></td>
</tr>
<tr>
<td>24 hours for routine, 1 hour for stats</td>
<td></td>
</tr>
<tr>
<td>Reference Ranges</td>
<td></td>
</tr>
<tr>
<td>Negative: 0.0 - 0.02 ng/mL</td>
<td></td>
</tr>
<tr>
<td>Indeterminate: 0.03 - 0.09 ng/mL</td>
<td></td>
</tr>
<tr>
<td>Positive: 0.09 ng/mL</td>
<td></td>
</tr>
<tr>
<td>Critical: &gt;0.09 ng/mL</td>
<td></td>
</tr>
<tr>
<td>Critical Results</td>
<td></td>
</tr>
<tr>
<td>&gt;0.09 ng/mL</td>
<td></td>
</tr>
<tr>
<td>Units of Measure</td>
<td></td>
</tr>
<tr>
<td>ng/mL</td>
<td></td>
</tr>
</tbody>
</table>

| CPT Code |
| 84484 |

| EMR Interface Order Code |
| 15035 |

<table>
<thead>
<tr>
<th>TROUT</th>
<th>Trout IgE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contracted Reference Lab</td>
<td></td>
</tr>
<tr>
<td>Collection Container</td>
<td></td>
</tr>
<tr>
<td>Serum gel or red top tube</td>
<td></td>
</tr>
<tr>
<td>Serum</td>
<td></td>
</tr>
<tr>
<td>Specimen Volume</td>
<td></td>
</tr>
<tr>
<td>For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL</td>
<td></td>
</tr>
<tr>
<td>Minimum Specimen Volume</td>
<td></td>
</tr>
<tr>
<td>0.1 mL</td>
<td></td>
</tr>
<tr>
<td>Transport Temperature</td>
<td></td>
</tr>
<tr>
<td>Refrigerated</td>
<td></td>
</tr>
<tr>
<td>Specimen Stability</td>
<td></td>
</tr>
<tr>
<td>Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days</td>
<td></td>
</tr>
<tr>
<td>Methodology</td>
<td></td>
</tr>
<tr>
<td>ImmunoCAP</td>
<td></td>
</tr>
<tr>
<td>Turnaround Time</td>
<td></td>
</tr>
<tr>
<td>3-5 days</td>
<td></td>
</tr>
<tr>
<td>CPT Code</td>
<td></td>
</tr>
<tr>
<td>86003</td>
<td></td>
</tr>
</tbody>
</table>

| EMR Interface Order Code |
| 49275 |

| Container |
| Serum gel or red top tube |

<table>
<thead>
<tr>
<th>TRYPAB</th>
<th>Trypanosoma cruzi IgG Antibody ELISA, Serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayo Clinic Laboratories in Rochester</td>
<td></td>
</tr>
<tr>
<td>Reporting Name</td>
<td></td>
</tr>
<tr>
<td>T. cruzi IgG, ELISA, S</td>
<td></td>
</tr>
<tr>
<td>Useful For</td>
<td></td>
</tr>
<tr>
<td>Diagnosis of chronic Trypanosoma cruzi infection (Chagas disease)</td>
<td></td>
</tr>
<tr>
<td>Specimen Type</td>
<td></td>
</tr>
<tr>
<td>Serum</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specimen Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection Container/Tube:</td>
</tr>
<tr>
<td>Preferred: Serum gel</td>
</tr>
<tr>
<td>Acceptable: Red top</td>
</tr>
<tr>
<td>Submission Container/Tube: Plastic vial</td>
</tr>
<tr>
<td>Specimen Volume: 0.5 mL</td>
</tr>
</tbody>
</table>

| Specimen Minimum Volume |
| 0.2 mL |
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Negative

Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday; 9 a.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86753-T. cruzi IgG, ELISA, S
86753-T. cruzi IgG, LFA, S (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAG</td>
<td>T. cruzi IgG, ELISA, S</td>
<td>32725-4</td>
</tr>
</tbody>
</table>

Result ID | Test Result Name | Result LOINC Value
86159     | T. cruzi IgG, ELISA, S | 32725-4

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: Reject

Method Name
CHAG: Enzyme-Linked Immunosorbent Assay (ELISA)
RCHAG: Immunochromatographic Strip Assay

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

Secondary ID
86159

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCHAG</td>
<td>T. cruzi IgG, LFA, S</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Testing Algorithm
If ELISA result is equivocal or positive, then the lateral flow assay will be performed at an additional charge.

**TRYPTB**  Tryptase, Alpha and Beta

Mayo Clinic Laboratories in Rochester

Reporting Name
Tryptase, S

Useful For
Assessing mast cell activation, which may occur as a result of anaphylaxis or allergen challenge
Assessing patients with systemic mastocytosis or mast cell activation syndrome

Specimen Type
Serum

Specimen Minimum Volume
0.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Frozen (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
<11.5 ng/mL

Day(s) and Time(s) Performed
Monday through Friday; 9 a.m. and 1 p.m.

Test Classification
This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
83520

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRYPT</td>
<td>Tryptase, S</td>
<td>21582-2</td>
</tr>
</tbody>
</table>

Page 658
<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRYPT</td>
<td>Tryptase, S</td>
<td>21582-2</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Fluorescence Enzyme Immunoassay (FEIA)

Forms
If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

Secondary ID
81608

---

**TSH**

Additional Information
TSH may be affected by glucocorticoids, dopamine, and by severe illness

Collection Container
- Serum gel
- Serum

Other Acceptable Specimen Types
- Heparinized and EDTA plasma

Specimen Volume
- 0.5 mL
- Minimum Specimen Volume: 0.3 mL

Transport Temperature
- Refrigerate

Specimen Stability
- Room Temperature: 8 days, Refrigerated: 14 days, Frozen: 24 months
- Freeze/thaw cycle: 1

Methodology
- Electrochemiluminescence immunoassay (ECLIA)

Days and Times Performed
- Test performed daily

Turnaround Time
- 24 hours

Reference Ranges
- TSH: 0.4 - 4.0 mIU/mL

Units of Measure
- mIU/mL

CPT Code
- 84443

EMR Interface Order Code
- 14511

---

**TRP**

Baystate Reference Laboratories

Collection Container
- Jug

24 Hour urine

Special Handling Instructions
- Urine and serum phosphorus and creatinine done

Specimen Volume
- 10 mL

Minimum Specimen Volume
- 1 mL urine and 0.5 mL serum

Transport Temperature
- Refrigerate

Specimen Stability
- Refrigerated: 7 days
Methodology
See individual test listings

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
78 - 90%

EMR Interface Order Code
08575

TNF  Tumor Necrosis Factor (TNF), Plasma

Mayo Clinic Laboratories in Rochester

Specimen Required
Collection Container/Tube: Lavender-top (EDTA)
Submission Container/Tube: Plastic vial
Specimen Volume: 0.5 mL
Collection Instructions:
1. Immediately after specimen collection, place the tube on wet ice.
2. Centrifuge at 1,500 x g for 10 minutes and aliquot plasma.
3. Freeze specimen within 30 minutes.

Secondary ID
63022

Useful For
Evaluation of patients with suspected systemic infection, in particular infection caused by gram-negative bacteria
Evaluation of patients with suspected chronic inflammatory disorders, such as rheumatoid arthritis, inflammatory bowel disease, or ankylosing spondylitis

Method Name
Electrochemiluminescence

Reporting Name
Tumor Necrosis Factor, P

Specimen Type
Plasma EDTA

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen (preferred)</td>
<td>21 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reject Due To

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>OK</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>OK</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>OK</td>
</tr>
</tbody>
</table>

Reference Values
≤2.8 pg/mL

Day(s) and Time(s) Performed
Thursday, 3 p.m.
Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49280

Container
Serum gel or red top tube

HTYSCType and Screen
Baystate Reference Laboratories

Additional Information
Testing is for preadmission surgical patients or other patients for ABO blood type, Rh(D), and antibody screen. When the antibody screen is positive, antibody identification is performed.

Collection Container
Lavender (EDTA)

Special Handling Instructions
Positive identification of the patient. When applicable, compare the hospital wristband with the patient information on the request form. Label the tubes with the patients' full name, unique identification number (eg: medical record number, typenex number), date, time, and initials of collector (two sets of initials for patients to be transfused)

Specimen Volume
4 mL

Minimum Specimen Volume
4 mL

Reasons for Rejection
Specimen improperly labeled; specimen grossly hemolyzed

Methodology
Hemagglutination (HA)

Days and Times Performed
Daily, 24 hours

Turnaround Time
60 Minutes for a STAT

Reference Ranges
Report includes interpretation as appropriate

CPT Code
86850 (Antibody screen); 86900 (ABO); 86901 (Rh(D))

EMR Interface Order Code
60045

UNCLR Urea Clearance
Baystate Reference Laboratories

Collection Container
Jug

24 Hour urine

Special Handling Instructions
Blood collected within 24 hr

Specimen Volume
10 mL

Minimum Specimen Volume
5 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Reasons for Rejection
Preservative added to urine

Methodology
Kinetic UV

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
41 - 65 mL/min

Units of Measure
mL/min

CPT Code
84545

LOINC Code
51735-9

EMR Interface Order Code
10100

FBUN Urea Nitrogen, Fluid
Baystate Reference Laboratories

Collection Container
Fluid

Identify source of body fluid

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Methodology
Kinetic UV
Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Units of Measure
mg/dL

CPT Code
84520

EMR Interface Order Code
12975

UUNR  Urea Nitrogen, Urine

Baystate Reference Laboratories

Collection Container
Urine

Random Urine

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated: 7 days

Reasons for Rejection
Preservative added to urine

Methodology
Kinetic UV

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
6 - 17 gm/24 Hr

Units of Measure
gm/24 Hr

CPT Code
84540

LOINC Code
3095-7

EMR Interface Order Code
10130

UMYPCR  Ureaplasma species, Molecular Detection, PCR, Varies

Mayo Clinic Laboratories in Rochester

Important Note
Test includes identification of Mycoplasma hominis, Ureaplasma urealyticum and U parvum.

Reporting Name
Ureaplasma PCR

Useful For
Rapid, sensitive, and specific identification of Ureaplasma urealyticum and U parvum from genitourinary, reproductive, bone and joint, and lower respiratory sources

This test is not intended for medicolegal use

Specimen Type
Varies

Necessary Information
Specimen source is required.

Specimen Required
The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by Ureaplasma DNA is not likely.
Submit only 1 of the following specimens:

**Supplies:**
- M4-RT (T605)
- Culturette (BBL Culture Swab) (T092)

**Specimen Type:** Swab

**Sources:** Vaginal, cervix, urethra, urogenital, chest/mediastinal; bronchus (donor swab), or upper respiratory sources (only infants <3 months: nasopharynx, nose, throat)

**Container/Tube:**
- **Preferred:** Culture swab transport system (Dacron or rayon swab with aluminum or plastic shaft with either Stuart or Amies liquid medium)
- **Acceptable:** Swab in transport media: M4, M4-RT, M5, M6, universal transport media, or ESwab

**Specimen Volume:** 1 swab

**Collection Instructions:**

1. Collect specimen by swabbing back and forth over mucosa surface to maximize recovery of cells.
2. Place swab back into swab cylinder.
3. Collect specimen by inserting swab 1 to 3 cm and rotating 360 degrees.
4. Place swab back into swab cylinder.
5. Collect specimen by swabbing back and forth over wound surface to
   maximize recovery of cells.
6. Place swab back into swab cylinder.

**Supplies:** M4-RT (T605)

**Specimen Type:** Fluid

**Sources:** Pelvic, amniotic, prostatic secretions, semen, reproductive drainage or fluid, pleural/chest, pericardial, sputum, tracheal secretions, bronchial washings, bronchoalveolar lavage, lung; or nasal washings (only infants <3 months)

**Container/Tube:**
- **Preferred:** Sterile container
- **Acceptable:** Specimen in 3 mL of transport media: M4, M4-RT, M5, M6, or universal transport media

**Specimen Volume:** 1-2 mL

**Specimen Type:** Synovial Fluid

**Container/Tube:**
- **Preferred:** Lavender top (EDTA)
- **Acceptable:** Pink top (EDTA), royal blue top (EDTA), sterile vial containing EDTA-derived aliquot, red top (no anticoagulant), or sterile container

**Specimen Volume:** 1 mL

**Collection Instructions:** Send specimen in original tube (preferred).

**Specimen Type:** Urine, kidney/bladder stone, or ureter

**Container/Tube:** Sterile container

**Specimen Volume:** 10 mL or entire specimen

**Specimen Type:** Tissue

**Sources:** Placenta, products of conception, urogenital, respiratory, bronchus, chest/mediastinal, bone, or joint

**Container/Tube:** Sterile container

**Specimen Volume:** 5 mm(3)

**Collection Instructions:**
1. Collect fresh tissue specimen.
2. Submit fresh tissue only, do not add fluid to tissue
3. Refrigerate or freeze specimen.

**Specimen Minimum Volume**
- Fluid: 1 mL
- Urine: 2 mL
- Swab: 1 swab
- Tissue: 5 mm(3)

---

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

Not applicable

**Day(s) and Time(s) Performed**

Monday through Friday

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

87798 x 2

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tr>
<td>35128</td>
<td>Ureaplasma urealyticum PCR</td>
<td>51988-4</td>
</tr>
<tr>
<td>35129</td>
<td>Ureaplasma parvum PCR</td>
<td>69933-0</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Swab/Other
  - Cotton or calcium alginate-tipped swab, wooden shaft swab, transport swab containing gel or charcoal, formalin-fixed and/or paraffin-embedded tissues, Port-a-Cul tube, anaerobic fluid vials, or dry swab (no pledget or sponge); bone marrow; decalcified bone; slides

**Method Name**

Real-Time Polymerase Chain Reaction (PCR) Using LightCycler and Fluorescent Resonance Energy Transfer (FRET)

**Forms**

If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

**Secondary ID**

60758

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**URIC  Uric Acid**

Baystate Reference Laboratories

**Collection Container**

Serum gel

**Other Acceptable Specimen Types**

EDTA or Heparinized plasma

EDTA plasma values are approximately 7% lower than serum values.

**Special Handling Instructions**

If the patient is known to be on the tumor lysis drug Rasburicase, blood samples must be kept on ice immediately after collection, during transport, before analysis, and spun in a refrigerated centrifuge. This is the only way to prevent a falsely low uric acid level.

**Specimen Volume**

1 mL
<table>
<thead>
<tr>
<th>Test Code</th>
<th>Test Code</th>
<th>Test Code</th>
<th>Test Code</th>
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<td>Minimum Specimen Volume</td>
<td>Minimum Specimen Volume</td>
<td>Minimum Specimen Volume</td>
<td>Minimum Specimen Volume</td>
</tr>
<tr>
<td>0.1 mL</td>
<td>0.1 mL</td>
<td>0.5 mL</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>Transport Temperature</td>
<td>Transport Temperature</td>
<td>Transport Temperature</td>
<td>Transport Temperature</td>
</tr>
<tr>
<td>Refrigerate</td>
<td>Refrigerate</td>
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</tr>
<tr>
<td>Specimen Stability</td>
<td>Specimen Stability</td>
<td>Specimen Stability</td>
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</tr>
<tr>
<td>Refrigerated: 7 days</td>
<td>Refrigerated: 7 days</td>
<td>Refrigerated: 7 days</td>
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</tr>
<tr>
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<tr>
<td>Spectrometry</td>
<td>Spectrometry</td>
<td>Spectrometry</td>
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</tr>
<tr>
<td>Days and Times Performed</td>
<td>Days and Times Performed</td>
<td>Days and Times Performed</td>
<td>Days and Times Performed</td>
</tr>
<tr>
<td>Test performed daily</td>
<td>Test performed daily</td>
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<tr>
<td>Turnaround Time</td>
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<tr>
<td>24 hours for routine, 1 hour for stats</td>
<td>24 hours</td>
<td>24 hours</td>
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</tr>
<tr>
<td>Reference Ranges</td>
<td>Reference Ranges</td>
<td>Reference Ranges</td>
<td>Reference Ranges</td>
</tr>
<tr>
<td>Males: 2.6 - 8.7</td>
<td>Males: 2.6 - 8.7</td>
<td>Males: 7 - 10 mL/min</td>
<td>Males: 2.6 - 8.7</td>
</tr>
<tr>
<td>Females: 1.6 - 7.6</td>
<td>Females: 1.6 - 7.6</td>
<td>Females: 7 - 10 mL/min</td>
<td>Females: 1.6 - 7.6</td>
</tr>
<tr>
<td>Units of Measure</td>
<td>Units of Measure</td>
<td>Units of Measure</td>
<td>Units of Measure</td>
</tr>
<tr>
<td>mg/dL</td>
<td>mg/dL</td>
<td>mL/min</td>
<td>mL/min</td>
</tr>
<tr>
<td>CPT Code</td>
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<td>84550</td>
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<td>EMR Interface Order Code</td>
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<tr>
<td>10150</td>
<td>10175</td>
<td>13375</td>
<td>13375-uric</td>
</tr>
</tbody>
</table>

**URICCL**  *Uric Acid Clearance*

*Baystate Reference Laboratories*

**Collection Container**
Jug

**Special Handling Instructions**
Serum must be collected within 24 hours.

**Specimen Volume**
10 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerate: 7 days

**Methodology**
Spectrometry

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
7 - 10 mL/min

**Units of Measure**
ml/L/min

**CPT Code**
84550

---

**LOINC Code**
3088-2

**EMR Interface Order Code**
10175

---

**FURIC  Uric Acid, Fluid**

*Baystate Reference Laboratories*

**Collection Container**
Fluid

**Identify source of body fluid**

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerated: 14 days; Refrigerated: 14 days; Frozen: 14 days

**Methodology**
Spectrometry

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Units of Measure**
mL/min

**CPT Code**
8460

**EMR Interface Order Code**
13375

---

**UURICR  Uric Acid, Urine**

*Baystate Reference Laboratories*

**Collection Container**
Urine

**Identify source of body fluid**

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Refrigerate: 7 days

**Methodology**
Spectrometry

**Days and Times Performed**
Test performed daily
**UURICQ  Uric Acid, Urine, Quantitative**

*Baystate Reference Laboratories*

**Collection Container**
- Jug

**Specimen Volume**
- 10 mL

**Minimum Specimen Volume**
- 0.5 mL

**Transport Temperature**
- Refrigerate

**Specimen Stability**
- Refrigerate: 7 days

**Methodology**
- Spectrometry

**Days and Times Performed**
- Test performed daily

**Turnaround Time**
- Daily

**Specimen Volume**
- 8 mL

**Minimum Specimen Volume**
- 3 mL

**Transport Temperature**
- Tiger Top Tube: Room temperature, Yellow top tube, urine cup: refrigerated

**Specimen Stability**
- 24 hrs

**Reasons for Rejection**
- Specimen frozen, >24 hours old, fecal contamination, grossly bloody urine, <3.0 mL

**Methodology**
- IQ200

**Days and Times Performed**
- 24 hours a day, 7 days a week

**Turnaround Time**
- Daily

**Specimen Volume**
- gm/24Hr

**Minimum Specimen Volume**
- gm/24Hr

**Transport Temperature**
- Tiger Top Tube: Room temperature, Yellow top tube, urine cup: refrigerated

**Specimen Stability**
- 24 hrs

**Reasons for Rejection**
- Specimen frozen, >24 hours old, fecal contamination, grossly bloody urine, <3.0 mL

**Methodology**
- IQ200

**Days and Times Performed**
- 24 hours a day, 7 days a week

**Turnaround Time**
- Daily
**Units of Measure**

/LPF

**CPT Code**
81001

**LOINC Code**
24356-8

**EMR Interface Order Code**
63132

<table>
<thead>
<tr>
<th>UCORT</th>
<th>Urinary Free Cortisol</th>
</tr>
</thead>
<tbody>
<tr>
<td>LabCorp</td>
<td></td>
</tr>
</tbody>
</table>

**Collection Container**

24 hour urine jug, kept refrigerated during and after collection

24 hour urine
Refrigerate during and after collection period

**Specimen Volume**

Entire 24 hour collection

**Minimum Specimen Volume**

10 mL

**Transport Temperature**

Refrigerated

**Turnaround Time**

4-7 days

**CPT Code**
81003

**LOINC Code**
50564-4

**EMR Interface Order Code**
63085

**Specimen Stability**

Undue delay in transport is cause for rejection

**Reasons for Rejection**

24 - hour collection; undue delay in transport; failure to include pertinent history; low volume specimens of voided urine; unlabeled or mislabeled specimens container.

**Days and Times Performed**

Monday - Friday, 7:30 am - 5 pm

**Turnaround Time**

24 - 48 hours; for same day processing, specimens must be received by 2 pm

**Reference Ranges**

From negative to altered cells suggestive of inflammation or repair to cellular changes conclusive for malignant neoplasm. Negative to positive for viral inclusions.

**CPT Code**
88112

**EMR Interface Order Code**
20820

<table>
<thead>
<tr>
<th>UDIPST</th>
<th>Urine Dipstick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baystate Reference Laboratories</td>
<td></td>
</tr>
</tbody>
</table>

**Collection Container**

Plastic container with lid

Urine Cytology

**Special Handling Instructions**

Limitations: Voided specimens, especially on female patients must be clean catch specimens. The concentration of urothelial cells is extremely diluted by large numbers of squamous cell contaminants if the sample is not a clean catch specimen. This compromises the validity of a negative diagnosis. Low-grade papillary transitional cell or urothelial carcinomas may not be diagnosed by cytologic examination. Calculi and recent instrumentation may produce atypical changes in urothelial cells simulating malignancy. Chemotherapy and radiation may also produce changes simulating neoplasia. Viral culture is the method of choice for the diagnosis of CMV.

Note: Voided urine is much preferred over a catheterized sample due to atypical cell changes caused by trauma. Low-grade papillary lesions cannot be diagnosed on saline wash specimens without the benefit of correlation with previously obtained voided specimens.

**Specimen Volume**

50 mL or greater

**Transport Temperature**

Collect fresh and deliver immediately to the Cytology Laboratory. Refrigerate if delay occurs.
### DTSU2  Urine Drug Tox Screen 2 with Confirmations

**Contracted Reference Lab**

**Additional Information**
Includes: Amphetamines, Barbiturates, Benzodiazepines, Buprenorphine, Cocaine Metabolite, Heroin Metabolite, Marijuana Metabolite 20, Methadone Metabolite, Opiates, Oxycodone
Positive screens will be confirmed at an additional charge (CPT code(s): dependent on drug class confirmed).

**Reflex Tests**
If positive, will reflex to confirmations at an additional charge

**Collection Container**
Urine cup or tube
Urine

**Specimen Volume**
30 mL

**Minimum Specimen Volume**
7 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Days and Times Performed**
Daily

**Turnaround Time**
1 – 3 days

**CPT Code**
80307

**EMR Interface Order Code**
70424

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

### DTSU3  Urine Drug Tox Screen 3 with Confirmations

**Contracted Reference Lab**

**Additional Information**
Includes: Amphetamines, Barbiturates, Benzodiazepines, Buprenorphine, Cocaine Metabolite, Heroin Metabolite, Methadone Metabolite, Opiates, Oxycodone
Positive screens will be confirmed at an additional charge (CPT code(s): dependent on drug class confirmed).

**Reflex Tests**
If positive, will reflex to confirmations at an additional charge

**Collection Container**
Urine cup or tube
Urine

**Specimen Volume**
30 mL

**Minimum Specimen Volume**
7 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Days and Times Performed**
Daily

**Turnaround Time**
1 – 3 days

**CPT Code**
80307

**EMR Interface Order Code**
70424

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

### DTSU8  Urine Drug Tox Screen 8 with Confirmations

**Contracted Reference Lab**

**Additional Information**
Includes: Amphetamines, Barbiturates, Cocaine Metabolite, Methadone Metabolite, Opiates, Oxycodone
Positive screens will be confirmed at an additional charge (CPT code(s): dependent on drug class confirmed).

**Reflex Tests**
If positive, will reflex to confirmations at an additional charge

**Collection Container**
Urine cup or tube
Urine

**Specimen Volume**
30 mL

**Minimum Specimen Volume**
7 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Days and Times Performed**
Daily

**Turnaround Time**
1 – 3 days

**CPT Code**
80307

**EMR Interface Order Code**
70424

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.
**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

---

**UMETQ  Urine Metanephrines**

*LabCorp*

**Patient Instructions**
No caffeine before or during collection. Monoamine oxidase inhibitors should be discontinued at least one week prior to beginning collection.

**Collection Container**
24 hour urine jug, kept refrigerated during and after collection

**Specimen Volume**
Entire 24 hour collection

**Minimum Specimen Volume**
2.5 mL

**Transport Temperature**
Refrigerated

**Turnaround Time**
4-7 days

**CPT Code**
83835

**EMR Interface Order Code**
28500

---

**UMYQ  Urine Myoglobin Quant**

*LabCorp*

**Patient Instructions**
Patient should avoid salicylates, caffeine, phenothiazine, and antihypertension agents. Also coffee, tea, chocolate, fruit (especially bananas and any vanilla containing substances for 72 hours prior to collection).

**Collection Container**
24 hour urine jug, kept refrigerated during and after collection

**Specimen Volume**
Entire 24 hour collection

**Minimum Specimen Volume**
1 mL

**Transport Temperature**
Refrigerated

**Turnaround Time**
4-5 days

**CPT Code**
84585

**EMR Interface Order Code**
28450

---

**UPGD  Uroporphyrinogen Decarboxylase, Whole Blood**

*Mayo Clinic Laboratories in Rochester*

**Reporting Name**
UPG Decarboxylase, WB

**Useful For**
Preferred test for the confirmation of a diagnosis of porphyria cutanea tarda type II and hepatocellular porphyria

**Testing Algorithm**
The workup of patients with a suspected porphyria is most effective when following a stepwise approach. See Porphyria (Cutaneous) Testing Algorithm in Special Instructions or call 800-533-1710 to discuss testing strategies. If guidance is needed for an acute form of porphyria, the Porphyria (Acute) Testing Algorithm is also available in Special Instructions.

**Specimen Type**
Whole blood

**Advisory Information**
Porphyria cutanea tarda (PCT) type I, the most common form of PCT, exhibits normal RBC enzyme activity. The preferred test for diagnosis of type I is PQNU / Porphyrins, Quantitative, 24 Hour, Urine or PQNRU / Porphyrins, Quantitative, Random, Urine.
Necessary Information

Include a list of medications the patient is currently taking.

Specimen Required

Patient Preparation: Patient should abstain from alcohol for 24 hours. Abstinence from alcohol is essential for at least 24 hours as alcohol suppresses enzyme activity for 24 hours after ingestion.

Container/Tube:
Preferred: Green top (sodium heparin)
Acceptable: Lavender top (EDTA) or green top (lithium heparin)

Specimen Volume: Full tube

Specimen Minimum Volume
3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions

- The Heme Biosynthetic Pathway
- Informed Consent for Genetic Testing
- Porphyria (Acute) Testing Algorithm
- Porphyria (Cutaneous) Testing Algorithm
- Informed Consent for Genetic Testing (Spanish)

Reference Values
≥1.0 RU (normal)
0.80-0.99 RU (indeterminate)
<0.80 RU (indicative of PCT type II)

RU = Relative Units

Day(s) and Time(s) Performed
Tuesday; 8 a.m.

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
82657

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>UPGD</td>
<td>UPG Decarboxylase, WB</td>
<td>49596-0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8599</td>
<td>UPG Decarboxylase, WB</td>
<td>49596-0</td>
</tr>
<tr>
<td>606379</td>
<td>Interpretation (UPGD)</td>
<td>59462-2</td>
</tr>
<tr>
<td>606380</td>
<td>Reviewed By</td>
<td>18771-6</td>
</tr>
</tbody>
</table>

Reject Due To
Gross hemolysis | Reject

Method Name
High-Performance Liquid Chromatography (HPLC)/Incubation of Lysed Erythrocytes
Specimen Stability
72 hours

Reasons for Rejection
Specimen received in non-BD Affirm VP III ambient temp transport system. Specimen received in laboratory greater than 72 hours after collection. Specimen collected on a male.

Methodology
Nucleic acid hybridization

Turnaround Time
1 - 3 days

Reference Ranges
Negative for Trichomonas, yeast and clue cells

EMR Interface Order Code
59085

---

VALPRO  Valproic

Baystate Reference Laboratories

Collection Container
Serum gel
Serum

Other Acceptable Specimen Types
Heparinized plasma

Specimen Volume
1 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 2 days, Refrigerated: 7 days, Frozen: 3 months

Methodology
Enzyme Immunoassay

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
50 - 100 mg/L

Critical Results
>150 mg/L

Units of Measure
mg/L

CPT Code
80164

EMR Interface Order Code
10250

---

VALFR  Valproic Acid, Free

Contracted Reference Lab

Collection Container
Red top tube or Lavender (EDTA) top tube NO GEL TUBES
Serum or plasma

Specimen Volume
3 mL

Minimum Specimen Volume
1.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 14 days

Reasons for Rejection
Gross hemolysis

CPT Code
80165

EMR Interface Order Code
13735

---

CFVANC  Vancomycin, CSF

Baystate Reference Laboratories

Collection Container
CSF
Cerebral Spinal Fluid

Specimen Volume
1 mL

Minimum Specimen Volume
0.2 mL

Transport Temperature
Refrigerate

Methodology
Enzyme Immunoassay

Days and Times Performed
Test performed daily

Turnaround Time
24 hours

Reference Ranges
50 - 100 mg/L

Units of Measure
mg/L

CPT Code
80202

LOINC Code
13586-3

EMR Interface Order Code
12575
**VANCPK  Vancomycin, Peak**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Heparinized plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 2 hrs, Refrigerated: 14 days, Frozen: 1 year

**Methodology**
Enzyme Immunoassay

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
10 to 40 mg/L

**Critical Results**
>40 mg/L

**Units of Measure**
mg/L

**CPT Code**
80202

**EMR Interface Order Code**
10275

---

**VANCTR  Vancomycin, Trough**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Heparinized plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 2 hrs, Refrigerated: 14 days, Frozen: 1 year

**Methodology**
Enzyme Immunoassay

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
10 to 40 mg/L

**Critical Results**
>25 mg/L

**Units of Measure**
mg/L

**CPT Code**
80202

**EMR Interface Order Code**
10285

---

**VANCRA  Vancomycin, Random**

*Baystate Reference Laboratories*

**Collection Container**
Serum gel
Serum

**Other Acceptable Specimen Types**
Heparinized plasma

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 2 hrs, Refrigerated: 14 days, Frozen: 1 year

**Methodology**
Enzyme Immunoassay

**Days and Times Performed**
Test performed daily

**Turnaround Time**
24 hours

**Reference Ranges**
10 to 20 mg/L

**Critical Results**
>25 mg/L

**Units of Measure**
mg/L
CPT Code
80202
EMR Interface Order Code
10280

VANIL  Vanilla IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
68566

Container
Serum gel or red top tube

UVMAR  Vanillylamndelic Acid Random Urine

Contracted Reference Lab

Collection Container
Urine container
Urine

Specimen Volume
10 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 7 days, Refrigerated: 14 days, Frozen: 14 days

CPT Code
82570, 84585

EMR Interface Order Code
28425

VZVAB  Varicella Antibody, IgG

Baystate Reference Laboratories

Collection Container
Gel
Gel serum

Other Acceptable Specimen Types
Red top serum

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
5 days refrigerated

Reasons for Rejection
Specimens not centrifuged within 24 hours, specimens older than 5 days.

Methodology
EIA

LOINC Code
19162-7

EMR Interface Order Code
54850

VZVDFA  Varicella zoster DFA

Baystate Reference Laboratories

Collection Container
Other
Slide smeared with vesicular cells

Specimen Volume
1 mL

LOINC Code
5881-8

EMR Interface Order Code
54875

VZVPCR  Varicella Zoster Virus DNA PCR

LabCorp

Important Note
Testing available on CSF, swabs and whole blood. For other sources, please contact Client Services.

Collection Container
CSF: Sterile container
Swab: M4 Media
Whole Blood: Lavender (EDTA) top tube
CSF or swab or whole blood

Specimen Volume
1 swab or 0.5 mL CSF or blood
Minimum Specimen Volume
0.2 mL blood or CSF

Transport Temperature
Refrigerate

Turnaround Time
5-6 days

CPT Code
87798

EMR Interface Order Code
59710

Stability
Room temp: 14 days
Refrigerated: 14 days
Frozen: 14 days (CSF only)

VZPG  Varicella-Zoster Antibody, IgG, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name
Varicella-Zoster Ab, IgG, S

Useful For
Determination of immune status of individuals to the varicella-zoster virus (VZV)

Documentation of previous infection with VZV in an individual without a previous record of immunization to VZV

Specimen Type
Serum

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values
Vaccinated: Positive (≥1.1 AI)
Unvaccinated: Negative (≤0.8 AI)
Reference values apply to all ages.

Day(s) and Time(s) Performed
Monday through Saturday, 9 a.m.

Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
86787

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>VZPG</td>
<td>Varicella-Zoster Ab, IgG, S</td>
<td>15410-4</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VZG</td>
<td>Varicella-Zoster Ab, IgG, S</td>
<td>15410-4</td>
</tr>
<tr>
<td>DEXG4</td>
<td>Varicella IgG Antibody Index</td>
<td>5403-1</td>
</tr>
</tbody>
</table>

Reject Due To

Gross hemolysis  Reject
Gross lipemia    Reject
Gross icterus    Reject
Other            Heat-inactivated specimen

Method Name
Multiplex Flow Immunoassay (MFI)

Forms
If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:
- General Request (T239)
- Microbiology Test Request (T244)

Secondary ID
34944

VZVM  Varicella-Zoster Virus (VZV) Antibody, IgM, Serum

Mayo Clinic Laboratories in Rochester

Specimen Required

Container/Tube:
Preferred: Serum gel
Acceptable: Red top
Specimen Volume: 0.5 mL

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

Useful For
Diagnosing acute-phase infection with varicella-zoster virus

Method Name
Immunofluorescence Assay (IFA)

Reporting Name
Varicella-Zoster Ab, IgM, S

Specimen Type
Serum

Specimen Minimum Volume
0.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>14 days</td>
<td></td>
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</tbody>
</table>
Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
<tr>
<td>Other</td>
<td>Heat-inactivated specimen</td>
</tr>
</tbody>
</table>

Reference Values

Negative
Reference values apply to all ages.

Day(s) and Time(s) Performed

Monday through Friday; 9 a.m. and 3 p.m.
Saturday, Sunday; Varies

Test Classification

This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

86787

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>VZM</td>
<td>Varicella-Zoster Ab, IgM, S</td>
<td>43588-3</td>
</tr>
</tbody>
</table>

Reference Values

≤96.2 pg/mL

Day(s) and Time(s) Performed

Thursday, 3 p.m.

Test Classification

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

83520

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>63019</td>
<td>VEGF, P</td>
<td>34694-0</td>
</tr>
</tbody>
</table>

Reference Values

<75 pg/mL

Day(s) and Time(s) Performed

Monday, Tuesday, Wednesday; 2 p.m.

VEGF  Vascular Endothelial Growth Factor, Plasma

Mayo Clinic Laboratories in Rochester

Specimen Required

Collection Container/Tube: Lavender-top (EDTA)
Submission Container/Tube: Plastic vial
Specimen Volume: 0.5 mL
Collection Instructions:
1. Immediately after specimen collection, place the tube on wet ice.
2. Centrifuge at 1,500 x g for 10 minutes and aliquot plasma.
3. Freeze specimen within 30 minutes.

Secondary ID

63019

Method Name

Electrochemiluminescence

Reporting Name

Vascular Endothelial Growth Fctr, P

Useful For

Detection of vasoactive intestinal polypeptide producing tumors in patients with chronic diarrheal diseases

Specimen Type

Plasma EDTA

Specimen Required

Collection Container/Tube: Lavender top (EDTA)
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL
Collection Instructions:
1. Fasting (8 hours)
2. Spin down and immediately freeze.
Additional Information: This test should not be requested on patients who have recently received radioactive material.

Specimen Minimum Volume

0.3 mL

Specimen Stability Information

<table>
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<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>Plasma EDTA</td>
<td>Frozen (preferred)</td>
<td>21 days</td>
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<tr>
<td></td>
<td>Refrigerated</td>
<td>24 hours</td>
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</tbody>
</table>

Reference Values

<75 pg/mL

Day(s) and Time(s) Performed

Monday, Tuesday, Wednesday; 2 p.m.
Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
84586

LOINC Code Information

<table>
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<th>Test ID</th>
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<tr>
<td>VIP</td>
<td>Vasoactive Intestinal Polypeptide,P</td>
<td>3125-2</td>
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<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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<tbody>
<tr>
<td>8150</td>
<td>Vasoactive Intestinal Polypeptide,P</td>
<td>3125-2</td>
</tr>
</tbody>
</table>

Reject Due To
- Gross hemolysis: Reject
- Gross lipemia: Reject
- Gross icterus: OK

Method Name
Radioimmunoassay (RIA)

Forms
If not ordering electronically, complete, print, and send an Oncology Test Request (T729) with the specimen.

CFSYPH  VDRL, CSF
Mass. Department of Public Health

Additional Information
Testing referred to State Lab.

Reflex Tests
Positive results will reflex to a Titer

Collection Container
Sterile container
CSF

Special Handling Instructions
State submission form must accompany specimen

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
7 days

Reasons for Rejection
Specimens without complete and accurate submission forms

Turnaround Time
3 - 5 days

LOINC Code
5290-2

EMR Interface Order Code
54600

VEDO  Vedolizumab Level and Antibody
Esoterix Endocrinology Laboratory

Important Note
Allow a minimum clotting time of 30 to 60 minutes with serum separation within 2 hours of collection.

Collection Container
Serum gel or red top tube
Serum

Specimen Volume
2 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
Frozen: 14 days
Refrigerated: 14 days
Ambient: 14 days

Methodology
Electrochemiluminescence immunoassay (ECLIA)

CPT Code
80299, 82397

EMR Interface Order Code
39032

VENLA  Venlafaxine, Serum
Mayo Clinic Laboratories in Rochester

Reporting Name
Venlafaxine, S

Useful For
Monitoring serum concentration during therapy
Evaluating potential toxicity
Evaluating patient compliance

Specimen Type
Serum Red

Specimen Required

Collection Container/Tube: Red top
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL

Collection Instructions:
1. Draw blood immediately before next scheduled dose.
2. Blood drawn from patients 12 hours after an oral dose is also appropriate. It is customary to treat the patient at bedtime with a dose, then, collect specimen the following morning prior to next dose.
3. Centrifuge and remove serum from cells within 2 hours of collection.

Specimen Minimum Volume
0.4 mL
Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>Serum Red</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
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<tr>
<td></td>
<td>Ambient</td>
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</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
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</table>

Reference Values
Venlafaxine + O-desmethylvenlafaxine: 195-400 ng/mL

Day(s) and Time(s) Performed
Monday, Wednesday; 4 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80299

LOINC Code Information

<table>
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<tr>
<th>Test ID</th>
<th>Test Order Name</th>
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<tbody>
<tr>
<td>VENLA</td>
<td>Venlafaxine, S</td>
<td>62849-5</td>
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Result ID

<table>
<thead>
<tr>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Venlafaxine</td>
<td>9630-5</td>
</tr>
<tr>
<td>O-desmethyl Venlafaxine</td>
<td>9630-5</td>
</tr>
<tr>
<td>Venlafaxine+O-Desmethylvenlafaxine</td>
<td>62849-5</td>
</tr>
</tbody>
</table>

Reject Due To

- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

Method Name
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

Secondary ID
83732

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

VERAP Verapamil

LabCorp

Collection Container
Red
Serum

Other Acceptable Specimen Types
EDTA plasma

Special Handling Instructions
Separate within 2 hours of draw

Specimen Volume
3 mL
Minimum Specimen Volume
1.2 mL

Transport Temperature
Refrigerate

Specimen Stability
Room temperature: 14 days, Refrigerated: 30 days, Frozen: 18 months

Reasons for Rejection
Collected in a gel barrier tube

Methodology
Gas Chromatography (GC)

CPT Code
80375/G0480

EMR Interface Order Code
10350

VRESP Viral Culture, Respiratory

Mayo Clinic Laboratories in Rochester

Reporting Name
Viral Culture, Respiratory

Useful For
Diagnosing viral infections in respiratory specimens

Specimen Type
Varies

Advisory Information

Source-based recommendation for testing:
Esophageal specimens: Tissue, swabs, or brushings
Order VIRNR / Viral Culture, Non-Respiratory

Dermal specimens: Leg, arm, skin, axilla, etc:
Order HERPV / Herpes Simplex Virus 1 and 2, Qualitative PCR, Varies and/or LVZV / Varicella-Zoster Virus, Molecular Detection, PCR. If a dermal sample is submitted for viral culture, the laboratory will automatically change the testing to HERPV and LVZV.

Genital specimens: Cervical, endocervical, genital, labia, penis, perianal, scrotum, vaginal
Order HERPV / Herpes Simplex Virus 1 and 2, Qualitative PCR, Varies. If a genital sample is submitted for viral culture, the laboratory will automatically change the testing to HERPV

Infectious agent-based recommendations for testing:
If herpes simplex virus (HSV) is suspected in a neonatal patient (<1 month), order VHSV / Herpes Simplex Virus (HSV), Culture From Neonates.

State Health Department testing only: specimens will not be accepted at Mayo Clinic Laboratories for the following diseases (submit directly to your state health department).
- Measles
- Measles
- High-risk infectious agents (examples of high-risk infections agents include: Ebola and other causative agents of viral hemorrhagic fever, avian influenza, severe acute respiratory syndrome (SARS), and Middle Eastern respiratory syndrome coronavirus (MERS-CoV)

Shipping Instructions

1. Specimen must be transported at refrigerate temperature.
2. Swab specimens should be sent in viral transport media.
3. Specimens must be received and cultured in the laboratory within 7 days post collection.
4. Specimens for viral culture should be transported to the laboratory as soon as possible for optimal recovery.

Necessary Information

Specimen source is required.

Specimen Required

Specimen Type: Lower respiratory tract
Sources: Bronchoalveolar lavage, bronchial washing or aspirate, tracheal aspirate or secretion, pleural fluid, nasal washing, sputum
Container/Tube: Sterile container
Specimen Volume: 1 mL

Specimen Type: Nasopharynx
Supplies:
- Nasopharyngeal Swab (Rayon Mini-Tip swab) (T515)
- M4-RT (T605)
Specimen Volume: Entire collection
Collection Instructions:
1. Collect specimen by swabbing back and forth over mucosa surface to maximize recovery of cells.
2. Place swab into M4-RT media or other viral transport media (M4 or M5).

Specimen Type: Throat, nasal
Supplies:
- Culturette (BBL Culture Swab) (T092)
- M4-RT (T605)
- Swab, Sterile Polyester (T507)
Container/Tube: Multimicrobe media (M4-RT) (T605)
Preferred: BBL Culture Swab (T092)
Acceptable: Dacron-tipped swab with plastic handle (T507)
Specimen Volume: Swab
Collection Instructions: Place swab into multimicrobe media (M4-RT, M4, or M5).

Specimen Type: Tissue
Supplies: M4-RT (T605)
Sources: Lung and others
Container/Tube: Sterile container containing 1 mL to 2 mL of sterile saline or multimicrobe medium (M4-RT, M4, or M5).
Specimen Volume: Entire collection

Specimen Type: Oral
Supplies:
- Swab, Sterile Polyester (T507)
- M4-RT (T605)
Container/Tube: Dacron-tipped swab with plastic handle (T507)
Specimen Volume: Swab
Collection Instructions: Place swab into multimicrobe media (M4-RT, M4, or M5).

Specimen Minimum Volume
See Specimen Required

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

Negative
If positive, virus is identified.

Day(s) and Time(s) Performed

Monday through Sunday; Varies

Test Classification

This test uses a standard method. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

87252-Tissue culture inoculation
87176-Tissue processing (if appropriate)
87253-Additional testing virus, identification (if appropriate)
87254-Viral smear, shell vial (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VRESP</td>
<td>Viral Culture, Respiratory</td>
<td>6584-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VRESP</td>
<td>Viral Culture, Respiratory</td>
<td>6584-7</td>
</tr>
</tbody>
</table>

Reject Due To

Other
- Gel swab, E-swab, swab with wooden handle
- Blood, Serum
- Bile (toxic)
- Deep seated tissues
- Lymph nodes
- Bone marrow/bone tissue
- Wound swabs, tissue swabs
- Pus, abscess and/or drainage material

Testing Algorithm

All routine viral cultures are inoculated into cell culture tubes for viral detection. The most common specimens received for routine testing include bronchoalveolar lavage, sputum, and throat. A rapid (16-hour incubation) shell vial cell culture assay will be inoculated when specimens are designated for herpes simplex virus or cytomegalovirus detection or as appropriate for source indicated.

If enterovirus or hand, foot, and mouth disease is suspected, clearly indicate "enterovirus" on request.

Method Name

Cell Culture
Shell Vial Assay for Herpes Simplex Virus or Cytomegalovirus

Secondary ID

88926

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>TISSR</td>
<td>Tissue Processing</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>VID2</td>
<td>Additional Testing Virus Ident</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>SVIR</td>
<td>Viral Smear, Shell Vial</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
</tbody>
</table>

Forms

If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

VISCO  Viscosity, Serum

Baystate Reference Laboratories

Collection Container

Red
Serum
**Specimen Volume**
5 mL (Four 5mL red top tubes)

**Minimum Specimen Volume**
3 mL

**Transport Temperature**
Whole blood: ambient, Serum: frozen

**Reasons for Rejection**
Insufficient specimen, hemolyzed, or collected in gel barrier tube.

**Methodology**
Viscometer

**Days and Times Performed**
Monday - Friday, 7 am - 3 pm

**Turnaround Time**
1 - 3 Days

**Reference Ranges**
1.4 - 1.8 Ratio

**CPT Code**
85810

**LOINC Code**
3128-6

**EMR Interface Order Code**
33100

**VITA  Vitamin A, Serum**
*Mayo Clinic Laboratories in Rochester*

**Secondary ID**
42357

**Useful For**
Diagnosing vitamin A deficiency and toxicity
Monitoring vitamin A therapy

**Method Name**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Reporting Name**
Vitamin A, S

**Specimen Type**
Serum

**Specimen Required**

**Patient Preparation:** Fasting overnight (12-14 hours) (infants: draw prior to next feeding)
**Collection Container/Tube:**
Preferred: Red top
Acceptable: Serum gel
**Submission Container/Tube:** Plastic vial
**Specimen Volume:** 0.5 mL

**Specimen Minimum Volume**
0.25 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: OK
- Gross lipemia: OK
- Gross icterus: OK

**Reference Values**
0-6 years: 11.3-64.7 mcg/dL
7-12 years: 12.8-81.2 mcg/dL
13-17 years: 14.4-97.7 mcg/dL
≥18 years: 32.5-78.0 mcg/dL

**Day(s) and Time(s) Performed**
Monday through Friday; 12:01 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
84590

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VITA</td>
<td>Vitamin A, S</td>
<td>2923-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7597</td>
<td>Vitamin A</td>
<td>2923-1</td>
</tr>
</tbody>
</table>

**Forms**
If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

**B12  Vitamin B12**
*Baystate Reference Laboratories*

**Collection Container**
Serum gel

**Other Acceptable Specimen Types**
Serum

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.3 mL

**Transport Temperature**
Refrigerate

**Specimen Stability**
Room temperature: 1 day, Refrigerated: 6 days, Frozen: 2 months

**Reasons for Rejection**
Grossly hemolyzed
**Methodology**  
Electrochemiluminescence immunoassay (ECLIA)

**Days and Times Performed**  
Test performed daily

**Turnaround Time**  
24 hours

**Reference Ranges**  
232 - 1245 pg/mL

**Units of Measure**  
pg/mL

**CPT Code**  
82607

**LOINC Code**  
2132-9

**EMR Interface Order Code**  
10476

**B12CAP  Vitamin B12 Binding Capacity**

**ARUP Laboratories**

**Additional Test Codes**  
EMR Interface Order Code: 03775

**Reporting Name**  
Vitamin B12 Binding Capacity

**Specimen Type**  
Serum

**Specimen Required**

Draw blood in a plain, red-top tube(s). (Serum gel tube is acceptable.) Spin down and send 1 mL of serum refrigerated in a plastic vial.

**Note:** Patient should fast for 12 – 15 hours prior to collection. Vitamin B12 supplements should not be administered within 72 hours of drawing blood for this test.

**Specimen Minimum Volume**  
0.1 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(preferred)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frozen</td>
<td></td>
<td>30 days</td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td></td>
<td>6 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**  
800 – 2600 pg/mL

Interpretive Information: Vitamin B12 Binding Capacity  
This assay measures the unsaturated binding capacity of serum for Vitamin B12.

**Day(s) and Time(s) Performed**  
Monday, Thursday

**CPT Code Information**  
82608

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FVITB</td>
<td>Vitamin B12 Binding Capacity</td>
<td>2171-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z2657</td>
<td>Vitamin B12 Binding Capacity</td>
<td>2171-7</td>
</tr>
</tbody>
</table>

**Reject Due To**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>Mild OK; Gross reject</td>
</tr>
<tr>
<td>Lipemia</td>
<td>NA</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>Plasma</td>
</tr>
</tbody>
</table>

**Method Name**  
Quantitative Radioimmunoassay

---

**VITB2  Vitamin B2**

**Contracted Reference Lab**

**Collection Container**  
Lavender (EDTA) top tube  
Whole Blood, protected from light and frozen

**Specimen Volume**  
1.5 mL

**Minimum Specimen Volume**  
1 mL

**Transport Temperature**  
Frozen

**Specimen Stability**  
Refrigerated: 1 day Frozen; preferred

**Reasons for Rejection**

Not frozen within 24 hrs, not protected from light, plasma or serum

**CPT Code**  
84252

**EMR Interface Order Code**  
10400

---

**VITAB3  Vitamin B3 and Metabolite**

**LabCorp**

**Collection Container**  
Red top tube or lavender (EDTA) top tube  
Serum or plasma

**Specimen Volume**  
1 mL

**Minimum Specimen Volume**  
0.5 mL

**Transport Temperature**  
Frozen

**Specimen Stability**  
Frozen: 14 days

**CPT Code**  
84591
**EMR Interface Order Code**

14652

**PANTO  Vitamin B5 (Pantothenic Acid) Bioassay**

*Cambridge Biomedical Inc.*

**Reporting Name**
Pantothenic Acid (B-5) Bioassay

**Specimen Type**
Serum SST

**Specimen Required**
Draw blood in a SST (serum separator tube). Spin down and transfer to plastic Amber vial (T192) to protect from light. Send 1 mL serum frozen.

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum SST</td>
<td>Frozen (preferred)</td>
<td>21 days</td>
<td>LIGHT PROTECTED</td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
<td>LIGHT PROTECTED</td>
</tr>
</tbody>
</table>

**Reference Values**

**Adult Reference Range**

>10 Years  
37 - 147 ug/L

**Pediatric Reference Range**

<1 Year  
3.45 to 825 ug/L

>1 year to 10 Years  
3.45 to 229.2 ug/L

**Day(s) and Time(s) Performed**

Monday

**Test Classification**
The performance characteristics of the listed assay were validated by Cambridge Biomedical Inc. The US FDA has not approved or cleared this test. The results of this assay can be used for clinical diagnosis without FDA approval. Cambridge Biomedical Inc. is a CLIA certified, CAP accredited laboratory for performing high complexity assays such as this one.

**CPT Code Information**

84591

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPAB</td>
<td>Pantothenic Acid (B-5) Bioassay</td>
<td>2722-7</td>
</tr>
</tbody>
</table>

**Reject Due To**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>Mild OK; Gross reject</td>
</tr>
<tr>
<td>Thawing</td>
<td>Warm &lt; 24 hours ; Cold OK</td>
</tr>
<tr>
<td>Lipemia</td>
<td>Mild OK; Gross reject</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>Reject specimens containing particulate matter or microbial contamination. Specimens unprotected from light.</td>
</tr>
</tbody>
</table>

---

**B6  Vitamin B6**

*LabCorp*

**Important Note**
Specimen requirement has changed. Requires plasma from a lavender (EDTA) top tube.

**Collection Container**
Lavender (EDTA) top tube

Plasma, protected from light

**Specimen Volume**
0.5 mL

**Minimum Specimen Volume**
0.25 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 3 days  
Refrigerated: 15 days  
Frozen: 15 days

**CPT Code**
84207

**EMR Interface Order Code**
10450

**VITC  Vitamin C**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

Serum

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Frozen

**Specimen Stability**
Frozen: 5 days

**Reasons for Rejection**
Not protected from light, not frozen

**CPT Code**
82180

**EMR Interface Order Code**
10500

**VITE  Vitamin E, Serum**

*Mayo Clinic Laboratories in Rochester*

**Secondary ID**
42358
**Useful For**  
- Evaluation of individuals with motor and sensory neuropathies  
- Monitoring vitamin E status of premature infants requiring oxygenation  
- Evaluation of persons with intestinal malabsorption of lipids

**Method Name**  
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

**Reporting Name**  
Vitamin E, S

**Specimen Type**  
Serum

**Shipping Instructions**  
Ship specimen in amber vial to protect from light.

**Specimen Required**

**Patient Preparation:** Fasting overnight (12-14 hours) (infants-draw prior to next feeding)  
**Supplies:** Amber Frosted Tube, 5 mL (T192)  
**Collection Container/Tube:** Preferred: Red top  
**Acceptable:** Serum gel  
**Submission Container/Tube:** Amber vial  
**Specimen Volume:** 0.5 mL  
**Collection Instructions:** Within 24 hours of collection, aliquot specimen into amber vial to protect from light.

**Specimen Minimum Volume**  
0.25 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum (preferred)</td>
<td>Refrigerated</td>
<td>44 days</td>
<td>LIGHT PROTECTED</td>
</tr>
<tr>
<td>Frozen</td>
<td>44 days</td>
<td>LIGHT PROTECTED</td>
<td></td>
</tr>
<tr>
<td>Ambient</td>
<td>7 days</td>
<td>LIGHT PROTECTED</td>
<td></td>
</tr>
</tbody>
</table>

**Reject Due To**
- Gross hemolysis: Reject  
- Gross lipemia: Reject  
- Gross icterus: Reject

**Reference Values**
- 0-17 years: 3.8-18.4 mg/L  
- ≥18 years: 5.5-17.0 mg/L

**Day(s) and Time(s) Performed**
Monday through Friday; 12:01 a.m.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**  
84446

---

**VITK1 Vitamin K1**

**Contracted Reference Lab**

**Collection Container**  
Pre-chilled Red top tube or Lavender (EDTA) top tube NO GEL TUBES  
Serum or plasma

**Specimen Volume**  
1.5 mL

**Minimum Specimen Volume**  
1 mL

**Transport Temperature**  
Frozen

**Specimen Stability**  
Frozen: 90 days

**Reasons for Rejection**
Not protected from light, not frozen

**CPT Code**  
84597

**EMR Interface Order Code**  
14675

---

**VLTU Volatile Screen, Random, Urine**

**Mayo Clinic Laboratories in Rochester**

**Reporting Name**  
Volatile Scrn, U

**Useful For**  
Detecting the presence of acetone, methanol, isopropanol, or ethanol in urine with subsequent quantitation

**Specimen Type**  
Urine

**Specimen Required**

**Supplies:** Plastic, 10-mL urine tube (T068)  
**Specimen Volume:** 10 mL  
**Collection Instructions:**  
1. Collect a random urine specimen.  
2. No preservative.

**Additional Information:** Submitting less than 10 mL will compromise our ability to perform all necessary testing.
Specimen Minimum Volume
1 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated</td>
<td>72 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>24 hours</td>
<td></td>
</tr>
</tbody>
</table>

Reference Values

METHANOL
Not detected (Positive results are quantitated.)
Cutoff concentration: 10 mg/dL
Toxic concentration: ≥10 mg/dL

ETHANOL
Not detected (Positive results are quantitated.)
Cutoff concentration: 10 mg/dL

ISOPROPANOL
Not detected (Positive results are quantitated.)
Cutoff concentration: 10 mg/dL

ACETONE
Not detected (Positive results are quantitated.)
Cutoff concentration: 10 mg/dL
Toxic concentration: ≥10 mg/dL

Day(s) and Time(s) Performed
Monday through Sunday; Varies

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80320
G0480 (if appropriate)

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLTU</td>
<td>Volatile Scrn, U</td>
<td>24350-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8826</td>
<td>Volatile Scrn, U</td>
<td>12983-3</td>
</tr>
<tr>
<td>30904</td>
<td>Methanol, U</td>
<td>5695-2</td>
</tr>
<tr>
<td>30905</td>
<td>Ethanol, U</td>
<td>5645-7</td>
</tr>
<tr>
<td>30906</td>
<td>Acetone, U</td>
<td>5570-7</td>
</tr>
<tr>
<td>30907</td>
<td>Isopropanol, U</td>
<td>9434-2</td>
</tr>
<tr>
<td>34378</td>
<td>Chain of Custody</td>
<td>77202-0</td>
</tr>
</tbody>
</table>

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Method Name
Headspace Gas Chromatography-Flame Ionization Detector (HSGC-FID)

Secondary ID
8826

Testing Algorithm
This test includes analysis of methanol, ethanol, isopropanol, and acetone.

Forms
If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

VOLAT Volatiles, Whole Blood

Collection Reference Lab

Collection Container
Gray top (fluoride oxalate) tube, Lavender (EDTA) tube, and green (Na hep) top tube acceptable.

Whole Blood

Specimen Volume
1 unopened tube

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerated

Specimen Stability
14 days

Reasons for Rejection
Preserved samples

Days and Times Performed
Daily

Turnaround Time
1 – 3 days

CPT Code
80320/G0480

EMR Interface Order Code
70310

Important Note
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

VWFANT von Willebrand Factor Antigen, Plasma

Mayo Clinic Laboratories in Rochester

Reporting Name
von Willebrand Factor Ag, P

Useful For
Diagnosis of von Willebrand disease (VWD) and differentiation of VWD subtype (in conjunction with von Willebrand factor ristocetin cofactor activity and factor VIII coagulant activity)

Differentiation of VWD from hemophilia A (in conjunction with factor VIII coagulant assay)

Monitoring therapeutic efficacy of treatment with DDAVP (desmopressin) or von Willebrand factor (VWF) concentrates in patients with VWD
Specimen Type
Plasma Na Cit

Additional Testing Requirements
VWACT / von Willebrand Factor Activity, Plasma and F8A / Coagulation Factor VIII Activity Assay, Plasma are recommended in conjunction with this test (von Willebrand antigen).

Specimen Required

Specimen Type: Platelet-poor plasma
Collection Container/Tube: Light-blue top (citrate)
Submission Container/Tube: Plastic vial
Specimen Volume: 1 mL
Collection Instructions:
1. Spin down, remove plasma, and spin plasma again.
2. Freeze plasma immediately (no longer than 4 hours after collection) at -20° C or, ideally, at ≤-40° C.
Additional Information:
1. Double-centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.
2. Each coagulation assay requested should have its own vial.

Specimen Minimum Volume
0.5 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma Na Cit</td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions
• Coagulation Guidelines for Specimen Handling and Processing

Reference Values
55-200%

Note: Individuals of blood group "O" may have lower plasma von Willebrand factor (VWF) antigen than those of other ABO blood groups, such that apparently normal individuals of blood group "O" may have plasma VWF antigen as low as 40% to 50%, whereas the lower limit of the reference range for individuals of other blood groups may be 60% to 70%. Children: Neonates, infants, and children have normal or mildly increased plasma VWF antigen, with respect to the adult reference range.

Day(s) and Time(s) Performed
Monday through Saturday

Test Classification
This test has been modified from the manufacturer’s instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
85246

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>VWAG</td>
<td>von Willebrand Factor Ag, P</td>
<td>27816-8</td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
</tbody>
</table>

Method Name
Latex Immunoassay (LIA)

Forms
If not ordering electronically, complete, print, and send a Coagulation Test Request (T753) with the specimen.

VW2NB  VW Disease Type 2N Binding

Blood Center of Wisconsin

Collection Container
Light Blue
Platelet poor plasma, whole blood if received in laboratory within 4 hours of collection

Special Handling Instructions
Spin down, remove plasma and spin again. Double centrifuged specimen is critical for accurate results as platelet contamination may cause spurious results.

Specimen Volume
Platelet poor plasma: 1 ml aliquots, Whole blood: 2.7 mL

Minimum Specimen Volume
Platelet poor plasma: 0.5 mL, Whole blood: 2.7 mL

Transport Temperature
Platelet poor plasma: frozen, whole blood: ambient temperature

Specimen Stability
Whole blood: 4 hours

Reasons for Rejection
Hemolyzed, clotted, Whole blood >4 hours old

Methodology
ELISA

Days and Times Performed
Performed once a week

Turnaround Time
7 - 10 Days

Reference Ranges
Reported with results

CPT Code
85246, 85240

EMR Interface Order Code
32215

WALN  Walnut (Food) IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube
Serum
Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49585

Container
Serum gel or red top tube

---

WNCOMP   Walnut Component Profile
Baystate Reference Laboratories

LOINC Code
81790-8
81789-0

EMR Interface Order Code
71001

---

WALNUT   Walnut Tree IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49300

Container
Serum gel or red top tube

---

WMELON   Watermelon IgE

Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49310

Container
Serum gel or red top tube

---

WBCSTL   WBC Stool
Baystate Reference Laboratories

Collection Container
Cup

Specimen Volume
1 mL

Minimum Specimen Volume
0.5 mL

Transport Temperature
Refrigerate

Specimen Stability
Refrigerated specimen up to 72 hours

Reasons for Rejection
Insufficient sample, >72 hours old

Methodology
Wright Stain

Days and Times Performed
Monday - Friday, 7 am - 3 pm

Turnaround Time
Daily
Reference Ranges
None seen

Units of Measure
/ HPF

CPT Code
89055

LOINC Code
13655-6

EMR Interface Order Code
63076

WNVAB  West Nile Virus Antibody

Mass. Department of Public Health

Additional Information
Testing referred to State Laboratory

Collection Container
Serum gel or CSF
Serum or CSF

Other Acceptable Specimen Types
Red top

Special Handling Instructions
State submission form must accompany specimen

Specimen Volume
1 mL

Minimum Specimen Volume
1mL

Transport Temperature
Refrigerated

Specimen Stability
7 days

Reasons for Rejection
Specimens without complete and accurate submission forms

Turnaround Time
10 - 15 days

LOINC Code
29780-4

EMR Interface Order Code
59585

WNS  West Nile Virus Antibody, IgG and IgM, Serum

Mayo Clinic Laboratories in Rochester

Useful For
Laboratory diagnosis of infection with West Nile virus in serum specimens

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>WNGS</td>
<td>West Nile Virus Ab, IgG, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>WNMS</td>
<td>West Nile Virus Ab, IgM, S</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>WNVSI</td>
<td>West Nile Serum Interpretation</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Method Name
Enzyme-Linked Immunosorbent Assay (ELISA)

Reporting Name
West Nile Virus Ab, IgG and IgM, S

Specimen Type
Serum

Specimen Minimum Volume
0.4 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>14 days</td>
<td></td>
</tr>
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Reject Due To

<table>
<thead>
<tr>
<th>Reason</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
<tr>
<td>Other</td>
<td>Heat Inactivated specimen</td>
</tr>
</tbody>
</table>

Reference Values

IgG: negative
IgM: negative
Reference values apply to all ages

Day(s) and Time(s) Performed
Monday, Wednesday, Friday; 9 a.m.

CPT Code Information
IgG-86789
IgM-86788

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>WNS</td>
<td>West Nile Virus Ab, IgG and IgM, S</td>
<td>In Process</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>WNGS</td>
<td>West Nile Virus Ab, IgG, S</td>
<td>29566-7</td>
</tr>
<tr>
<td>WNMS</td>
<td>West Nile Virus Ab, IgM, S</td>
<td>29567-5</td>
</tr>
<tr>
<td>WNVSI</td>
<td>West Nile Serum Interpretation</td>
<td>69048-7</td>
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</table>

Secondary ID
36769
Test Classification
This test has been cleared or approved by the U.S. Food and Drug Administration and is used per manufacturer’s instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

Forms
If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

Testing Algorithm
The following algorithms are available in Special Instructions:
- Meningitis/Encephalitis Panel Algorithm
- Mosquito-borne Disease Laboratory Testing

Special Instructions
- Meningitis/Encephalitis Panel Algorithm
- Mosquito-borne Disease Laboratory Testing

WEENAB  Western Equine Encephalitis Antibody
Mass. Department of Public Health

Additional Information
Testing referred to State Laboratory

Collection Container
Serum gel or CSF

Other Acceptable Specimen Types
Red top

Special Handling Instructions
State submission form must accompany specimen

Specimen Volume
1 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Refrigerated

Specimen Stability
7 days

Reasons for Rejection
Specimens without complete and accurate submission forms

Turnaround Time
10 - 15 days

LOINC Code
23792-5

EMR Interface Order Code
59740

WPREP  Wet Prep
Baystate Reference Laboratories

Additional Information
Microscopic examination and semi quantitative evaluation of trichomons, yeast, clue cells and white blood cells.

Collection Container
Sterile swab in sterile container with 1 mL sterile saline.

Vaginal Discharge

Specimen Volume
1 mL

Minimum Specimen Volume
1 mL

Transport Temperature
Room Temperature

Specimen Stability
12 Hours at room temperature

Reasons for Rejection
Excessive delay in transport greater than 12 hours. Specimen collected in Eswab

Days and Times Performed
7 days/week

Turnaround Time
1 hour on receipt in laboratory

Reference Ranges
No Trichomonas, yeast, clue cells or white blood cells observed.

LOINC Code
14319-8

EMR Interface Order Code
54950

WRAG  Western Ragweed IgE
Contracted Reference Lab

Collection Container
Serum gel or red top tube

Specimen Volume
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

Minimum Specimen Volume
0.1 mL

Transport Temperature
Refrigerated

Specimen Stability
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

Methodology
ImmunoCAP

Turnaround Time
3-5 days

CPT Code
86003

EMR Interface Order Code
49130

Container
Serum gel or red top tube
**WHEAT  Wheat IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49315

**Container**
Serum gel or red top tube

---

**IGGWHT  Wheat IgG**

*Viracor Eurofins*

**Method Name**
Enzyme Immunoassay (FEIA)

**Reporting Name**
Wheat IgG

**Specimen Type**
Serum

**Specimen Required**

Draw blood in a plain, red-top tube(s), serum gel tube(s) is acceptable. Spin down and send 0.5 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**
0.5 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature (preferred)</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>365 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

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**Reject Due To**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemolysis</td>
<td>NA</td>
</tr>
<tr>
<td>Thawing</td>
<td>Warm OK; Cold OK</td>
</tr>
<tr>
<td>Lipemia</td>
<td>NA</td>
</tr>
<tr>
<td>Icterus</td>
<td>NA</td>
</tr>
<tr>
<td>Other</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Reference Values**

Reference ranges have not been established for food-specific IgG tests. The clinical utility of food-specific IgG tests has not been established. These tests can be used in special clinical situations to select foods for evaluation by diet elimination and challenge in patients who have food-related complaints. It should be recognized that the presence of food-specific IgG alone cannot be taken as evidence of food allergy and only indicates immunologic sensitization by the food allergen in question. This test should only be ordered by physicians who recognize the limitations of the test.

**Day(s) and Time(s) Performed**
Monday through Friday

**Test Classification**
This test was developed and its performance characteristics determined by Viracor Eurofins. It has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
86001

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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<tbody>
<tr>
<td>FWHTG</td>
<td>Wheat IgG</td>
<td>35537-0</td>
</tr>
</tbody>
</table>

---

**WHEY  Whey IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Serum**

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
68418
<table>
<thead>
<tr>
<th>Container</th>
<th>Serum gel or red top tube</th>
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</thead>
<tbody>
<tr>
<td><strong>ASH</strong> White Ash Tree IgE</td>
<td></td>
</tr>
<tr>
<td><strong>Contracted Reference Lab</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Collection Container</strong></td>
<td>Serum gel or red top tube</td>
</tr>
<tr>
<td>Serum</td>
<td></td>
</tr>
<tr>
<td><strong>Specimen Volume</strong></td>
<td>For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL</td>
</tr>
<tr>
<td><strong>Minimum Specimen Volume</strong></td>
<td>0.1 mL</td>
</tr>
<tr>
<td><strong>Transport Temperature</strong></td>
<td>Refrigerated</td>
</tr>
<tr>
<td><strong>Specimen Stability</strong></td>
<td>Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>ImmunoCAP</td>
</tr>
<tr>
<td><strong>Turnaround Time</strong></td>
<td>3-5 days</td>
</tr>
<tr>
<td><strong>CPT Code</strong></td>
<td>86003</td>
</tr>
<tr>
<td><strong>EMR Interface Order Code</strong></td>
<td>48455</td>
</tr>
<tr>
<td><strong>Container</strong></td>
<td>Serum gel or red top tube</td>
</tr>
</tbody>
</table>

| **WHBEAN** White Bean IgE |                                 |
| **Contracted Reference Lab** |                                 |
| **Collection Container** | Serum gel or red top tube      |
| Serum                |                                |
| **Specimen Volume** | For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL |
| **Minimum Specimen Volume** | 0.1 mL                     |
| **Transport Temperature** | Refrigerated                |
| **Specimen Stability** | Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days |
| **Methodology**     | ImmunoCAP                   |
| **Turnaround Time** | 3-5 days                    |
| **CPT Code**       | 86003                       |
| **EMR Interface Order Code** | 48515                    |

| **WTMUL** White Mulberry Tree IgE |                           |
| **Contracted Reference Lab** |                             |
| **Collection Container** | Serum gel or red top tube  |
| Serum                |                                |
| **Specimen Volume** | For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL |
| **Minimum Specimen Volume** | 0.1 mL                     |
| **Transport Temperature** | Refrigerated               |
| **Specimen Stability** | Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days |
| **Methodology**     | ImmunoCAP                  |
| **Turnaround Time** | 3-5 days                   |
| **CPT Code**       | 86003                      |
| **EMR Interface Order Code** | 00485                    |

<p>| <strong>WTPINE</strong> White Pine Tree IgE |                          |
| <strong>Contracted Reference Lab</strong> |                             |
| <strong>Collection Container</strong> | Serum gel or red top tube  |
| Serum                |                                |
| <strong>Specimen Volume</strong> | For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL |
| <strong>Minimum Specimen Volume</strong> | 0.1 mL                     |
| <strong>Transport Temperature</strong> | Refrigerated               |
| <strong>Specimen Stability</strong> | Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days |
| <strong>Methodology</strong>     | ImmunoCAP                  |
| <strong>Turnaround Time</strong> | 3-5 days                   |
| <strong>CPT Code</strong>       | 86003                      |
| <strong>EMR Interface Order Code</strong> | 49320                    |</p>
<table>
<thead>
<tr>
<th>Container</th>
<th>Serum gel or red top tube</th>
</tr>
</thead>
</table>

**WFHORN**  *White-Faced Hornet IgE*

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen**
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
48855

**Container**
Serum gel or red top tube

---

**WILFSH**  *Williams FISH*

*Mayo Medical Laboratories*

**Additional Information**
Do not refrigerate sample

**Collection Container**
Green (Sodium Heparin)

**Peripheral Blood**

**Special Handling Instructions**
Send to Referral Laboratory with copy of ordering requisition.

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Ambient

**Specimen Stability**
Stable at ambient temperature

**Reasons for Rejection**
Incorrect tube, insufficient quantity

**Methodology**
Fluorescent in-situ hybridization

---

**WHFSH**  *Wolf Hirschorn FISH*

*Mayo Medical Laboratories*

**Additional Information**
Do not refrigerate sample.

**Collection Container**
Green (Sodium Heparin)

**Peripheral Blood**

**Special Handling Instructions**
Send to Referral Laboratory with copy of ordering requisition.

**Specimen Volume**
5 mL

**Minimum Specimen Volume**
2 mL

**Transport Temperature**
Ambient

---

**WILLOW**  *Willow Tree IgE*

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

**Specimen**
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86230, 86271, 88273

**EMR Interface Order Code**
69196

**Container**
Serum gel or red top tube

---
Specimen Stability
Stable at ambient temperature

Reasons for Rejection
Incorrect tubes, insufficient quantity

Methodology
Fluorescent in-situ hybridization

Turnaround Time
Preliminary results available after 4 - 5 days, final report within 7 - 10 days

Reference Ranges
Laboratory to provide interpretive report

CPT Code
88230, 88271, 88273

EMR Interface Order Code
69188

---

**WORM Wormwood IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube
Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmunoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
49330

**Container**
Serum gel or red top tube

---

**XYL25G Xylose 25gm**

*LabCorp*

**Important Note**
For use with adults or patients collecting blood and urine samples. Outpatient testing is scheduled through Diagnostic Scheduling (794-4222)

**Patient Instructions**
Patient should be fasting at least 8 hours before procedure

---

**Collection Container**
Jug
5 Hour Urine

**Special Handling Instructions**
Draw plasma 2 hours after dose.

**Specimen Volume**
20 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Urine: Room temperature, Plasma: Refrigerated

**Methodology**
Spectrometry

**Units of Measure**
Plasma: mg/dL, Urine: g/5hr

**CPT Code**
84620

**EMR Interface Order Code**
12200

**Container**
Serum gel or red top tube

---

**XYL5G Xylose 5 gm**

*LabCorp*

**Important Note**
For use on a pediatric patient with only a blood sample being collected. Outpatient testing is scheduled through Diagnostic Scheduling (794-4222)

**Patient Instructions**
Patient should be fasting for 6 hours prior to testing.

**Collection Container**
Gray
Plasma

**Special Handling Instructions**
Drawn 1 hour after dose

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.6 mL

**Transport Temperature**
Refrigerate

**Reasons for Rejection**
Not refrigerated

**Methodology**
Spectrometry

**Units of Measure**
mg/dL

**CPT Code**
84620

**EMR Interface Order Code**
12225
### YMCRO  Y Chromosome Microdeletion Analysis

**Collection Container**  
Lavender top (EDTA)

**Whole blood**

**Other Acceptable Specimen Types**  
Yellow top (ACD)

**Specimen Volume**  
3 mL

**Transport Temperature**  
Ambient

**Methodology**  
PCR

**CPT Code**  
81403

**EMR Interface Order Code**  
70592

---

### YLHORN  Yellow Hornet IgE

**Contracted Reference Lab**

**Collection Container**  
Serum gel or red top tube

**Serum**

**Specimen Volume**  
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**  
0.1 mL

**Transport Temperature**  
Refrigerated

**Specimen Stability**  
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**  
ImmunoCAP

**Turnaround Time**  
3-5 days

**CPT Code**  
86003

**EMR Interface Order Code**  
48850

**Container**  
Serum gel or red top tube

---

### EPZNC  Zinc Protoporphyrin, Blood

**Contracted Reference Lab**

**Additional Test Codes**  
EMR Interface Order Code: 07169

**Useful For**  
Evaluating iron deficiency

**Monitoring treatment and environmental intervention of chronic lead poisoning**

**Special Instructions**

- Lead and Heavy Metals Reporting
- Trace Metals Analysis Specimen Collection and Transport

**Method Name**  
Hematofluorometry

**Reporting Name**  
Zinc Protoporphyrin, Blood

**Specimen Type**  
Whole blood

**Patient Preparation:** High concentrations of gadolinium and iodine are known to interfere with most metals tests. If either gadolinium- or iodine-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Supplies:**

- Metal Free B-D Tube (EDTA), 6 mL (T183)
- Metal Free (Lead only) EDTA Tube, 3 mL (T615)
- Microtainer (EDTA) Tube, 0.5 mL (T174)

**- If ordering the EDTA trace element Vacutainer tube from BD, order catalog #368381.**

**Container/Tube:**

**Preferred:** Royal blue-top BD Vacutainer Plus with EDTA blood collection tube (T183)
Acceptable: Tan-top (lead only) BD Vacutainer Plus with EDTA blood collection tube (T615) or BD Microtainer with EDTA (T174) or royal blue-top Monoject trace element blood collection tube

Specimen Volume: 1 mL

Collection Instructions:
1. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.
2. Send specimen in original tube.

Specimen Minimum Volume
0.3 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Refrigerated</td>
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<td></td>
</tr>
</tbody>
</table>

Reject Due To

<table>
<thead>
<tr>
<th>Reason</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross hemolysis</td>
<td>Reject</td>
</tr>
<tr>
<td>Gross lipemia</td>
<td>Reject</td>
</tr>
</tbody>
</table>

Reference Values

<70 mcmol ZPP/mol heme

Day(s) and Time(s) Performed

Monday through Friday; 5 pm

Test Classification

This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

84202

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>NEZPP</td>
<td>Zinc Protoporphyrin, B</td>
<td>29763-0</td>
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<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
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</thead>
<tbody>
<tr>
<td>300009</td>
<td>Zinc Protoporphyrin, B</td>
<td>29763-0</td>
</tr>
</tbody>
</table>

Forms

1. Lead and Heavy Metals Reporting (T491) in Special Instructions
2. If not ordering electronically, complete, print, and send a Benign Hematology Test Request (T755) with the specimen.

EZNT8  Zinc Transporter 8 Antibody

Baystate Reference Laboratories

LOINC Code

76651-9

EMR Interface Order Code

70794

BZN  Zinc, Blood

LabCorp

Collection Container

Dark Blue (EDTA)
Metal Free Blood

Other Acceptable Specimen Types

Dark blue (serum)

Specimen Volume

2 mL

Minimum Specimen Volume

0.6 mL

Transport Temperature

Refrigerate

Specimen Stability

Room temperature: 14 days, Refrigerated: 14 days, Frozen: 14 days

Reasons for Rejection

Not in metal free tube, unspun royal blue tube, collected in a gel barrier tube.

Methodology

Inductively-coupled plasma/mass spectrometry

Turnaround Time

3 - 6 days

CPT Code

84630

LOINC Code

8245-3

EMR Interface Order Code

65105

ZCRBC  Zinc, RBC

LabCorp

Collection Container

Royal Blue top EDTA tube

Red cells

Centrifuge tube within 45 minutes and separate plasma from cells.
Discard the plasma. Submit red cells for testing.

Specimen Volume

Collect 6 mls whole blood

Minimum Specimen Volume

0.125 mL

Transport Temperature

Refrigerate

Specimen Stability

Room temp: 14 days
Refrigerated: 14 days

CPT Code

84630

EMR Interface Order Code

10615

ZN  Zinc, Serum

Mayo Clinic Laboratories in Rochester

Reporting Name

Zinc, S
Useful For
Detecting zinc deficiency

Specimen Type
Serum

Specimen Required

Patient Preparation: High concentrations of gadolinium, iodine, and barium are known to interfere with most metals tests. If gadolinium-, iodine-, or barium-containing contrast media has been administered, a specimen should not be collected for 96 hours.

Supplies:
- Metal Free B-D Tube (No Additive), 6 mL (T184)
- Metal Free Specimen Vial (T173)

Collection Container/Tube: 6-mL Plain, royal blue-top Vacutainer plastic trace element blood collection tube
Submission Container/Tube: 7-mL Mayo metal-free, screw-capped, polypropylene vial

Specimen Volume: 0.8 mL

Collection Instructions:
1. Allow the specimen to clot for 30 minutes after collection; then centrifuge the specimen to separate serum from the cellular fraction. Serum must be removed from cellular fraction within 4 hours of specimen collection. Avoid hemolysis.
2. Remove the stopper. Carefully pour specimen into a Mayo metal-free, polypropylene vial, avoiding transfer of the cellular components of blood. Do not insert a pipet into the serum to accomplish transfer, and do not ream the specimen with a wooden stick to assist with serum transfer.
3. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

Specimen Minimum Volume
0.2 mL

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td>METAL FREE</td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td>METAL FREE</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td>METAL FREE</td>
</tr>
</tbody>
</table>

Special Instructions
- Trace Metals Analysis Specimen Collection and Transport

Reference Values
0-10 years: 0.60-1.20 mcg/mL
≥11 years: 0.66-1.10 mcg/mL

Day(s) and Time(s) Performed
Monday; 2 p.m.
Tuesday through Friday; 5 p.m.
Saturday; 2 p.m.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
84630

LOINC Code Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZNS</td>
<td>Zinc, S</td>
<td>5763-8</td>
</tr>
</tbody>
</table>

Reject Due To

| Gross hemolysis | Reject |
| Gross lipemia  | OK     |
| Gross icterus  | Reject |

Method Name
Dynamic Reaction Cell-Inductively Coupled Plasma-Mass Spectrometry (DRC-ICP-MS)

Forms
If not ordering electronically, complete, print, and send a General Request (T239) with the specimen.

UZNQ Zinc, Urine, Quantitative

LabCorp

Collection Container
Jug

24 Hour urine

Special Handling Instructions
Do not use any preservatives in urine sample

Specimen Volume
5 mL

Minimum Specimen Volume
1.7 mL

Transport Temperature
Room temperature

Specimen Stability
Room temperature: 14 days, Refrigerated: 14 days, Frozen: 14 days

Methodology
Inductively-coupled plasma/mass spectrometry

Turnaround Time
5 - 10 days

CPT Code
84630

LOINC Code
5765-3

EMR Interface Order Code
10585

URZNR Zinc/Creatinine Ratio, Random, Urine

Mayo Clinic Laboratories in Rochester

Reporting Name
Zinc/Creat Ratio, Random, U

Useful For
Identifying the cause of abnormal serum zinc concentrations using a random urine specimen

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZNCR</td>
<td>Zinc/Creat Ratio, U</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>ODCR</td>
<td>Creatinine Conc</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Specimen Type
Urine

Specimen Required

**Patient Preparation:** High concentrations of barium are known to interfere with most metals tests. If barium-containing contrast media has been administered, a specimen should not be collected for 96 hours.

**Supplies:** Urine Tubes, 10 mL (T068)

**Collection Container/Tube:** Clean, plastic urine collection container with no metal cap or glued insert

**Submission Container/Tube:** Plastic urine tube or clean, plastic aliquot container with no metal cap or glued insert

**Specimen Volume:** 3 mL

Collection Instructions:
1. Collect a random urine specimen.
2. See Trace Metals Analysis Specimen Collection and Transport in Special Instructions for complete instructions.

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>28 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

**Specimen Minimum Volume**
0.7 mL

**Reference Values**
0-17 years: not established
≥18 years: 89-910 mcg/g Creatinine

**Day(s) and Time(s) Performed**
Tuesday, Thursday; 8 a.m.

**CPT Code Information**
84630 Zinc Concentration
82570 Creatinine Concentration

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZNCRU</td>
<td>Zinc/Creat Ratio, Random, U</td>
<td>13473-4</td>
</tr>
</tbody>
</table>

**Reject Due To**

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Method Name**
ZNCR: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
CDCR: Enzymatic Colorimetric Assay

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**ZIPRAS  Ziprasidone (Geodone, Zeldox)**

**Medtox Laboratories, Inc.**

**Reporting Name**
Ziprasidone

**Specimen Type**
Varies

**Specimen Required**

Submit only 1 of the following specimens

**Plasma**
Draw blood in a green-top (sodium heparin) tube(s), plasma gel tube is not acceptable. Spin down and send 2 mL sodium heparin plasma refrigerated in a plastic vial.

**Serum**
Draw blood in a plain red-top tube(s), serum gel tube is not acceptable. Spin down and send 2 mL of serum refrigerated in a plastic vial.

**Specimen Minimum Volume**
0.3 mL

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varies</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>180 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>72 hours</td>
<td></td>
</tr>
</tbody>
</table>

**Reference Values**

Units:  ng/mL

Expected plasma concentrations in patients taking Recommended Daily Dosages: Up to 220 ng/mL

**Day(s) and Time(s) Performed**
Monday through Sunday

**CPT Code Information**
80342

**LOINC Code Information**

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FZIP</td>
<td>Ziprasidone</td>
<td>33946-5</td>
</tr>
</tbody>
</table>

**Reject Due To**

- Hemolysis: NA
- Lipemia: NA
- Icterus: NA
- Other: NA

**Method Name**

Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
**ZQOL  Zolpidem, Qnt, Urine**

*Contracted Reference Lab*

**Collection Container**
Urine cup or tube

Urine

**Specimen Volume**
1 mL

**Minimum Specimen Volume**
0.5 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
7 days

**Reasons for Rejection**
Preserved samples

**Days and Times Performed**
Daily

**Turnaround Time**
1 – 3 days

**CPT Code**
80368/80299

**EMR Interface Order Code**
70876

**Important Note**
This drug testing is for medical treatment only. Analysis was performed as non-forensic testing and these results should be used only by healthcare providers to render diagnosis or treatment, or to monitor progress of medical conditions.

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**FZCCE  Zucchini IgE**

*Contracted Reference Lab*

**Collection Container**
Serum gel or red top tube

Serum

**Specimen Volume**
For 1 allergen: 0.3 mL; for multiple allergens: 0.1 mL each plus 0.25 mL

**Minimum Specimen Volume**
0.1 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 30 days

**Methodology**
ImmuNoCAP

**Turnaround Time**
3-5 days

**CPT Code**
86003

**EMR Interface Order Code**
70552

**Container**
Serum gel or red top tube

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**ZONI  Zonisamide Level, Serum**

*Contracted Reference Lab*

**Collection Container**
Red top tube or Lavender (EDTA) top tube NO GEL TUBES; separate within 45 minutes

Serum or plasma

**Specimen Volume**
1.2 mL

**Minimum Specimen Volume**
0.4 mL

**Transport Temperature**
Refrigerated

**Specimen Stability**
Room temp: 14 days, Refrigerated: 14 days, Frozen: 14 days

**Reasons for Rejection**
Specimen drawn in Serum Gel

**CPT Code**
80203

**EMR Interface Order Code**
70796
Special Instructions & Forms
Policies
POLICY STATEMENTS

Animal Specimens
We do not accept animal specimens for laboratory testing.

Billing
Client—Each month you will receive an itemized invoice/statement which will indicate the date of service, patient name, CPT code, test name, and test charge. Payment terms are net 30 days. When making payment, please include our invoice number on your check to ensure proper credit to your account.

Patient—Mayo Clinic Laboratories does not routinely bill patient’s insurance; however, if you have made advanced arrangements to have Mayo Clinic Laboratories bill your patient's insurance, please include the following required billing information: responsible party, patient’s name, current address, zip code, phone number, Social Security number, and diagnosis code. Providing this information will avoid additional correspondence to your office at some later date. Please advise your patients that they will receive a bill for laboratory services from Mayo Clinic Laboratories for any personal responsibility after insurance payment. VISA® and MasterCard® are acceptable forms of payment.

Billing—CPT Coding
It is your responsibility to determine correct CPT codes to use for billing. While this catalog lists CPT codes in an effort to provide some guidance, CPT codes listed only reflect our interpretation of CPT coding requirements and are not necessarily correct. Particularly, in the case of a test involving several component tests, this catalog attempts to provide a comprehensive list of CPT codes for all of the possible components of the test. Only a subset of component tests may be performed on your specimen. You should verify accuracy of codes listed. Where multiple codes are listed, you should select codes for tests actually performed on your specimen. MAYO CLINIC LABORATORIES ASSUMES NO RESPONSIBILITY FOR BILLING ERRORS DUE TO RELIANCE ON CPT CODES LISTED IN THIS CATALOG. For further reference, please consult the CPT Coding Manual published by the American Medical Association. If you have any questions regarding use of a code, please contact your local Medicare carrier.

Business Continuity and Contingency Planning
In the event of a local, regional, or national disaster, Mayo Clinic and Mayo Clinic Laboratories’ performing sites have comprehensive contingency plans in place in each location to ensure that the impact on laboratory practice is minimized. With test standardization between our performing sites and medical practice locations throughout the country, we have worked to ensure that patient care will not be compromised.

Cancellation of Tests
Cancellations received prior to test setup will be honored at no charge. Requests received following test setup cannot be honored. A report will be issued automatically and charged appropriately.

Chain-of-Custody
Chain-of-custody, a record of disposition of a specimen to document who collected it, who handled it, and who performed the analysis, is necessary when results are to be used in a court of law. Mayo Clinic Laboratories has developed packaging and shipping materials that satisfy legal requirements for chain-of-custody. This service is only offered for drug testing.
Compliance Policies
Mayo Clinic Laboratories is committed to compliance with applicable laws and regulations such as the Clinical Laboratory Improvement Amendments (CLIA). Regulatory agencies that oversee our compliance include, but are not limited to, the Centers for Medicare and Medicaid Services (CMS), the Food and Drug Administration (FDA), and the Department of Transportation (DOT). Mayo Clinic Laboratories develops, implements, and maintains policies, processes, and procedures throughout our organization which are designed to meet relevant requirements. We expect clients utilizing our services will ensure their compliance with patient confidentiality, diagnosis coding, anti-kick back statutes, professional courtesy, CPT-4 coding, CLIA proficiency testing, and other similar regulatory requirements. Also see “Accreditation and Licensure,” “HIPAA Compliance,” and “Reportable Disease.”

Confidentiality of Results
Mayo Clinic Laboratories is committed to maintaining confidentiality of patient information. To ensure Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the College of American Pathologists (CAP) compliance for appropriate release of patient results, Mayo Clinic Laboratories has adopted the following policies:

Phone Inquiry Policy—One of the following unique identifiers will be required:
- Mayo Clinic Laboratories’ accession ID number for specimen; or
- Client account number from Mayo Clinic Laboratories along with patient name; or
- Client accession ID number interfaced to Mayo Clinic Laboratories; or
- Identification by individual that he or she is, in fact, “referring physician” identified on requisition form by Mayo Clinic Laboratories’ client

Under federal regulations, we are only authorized to release results to ordering physicians or health care providers responsible for the individual patient’s care. Third parties requesting results including requests directly from the patient are directed to the ordering facility. We appreciate your assistance in helping Mayo Clinic Laboratories preserve patient confidentiality. Provision of appropriate identifiers will greatly assist prompt and accurate response to inquiries and reporting.

Critical Values
The “Critical Values Policy” of the Department of Laboratory Medicine and Pathology (DLMP), Mayo Clinic, Rochester, Minnesota is described below. These values apply to Mayo Clinic patients as well as external clients of Mayo Clinic Laboratories. Clients should provide “Critical Value” contact information to Mayo Laboratory Inquiry to facilitate call-backs. To facilitate this process, a customized form is available at mayocliniclabs.com.

Definition of Critical Value—A critical value is defined as a value that represents a pathophysiological state at such variance with normal (expected values) as to be life-threatening unless something is done promptly and for which some corrective action could be taken.

Abnormals are Not Considered Critical Values—Most laboratory tests have established reference ranges, which represent results that are typically seen in a group of healthy individuals. While results outside these reference ranges may be considered abnormal, “abnormal” results and “critical values” are not synonymous. Analytes on the DLMP Critical Values List represent a subgroup of tests that meet the above definition.

Action Taken when a Result is Obtained that Exceeds the Limit Defined by the DLMP Critical Values List—In addition to the normal results reporting (eg, fax, interface), Mayo Clinic Laboratories’ staff telephone the ordering physician or the client-provided contact number within 60 minutes following laboratory release of the critical test result(s). In the event that contact is not made within the 60-minute period, we continue to telephone until the designated party is reached and the result is conveyed in compliance and adherence to the CAP.
Semi-Urgent Results—Semi-Urgent Results are defined by Mayo Clinic as those infectious disease-related results that are needed promptly to avoid potentially serious health consequences for the patient (or in the case of contagious diseases, potentially serious health consequences to other persons exposed to the patient) if not acknowledged and/or treated by the physician. While not included on the Critical Values List, this information is deemed important to patient care in compliance and adherence to the CAP.

To complement Mayo Clinic Laboratories’ normal reporting mechanisms (eg, fax, interface), Mayo Clinic Laboratories’ staff will telephone results identified as significant microbiology findings to the ordering facility within 2 hours following laboratory release of the result(s). In the event that contact is not made within the 2-hour period, we will continue to telephone until the responsible party is reached and the result is conveyed. In addition, in most instances, you will see the comment SIGNIFICANT RESULT appear on the final report.

For information regarding the Mayo Clinic Critical Value List, contact Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700 or visit mayocliniclabs.com.

Disclosures of Results
Under federal regulations, we are only authorized to release results to ordering physicians or other health care providers responsible for the individual patient’s care. Third parties requesting results, including requests directly from the patient, are directed to the ordering facility.

Extracted Specimens
Mayo Clinic Laboratories will accept extracted nucleic acid for clinical testing, provided it is an acceptable specimen source for the ordered test, if the isolation was performed in a CLIA-certified laboratory or a laboratory meeting equivalent requirements as determined by the CAP and/or the CMS.

Fee Changes
Fees are subject to change without notification and complete pricing per accession number is available once accession number is final. Specific client fees are available by calling Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700 or by visiting mayocliniclabs.com.

Framework for Quality
“Framework for Quality” is the foundation for the development and implementation of the quality program for Mayo Clinic Laboratories. Our framework builds upon the concepts of quality control and quality assurance providing an opportunity to deliver consistent, high-quality and cost-effective service to our clients. In addition, our quality program enhances our ability to meet and exceed the requirements of regulatory/ accreditation agencies and provide quality service to our customers.

A core principle at Mayo Clinic Laboratories is the continuous improvement of all processes and services that support the care of patients. Our continuous improvement process focuses on meeting the needs of you, our client, to help you serve your patients.

“Framework for Quality” is composed of 12 “Quality System Essentials.” The policies, processes, and procedures associated with the “Quality System Essentials” can be applied to all operations in the path of workflow (eg, pre-analytical, analytical, and post-analytical). Performance is measured through constant monitoring of activities in the path of workflow and comparing performance through benchmarking internal and external quality indicators and proficiency testing.

Data generated by quality indicators drives process improvement initiatives to seek resolutions to system-wide problems. Mayo Clinic Laboratories utilizes “Failure Modes and Effects Analysis (FMEA),” “Plan Do Study Act (PDSA),” “LEAN,” “Root Cause Analysis,” and “Six Sigma” quality improvement tools to determine appropriate remedial, corrective, and preventive actions.
**Quality Indicators**—Mayo Clinic Laboratories produces hundreds of Key Performance Indicators for our business and operational areas, and we review them regularly to ensure that we continue to maintain our high standards. A sampling of these metrics includes:

- **Pre-analytic performance indicators**
  - Lost specimens*
  - On-time delivery
  - Special handling calls
  - Specimen acceptability*
  - Specimen identification*
  - Incoming defects*

- **Analytic performance indicators**
  - Proficiency testing
  - Quality control
  - Turnaround (analytic) times
  - Quantity-not-sufficient (QNS) specimens*

- **Post-analytic performance indicators**
  - Revised reports*
  - Critical value reports*

- **Operational performance indicators**
  - Incoming call resolution*
  - Incoming call abandon rate
  - Call completion rate
  - Call in-queue monitoring
  - Customer complaints
  - Customer satisfaction surveys

The system provides a planned, systematic program for defining, implementing, monitoring, and evaluating our services.

*Measured using Six Sigma defects per million (dpm) method.

**HIPAA Compliance**

Mayo Clinic Laboratories is fully committed to compliance with all privacy, security, and electronic transaction code requirements of the Health Insurance Portability and Accountability Act of 1996 (HIPAA). All services provided by Mayo Clinic Laboratories that involve joint efforts will be done in a manner which enables our clients to be HIPAA and the College of American Pathologists (CAP) compliant.

**Infectious Material**

The Centers for Disease Control (CDC) in its regulations of July 21, 1980, has listed organisms and diseases for which special packaging and labeling must be applied. Required special containers and packaging instructions can be obtained from us by using the “Request for Supplies” form or by ordering from the online Supply Catalog at mayocliniclabs.com/customer-service/supplies/index.php.

Shipping regulations require that infectious substances affecting humans be shipped in a special manner. See “Infectious Material.” A copy of the regulations can be requested from the International Air Transport Association (IATA); they may be contacted by phone at 514-390-6770 or by fax at 514-874-2660.

**Informed Consent Certification**

Submission of an order for any tests contained in this catalog constitutes certification to Mayo Clinic Laboratories by ordering physician that: (1) ordering physician has obtained “Informed Consent” of subject patient as required by any applicable state or federal laws with respect to each test ordered; and (2) ordering physician has obtained from subject patient authorization permitting Mayo Clinic Laboratories to report results of each test ordered directly to ordering physician.
On occasion, we forward a specimen to an outside reference laboratory. The laws of the state where the reference laboratory is located may require written informed consent for certain tests. Mayo Clinic Laboratories will request that ordering physician pursue and provide such consent. Test results may be delayed or denied if consent is not provided.

**Non-Biologic Specimens**
Due to the inherent exposure risk of non-biologic specimens, their containers, and the implied relationship to criminal, forensic, and medico-legal cases, Mayo Clinic Laboratories does not accept nor refer non-biologic specimen types. Example specimens include: unknown solids and liquids in the forms of pills, powder, intravenous fluids, or syringe contents.

**Patient Safety Goals**
One of The Joint Commission National Patient Safety goals for the Laboratory Services Program is to improve the accuracy of patient identification by using at least 2 patient identifiers when providing care, treatment, or services.

Mayo Clinic Laboratories uses multiple patient identifiers to verify the correct patient is matched with the correct specimen and the correct order for the testing services. As a specimen is received at Mayo Clinic Laboratories, the client number, patient name, and patient age date of birth are verified by comparing the labels on the specimen tube or container with the electronic order and any paperwork (batch sheet or form) which may accompany the specimen to be tested. When discrepancies are identified, Mayo Laboratory Inquiry will call the client to verify discrepant information to assure Mayo Clinic Laboratories is performing the correct testing for the correct patient. When insufficient or inconsistent identification is submitted, Mayo Clinic Laboratories will recommend that a new specimen be obtained, if feasible.

In addition, Anatomic Pathology consultation services require the Client Pathology Report. The pathology report is used to match the patient name, patient age and/or date of birth, and pathology case number. Since tissue blocks and slides have insufficient space to print the patient name on the block, the pathology report provides Mayo Clinic Laboratories another mechanism to confirm the patient identification with the client order and labels on tissue blocks and slides.

**Parallel Testing**
Parallel testing may be appropriate in some cases to re-establish patient baseline results when converting to a new methodology at Mayo Clinic Laboratories. Contact your Regional Manager at 800-533-1710 or 507-266-5700 for further information.

**Proficiency Testing**
We are a College of American Pathologists (CAP)-accredited, CLIA-licensed facility that voluntarily participates in many diverse external and internal proficiency testing programs. It is Mayo Clinic Laboratories’ expectation that clients utilizing our services will adhere to CLIA requirements for proficiency testing (42 CFR 493.801), including a prohibition on discussion about samples or results and sharing of proficiency testing materials with Mayo Clinic Laboratories during the active survey period.

Mayo Clinic Laboratories’ proficiency testing includes participation in CMS-approved programs. Mayo Clinic Laboratories also performs alternative assessment using independent state, national, and international programs when proficiency testing is not available. Mayo Clinic Laboratories also conducts comparability studies to ensure the accuracy and reliability of patient testing, when necessary. We comply with the regulations set forth in Clinical Laboratory Improvement Amendments (CLIA-88), the Occupational Safety and Health Administration (OSHA), or the Centers for Medicare & Medicaid Services (CMS).

It is Mayo Clinic Laboratories’ expectation that clients utilizing our services will adhere to CLIA requirements for proficiency testing including a prohibition on discussion about samples or results and sharing of proficiency
testing materials with Mayo Clinic Laboratories during the active survey period. Referring of specimens is acceptable for comparison purposes when an approved proficiency-testing program is not available for a given analyte.

**Radioactive Specimens**
Specimens from patients receiving radioactive tracers or material should be labeled as such. All incoming shipments arriving at Mayo Clinic Laboratories are routed through a detection process in receiving to determine if the samples have any levels of radioactivity. If radioactive levels are detected, the samples are handled via an internal process that assures we do not impact patient care and the safety of our staff. This radioactivity may invalidate the results of radioimmunoassays (RIA).

**Record Retention**
Mayo Clinic Laboratories retains all test requisitions and patient test results at a minimum for the retention period required to comply with and adhere to the CAP. A copy of the original report can be reconstructed including reference ranges, interpretive comments, flags, and footnotes with the source system as the Department of Laboratory Medicine’s laboratory information system.

**Referral of Tests to Another Laboratory**
Mayo Clinic Laboratories forwards tests to other laboratories as a service to its clients. This service should in no way represent an endorsement of such test or referral laboratory or warrant any specific performance for such test. Mayo Clinic Laboratories will invoice for all testing referred to another laboratory at the price charged to Mayo Clinic Laboratories. In addition, Mayo Clinic Laboratories will charge an administrative fee per test for such referral services.

**Reflex Testing**
Mayo Clinic Laboratories identifies tests that reflex when medically appropriate. In many cases, Mayo Clinic Laboratories offers components of reflex tests individually as well as together. Clients should familiarize themselves with the test offerings and make a decision whether to order a reflex test or an individual component. Clients, who order a reflex test, can request to receive an “Additional Testing Notification Report” which indicates the additional testing that has been performed. This report will be faxed to the client. Clients who wish to receive the “Additional Testing Notification Report” should contact their Regional Manager or Regional Service Representative.

**Reportable Disease**
Mayo Clinic Laboratories, in compliance with and adherence to the College of American Pathologists (CAP) Laboratory General Checklist (CAP GEN. 20373) strives to comply with laboratory reporting requirements for each state health department regarding reportable disease conditions. We report by mail, fax, and/or electronically, depending upon the specific state health department regulations. Clients shall be responsible for compliance with any state specific statutes concerning reportable conditions, including, but not limited to, birth defects registries or chromosomal abnormality registries. This may also include providing patient address/demographic information. Mayo Clinic Laboratories’ reporting does not replace the client or physician responsibility to report as per specific state statutes.

**Request for Physician Name and Number**
Mayo Clinic Laboratories endeavors to provide high quality, timely results so patients are able to receive appropriate care as quickly as possible. While providing esoteric reference testing, there are times when we need to contact the ordering physician directly. The following are 2 examples:

When necessary to the performance of a test, the ordering physician’s name and phone number are requested as part of “Specimen Required.” This information is needed to allow our physicians to make timely consultations or seek clarification of requested services. If this information is not provided at the time of specimen receipt, we will call you to obtain the information. By providing this information up front, delays in patient care are avoided.
In some situations, additional information from ordering physician is necessary to clarify or interpret a test result. At that time, Mayo Clinic Laboratories will request physician’s name and phone number so that one of our staff can consult with the physician.

We appreciate your rapid assistance in supplying us with the ordering physician’s name and phone number when we are required to call. Working together, we can provide your patients with the highest quality testing services in the shortest possible time.

Special Handling
Mayo Clinic Laboratories serves as a reference laboratory for clients around the country and world. Our test information, including days and time assays are performed as well as analytic turnaround time, is included under each test listing in the Test Catalog on mayocliniclabs.com. Unique circumstances may arise with a patient resulting in a physician request that the specimen or results receive special handling. There are several options available. These options can only be initiated by contacting Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700 and providing patient demographic information.

There is a nominal charge associated with any special handling.

- **Hold**: If you would like to send us a specimen and hold that specimen for testing pending initial test results performed at your facility, please call Mayo Laboratory Inquiry. We will initiate a hold and stabilize the specimen until we hear from you.
- **Expedite**: If you would like us to expedite the specimen to the performing laboratory, you can call Mayo Laboratory Inquiry and request that your specimen be expedited. Once the shipment is received in our receiving area, we will deliver the specimen to the performing laboratory for the next scheduled analytic run. We will not set up a special run to accommodate an expedite request.
- **STAT**: In rare circumstances, STAT testing from the reference laboratory may be required for patients who need immediate treatment. These cases typically necessitate a special analytic run to turn results around as quickly as possible. To arrange STAT testing, please have your pathologist, physician, or laboratory director call Mayo Laboratory Inquiry. He/she will be connected with one of our medical directors to consult about the patient’s case. Once mutually agreed upon that there is a need for a STAT, arrangements will be made to assign resources to run the testing on a STAT basis when the specimen is received.

Specimen Identification Policy
In compliance with and adherence to the CAP and the Joint Commission’s 2008 Patient Safety Goals (1A), Mayo Clinic Laboratories’ policy states that all specimens received for testing must be correctly and adequately labeled to assure positive identification. Specimens must have 2 person-specific identifiers on the patient label. Person-specific identifiers may include: accession number, patient’s first and last name, unique identifying number (eg, medical record number), or date of birth. Specimens are considered mislabeled when there is a mismatch between the person-specific identifiers on the specimen and information accompanying the specimen (eg, computer system, requisition form, additional paperwork).

When insufficient or inconsistent identification is submitted, Mayo Clinic Laboratories will recommend that a new specimen be obtained, if feasible.

Specimen Rejection
All tests are unique in their testing requirements. To avoid specimen rejection or delayed turnaround times, please check the “Specimen Required” field within each test. You will be notified of rejected or problem specimens upon receipt.

Please review the following conditions prior to submitting a specimen to Mayo Clinic Laboratories:

- Full 24 hours for timed urine collection
• pH of urine
• Lack of hemolysis/lipemia
• Specimen type (plasma, serum, whole blood, etc.)
• Specimen volume
• Patient information requested
• Proper identification of patient/specimen
• Specimen container (metal-free, separation gel, appropriate preservative, etc.)
• Transport medium
• Temperature (ambient, frozen, refrigerated)

**Specimen Volume**
The “Specimen Required” section of each test includes 2 volumes - preferred volume and minimum volume. Preferred volume has been established to optimize testing and allows the laboratory to quickly process specimen containers, present containers to instruments, perform test, and repeat test, if necessary. Many of our testing processes are fully automated; and as a result, this volume allows hands-free testing and our quickest turnaround time (TAT). Since patient values are frequently abnormal, repeat testing, dilutions, or other specimen manipulations often are required to obtain a reliable, reportable result. Our preferred specimen requirements allow expeditious testing and reporting.

When venipuncture is technically difficult or the patient is at risk of complications from blood loss (eg, pediatric or intensive care patients), smaller volumes may be necessary. Specimen minimum volume is the amount of sample necessary to provide a clinical relevant result as determined by the Testing Laboratory.

When patient conditions do not mandate reduced collection volumes, we ask that our clients submit preferred volume to facilitate rapid, cost-effective, reliable test results. Submitting less than preferred volume may negatively impact quality of care by slowing TAT, increasing the hands-on personnel time (and therefore cost) required to perform test.

Mayo Clinic Laboratories makes every possible effort to successfully test your patient’s specimen. If you have concerns about submitting a specimen for testing, please call Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700. Our staff will discuss the test and specimen you have available. While in some cases specimens are inadequate for desired test, in other cases, testing can be performed using alternative techniques.

**Supplies**
Shipping boxes, specimen vials, special specimen collection containers, and request forms are supplied without charge. Supplies can be requested using one of the following methods: use the online ordering functionality available at mayocliniclabs.com/supplies or call Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700.

**Test Classifications**
Analytical tests offered by Mayo Clinic Laboratories are classified according to the FDA labeling of the test kit or reagents and their usage. Where appropriate, analytical test listings contain a statement regarding these classifications, test development, and performance characteristics.

**Test Development Process**
Mayo Clinic Laboratories serves patients and health care providers from Mayo Clinic, Mayo Health System, and our reference laboratory clients worldwide. We are dedicated to providing clinically useful, cost-effective testing strategies for patient care. Development, validation, and implementation of new and improved laboratory methods are major components of that commitment.

Each assay utilized at Mayo Clinic, whether developed on site or by others, undergoes an extensive validation and performance documentation period before the test becomes available for clinical use. Validations follow a standard protocol that includes:
• Accuracy
• Precision
• Sensitivity
• Specificity and interferences
• Reportable range
• Specimen stability
• Specimen type comparisons, if applicable
• Urine preservative studies: stability at ambient, refrigerated, and frozen temperatures and with 7 preservatives; at 1, 3, and 7 days
• Comparative evaluation with current and potential methods, if applicable
• Reference intervals: reference intervals provided by Mayo Clinic Laboratories are derived from studies performed in our laboratories or adopted from the manufacturer package insert after internal verification. When reference intervals are obtained from other sources, the source is indicated in the “Reference Values” field.
• Workload recording
• Limitations of the assay
• Clinical utility and interpretation: written by Mayo Clinic medical experts, electronically available (MayoAccess™)

Test Result Call-Backs
Results will be phoned to a client when requested from the client (either on Mayo Clinic Laboratories’ request form or from a phone call to Mayo Clinic Laboratories from the client).

Time-Sensitive Specimens
Please contact Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700 prior to sending a specimen for testing of a time-sensitive nature. Relay the following information: facility name, account number, patient name and/or Mayo Clinic Laboratories’ accession number, shipping information (ie, courier service, FedEx®, etc.), date to be sent, and test to be performed. Place specimen in a separate Mayo Clinic Laboratories’ temperature appropriate bag. Please write “Expedite” in large print on outside of bag.

Turnaround Time (TAT)
Mayo Clinic Laboratories’ extensive test menu reflects the needs of our own health care practice. We are committed to providing the most expedient TAT possible to improve diagnosis and treatment. We consider laboratory services as part of the patient care continuum wherein the needs of the patient are paramount. In that context, we strive to fulfill our service obligations. Our history of service and our quality metrics will document our ability to deliver on all areas of service including TAT.

Mayo Clinic Laboratories defines TAT as the analytical test time (the time from which a specimen is received at the testing location to time of result) required. TAT is monitored continuously by each performing laboratory site within the Mayo Clinic Department of Laboratory Medicine and Pathology. For the most up-to-date information on TAT for individual tests, please visit us at mayocliniclabs.com or contact Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700.

Unlisted Tests
Mayo Clinic Laboratories does not list all available test offerings in the paper catalog. New procedures are developed throughout the year; therefore, some tests are not listed in this catalog. Although we do not usually accept referred tests of a more routine type, special arrangements may be made to provide your laboratory with temporary support during times of special need such as sustained instrumentation failure. For information about unlisted tests, please call Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700.