Test Catalog

OU MEDICAL CENTER Laboratory offers a listing of the clinical tests, as well as information regarding turn-around times, specimen requirements, reference ranges, patient requirements, etc in this test catalog. Microbiology testing follows the clinical listing. The test catalog is fully searchable via Adobe Reader's search functions (Adobe 5 or higher required). To search online for a test, click on the Search icon in the Adobe Reader Toolbar area....it looks like a pair of binoculars. Type the word or portion of the word that you would like to find and press the Enter key. Contact the Laboratory at (405)271-3260 to obtain further information.

<table>
<thead>
<tr>
<th><strong>[11DEHTXB2] 11-DEH THROMBOXANE B2/CREAT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen urine (random)</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Special urine collectin</td>
</tr>
<tr>
<td>tube (contact laboratory)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Chlorostat tablet must be</td>
</tr>
<tr>
<td>added within 4 hours of collection</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 9 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 6 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 5-10 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: &gt;1500 pg 11dhTxB2/mg creatinine</td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme linked immunosorbent</td>
</tr>
<tr>
<td>assay (ELISA)</td>
</tr>
<tr>
<td>CPT: 82570; 84431</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th><strong>[17HCS] UR 17 HYDROXYCORTICOSTEROIDS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen urine (24 hour</td>
</tr>
<tr>
<td>collection)</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Plastic urine container</td>
</tr>
<tr>
<td>acid) or &quot;P&quot; container (no preservative).</td>
</tr>
<tr>
<td>All drugs should be withheld for 72 hours</td>
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<tr>
<td>prior to collection, if possible</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 100 mL</td>
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<tr>
<td>MINIMUM VOLUME: 20 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0-1 year: 0.5-1.0 mg/24</td>
</tr>
<tr>
<td>hours</td>
</tr>
<tr>
<td>2-18 years: 1.0-5.6 mg/24 hours</td>
</tr>
<tr>
<td>&gt;18 years male: 3.0-10.0 mg/24 hours</td>
</tr>
<tr>
<td>&gt;18 years female: 2.0-8.0 mg/24 hours</td>
</tr>
<tr>
<td>OTHER NAMES: 17-OHCS, Urine; Porter-Silber</td>
</tr>
<tr>
<td>Chromogens, Urine</td>
</tr>
<tr>
<td>METHODOLOGY: Porter-Silber method (measures</td>
</tr>
<tr>
<td>tetrahydro derivatives of cortisone, cortisol, and</td>
</tr>
<tr>
<td>11-deoxy cortisol</td>
</tr>
<tr>
<td>CLINICAL USE: Adrenal function test useful</td>
</tr>
<tr>
<td>in evaluation of glucocorticoid production;</td>
</tr>
<tr>
<td>increased in ectopic ACTH syndrome, Cushing</td>
</tr>
<tr>
<td>syndrome and stress; decreased in Addison's disease, adrenogenital syndrome, pituitary insufficiency</td>
</tr>
<tr>
<td>CPT: 83941</td>
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</tbody>
</table>
**[17HYD] 17-Hydroxyprogesterone**

- **SPECIMEN REQUIRED:** Refrigerated serum or plasma
- **TUBE OR CONTAINER:** Red, Gold or Lavender (EDTA)
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL (this volume does not allow for repeat testing)
- **PEDIATRIC TEST INFO:** Order PED17HYD for pediatric testing to be performed by Esoterix
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-3 days
- **REFERENCE RANGE:** Age-specific
- **METHODOLOGY:** Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
- **CLINICAL USE:** Markedly elevated in patients with congenital adrenal hyperplasia (adrenogenital syndrome) due to 21-hydroxylase deficiency; evaluate hirsutism and/or infertility; assess certain adrenal or ovarian tumors with endocrine activity
- **CPT:** 83498

**[17KET24] UR 17 KETOSTEROIDS TOTAL**

- **SPECIMEN REQUIRED:** Refrigerated urine (24 hour collection)
- **TUBE OR CONTAINER:** Plastic urine container preservative) or "B" container (1 g/L boric acid).
  - If possible, all drugs should be held for 72 hours prior to and during collection
- **SPECIMEN VOLUME:** 100 mL

- **MINIMUM VOLUME:** 20 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** 0-4 years: 5-9 years: 10-12 years: 1-5 mg/24 hours
  - 12-14 years: 1-6 mg/24 hours
  - 14-16 years: Male: 3-13 mg/24 hours
    - Female: 2-8 mg/24 hours
  - >16 years: Male: 10-25 mg/24 hours
    - Female: 6-14 mg/24 hours
- **METHODOLOGY:** Drekter/Zimmerman modified reaction
- **CLINICAL USE:** Assess adrenal androgens
- **CPT:** 83586

**[17KETG24] UR 17 KETOGENIC STEROIDS**

- **SPECIMEN REQUIRED:** Refrigerated aliquot of 24 hour urine collection
  - If possible, all drugs should be held for 72 hours prior to and during collection of urine
- **TUBE OR CONTAINER:** Plastic urine container
- **SPECIAL HANDLING:** Collect urine in B container (1 g boric acid per liter of urine, added before collection)
- **SPECIMEN VOLUME:** 100 mL
MINIMUM VOLUME: 20 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
REFERENCE RANGE: 0-11 Months: < 1 mg/24 hours
1-10 years: < 5 mg/24 hours
11-14 years: < 12 mg/24 hours
14 Years-Adult: (Male) 5-23 mg/24 hours
(Female) 3-15 mg/24 hours
METHODOLOGY: Spectrophotometry
CLINICAL USE: Adrenal function test; increased with stress,
Cushing's syndrome, and some cases of
adrenogenital syndrome; decreased with Addison's
disease and hypopituitarism
CPT: 83582

### [17OHPPREG] 17-Hydroxy-Pregnenolone

SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat testing)
PEDIATRIC TEST INFO: Order PED17OHP for pediatric testing to be performed by Esoterix
TEST AVAILABILITY: Daily
REFERENCE RANGE: Male: 10-100 ng/dL
Female: 10-250 ng/dL
METHODOLOGY: Radioimmunoassay (RIA)
CPT: 84143

### [18OHDEOXY] 18-Hydroxy-Deoxycorticosterone

SPECIMEN REQUIRED: Frozen urine (24 hr)
TUBE OR CONTAINER: Sterile urine container
SPECIAL HANDLING:
SPECIMEN VOLUME: 5 ml
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME:
REFERENCE RANGE: < 12 ng/dL
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE:
CPT: 83519

### [21HYDAB] 21-Hydroxylase Antibody

SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIAL HANDLING: Separate serum or plasma from cells within 1 hour of collection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
**TURNAROUND TIME:** 2-9 days  
**METHODOLOGY:** Radioimmunoassay Immunoprecipitation  
**CPT:** 83519

### [24GENE] 24-NUCLEAR GENE PANEL

- **SPECIMEN REQUIRED:** Whole blood at room temperature  
- **TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)  
- **SPECIMEN VOLUME:** 5 mL  
- **MINIMUM VOLUME:** 1 mL  
- **TEST INCLUDES:**  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 8-10 weeks  
- **REFERENCE RANGE:** No mutation detected  
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)  
- **CPT:** 83891; 83900; 83901 x 75; 83909 x 74; 83903 x 3; 83912

### [3METHGLUTU] Urine 3-Methylglutaconic Acid

- **SPECIMEN REQUIRED:** Frozen urine  
- **TUBE OR CONTAINER:** Urine container  
- **SPECIMEN VOLUME:** 5 mL  
- **MINIMUM VOLUME:** 3 mL  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 6-9 days  
- **METHODOLOGY:** Gas Chromatography/Mass Spectrometry (GC/MS)  
- **CPT:** 82543

### [5FLUOR] 5-Fluorocytosine Level

- **SPECIMEN REQUIRED:** Frozen serum  
- **TUBE OR CONTAINER:** Red (no gel) or Lavender (EDTA)  
- **SPECIMEN VOLUME:** 2 mL  
- **MINIMUM VOLUME:** 1 mL  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 4-7 days  
- **OTHER NAMES:** 5FC; 5-Fluorouracil  
- **METHODOLOGY:** Bioassay  
- **CPT:** 80299

### [5HIAA] UR HYDROXYINDOLEACETIC ACID QT

- **SPECIMEN REQUIRED:** Refrigerated urine (24-hour collection)  
- **TUBE OR CONTAINER:** Plastic urine container  
- **SPECIAL HANDLING:** 24 hour urine collected in "P" container (no preservative);  
  boric acid may be added as a preservative for other tests without harm to 5-HIAA however, pH can not be less than 2  
- **SPECIMEN VOLUME:** 30 mL  
- **MINIMUM VOLUME:** 1 mL  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 2 days  
- **REFERENCE RANGE:** 0.0-14.9 mg/24 hours
OTHER NAMES: Serotonin Metabolite, Urine
METHODOLOGY: Liquid chromatography/Tandem Mass Spectrometry (LC-MS/MS)
CLINICAL USE: 5-HIAA is the major urinary metabolite of serotonin; both are produced in excess by most carcinoid tumors
CPT: 83947

### [5HIAARAN] HYdroxyIndoleAcetic Acid RANDo

| SPECIMEN REQUIRED: Refrigerated urine (random) |
| TUBE OR CONTAINER: Plastic urine container |
| SPECIMEN VOLUME: 1 mL |
| MINIMUM VOLUME: 0.3 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 2-3 days |
| REFERENCE RANGE: Pediatrics: |
| 0-3 years: 0.0-16.2 mg/g creatinine |
| 9-12 years: 0.0-8.7 mg/g creatinine |
| 13-18 years: 0.0-5.5 mg/g creatinine |
| > 18 years: 0.0-6.9 mg/g creatinine |
| METHODOLOGY: Liquid chromatography/Tandem Mass Spectrometry (LC-MS/MS) |
| CLINICAL USE: 5-HIAA is the major urinary metabolite of serotonin; both are produced in excess by most carcinoid tumors |
| CPT: 82570; 83947 |

### [68KD] Anti-68kD (hsp-70) Antibody

| SPECIMEN REQUIRED: Refrigerated or frozen serum |
| TUBE OR CONTAINER: Red or Gold |
| SPECIMEN VOLUME: 3 mL |
| MINIMUM VOLUME: 1 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 4-7 days |
| METHODOLOGY: Western Blot (WB) |
| CPT: 84182 |

### [6MP] PRO-PREDICT 6-MP

| SPECIMEN REQUIRED: Refrigerated whole blood |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIMEN VOLUME: 5 mL |
| MINIMUM VOLUME: 3 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 4-5 days |
| OTHER NAMES: 6-mercaptopurine |
| METHODOLOGY: High-pressure liquid chromatography (HPLC) |
| CLINICAL USE: Evaluation of patient response to 6-MP therapy, so therapeutic adjustments can be made |
| CPT: 80299 x 2 |
**[A1ADEF] ALPHA 1 ANTITRYPSIN DEFICIENCY**

SPECIMEN REQUIRED: Whole blood, amniotic fluid, CVS or buccal swab at room temperature  
TUBE OR CONTAINER: Lavender (EDTA), Yellow (ACD), sterile tube, T-25 flasks or buccal swab  
SPECIMEN VOLUME: 7 mL (blood)  
10 mL (amniotic fluid)  
20 mg CVS  
LabCorp buccal swab kit  
MINIMUM VOLUME: 3 mL (blood)  
5 mL (amniotic fluid)  
10 mg CVS  
2 buccal swabs  
TEST AVAILABILITY: Daily  
TURNAROUND TIME:  
METHODOLOGY: Multiplex allele-specific polymerase chain reaction (PCR) and gel electrophoresis  
CLINICAL USE: DNA-based determination of the two common alleles underlying alpha1-antitrypsin deficiency which is associated with chronic obstructive pulmonary disease (COPD) and childhood-onset liver disease.  
CPT: 83891; 83894; 83900; 83901 x 2; 83912

**[A1APH] ALPHA 1 ANTITRYPSIN PHENOTYPIN**

SPECIMEN REQUIRED: Refrigerated serum; overnight fast preferred  
TUBE OR CONTAINER: Red or gold  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 0.6 mL  
TEST INCLUDES: Alpha-1-Antitrypsin, total; and phenotype  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 1-2 days  
REFERENCE RANGE: Interpretation accompanies report  
OTHER NAMES: A1A Phenotyping; A1AT Phenotype; AAT Phenotype; Pi Phenotype; Protease Inhibitors  
METHODOLOGY: Phenotype: Isoelectric Focusing (IEF)  
Total: Immunologic  
CLINICAL USE: Definitive analysis of hereditary alpha-1-antitrypsin deficiency, which is associated with chronic obstructive pulmonary disease (COPD) (panacinar emphysema), hepatic cirrhosis, and hepatoma  
CPT: 82103; 82104

**[A1ASTL] Stool Alpha-1-Antitrypsin**

SPECIMEN REQUIRED: Frozen stool  
TUBE OR CONTAINER: Screw-cap container  
SPECIMEN VOLUME: 5 gram  
MINIMUM VOLUME: 1 gram  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-4 days
[A1GLY] Alpha-1-Acid Glycoprotein

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
REFERENCE RANGE: 47-125 mg/dL
METHODOLOGY: Nephelometry
CLINICAL USE: Decreased serum levels may be found in association with malnutrition, severe liver damage, and in women using estrogen-related oral contraceptives. Increased levels have been reported in conditions of acute and chronic inflammation, including myocardial infarction, rheumatoid arthritis, systemic lupus erythematosus, and malignancy
CPT: 82985

[ABACAV] HIV Abacavir Resistance

SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red or Light green (heparin)
SPECIAL HANDLING: Centrifuge and separate within 45 minutes of collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
OTHER NAMES: Ziagen
METHODOLOGY: Liquid Chromatography/Mass Spectrometry (LC/MS/MS)
CLINICAL USE: Monitor anti-viral drug
CPT: 80299

[ABCB4] PFIC3 (ABCB4 GENE) SEQUENCING

SPECIMEN REQUIRED: Whole blood room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-5 weeks
OTHER NAMES: Progressive Familial Intrahepatic Cholestasis (PFIC3); Multidrug resistance protein (MDR3)
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 2; 83898 x 25; 83904 x 50; 83909; 83912

[ABCC8] ABCC8 (CH) SEQUENCING

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING: Specimen must arrive in laboratory before 2:00 pm, Monday through Thursday only
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 3 weeks
OTHER NAMES: Congenital Hyperinsulinism DNA sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83898 x 38; 83904 x 38; 83909; 83912

<table>
<thead>
<tr>
<th>[ABG] ART BLOOD GAS W/MEAS O2 SAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood in heparinized syringe</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Heparinized syringe</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Transport immediately at room temp</td>
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<tr>
<td>Test should be performed within 30 minutes</td>
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<tr>
<td>SPECIMEN VOLUME: Adult: 2 mL</td>
</tr>
<tr>
<td>Pediatric: 0.5 mL</td>
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<tr>
<td>MINIMUM VOLUME: Adult: 1 mL</td>
</tr>
<tr>
<td>Pediatric: 0.3 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: pH, pCO2, pO2, HCO3, base excess, measured % saturation</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
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<tr>
<td>TURNAROUND TIME: 10 minutes</td>
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<tr>
<td>METHODOLOGY: Potentiometry</td>
</tr>
<tr>
<td>CLINICAL USE: Evaluate O2 and CO2 gas exchange, respiratory function including hypoxia and acid-base status</td>
</tr>
<tr>
<td>CPT: 82805</td>
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<table>
<thead>
<tr>
<th>[ACAD9] ACYL-CoA DEHYDROGENASE 9(ACAD9)</th>
</tr>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Must ship within 5 days of collection; Store refrigerated until time of shipment</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CLINICAL USE: Confirmation of a clinical diagnosis of ACAD9 deficiency; Assessment of prenatal cases</td>
</tr>
<tr>
<td>CPT: 83891; 83894; 83898 x 30; 83904 x 60; 83909 x 60; 83912</td>
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<table>
<thead>
<tr>
<th>[ACAT1] B-KETOThIOLASE DEF (ACAT1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 8-10 weeks</td>
</tr>
<tr>
<td>OTHER NAMES: B-Ketothiolase Deficiency; Alpha-Methylacetoacetic</td>
</tr>
</tbody>
</table>
Aciduria, Mitochondrial Acetoacetyl-CoA Thiolase Deficiency, or T2 Deficiency

METHODOLOGY: Bi-directional sequence analysis
CPT: 83891 x 14; 83892 x 2; 83894 x 14; 83898 x 28; 83904 x 28; 83912

**[ACCUT] Isotretinoin (Accutane) Level**

SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Red; Lavender (EDTA) or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube; Protect specimen from light (wrap in foil or place in an amber tube
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 ml
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-10 days
OTHER NAMES: Isotretinoin
METHODOLOGY: High Performance Liquid Chromatography (HPLC)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

**[ACE] Angiotensin Converting Enzyme**

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold icteric sample
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 48 hours
REFERENCE RANGE: 0-2 years: 5-83 U/L
3-7 years: 8-76 U/L
8-14 years: 6-89 U/L
>14 years: 8-52 U/L
METHODOLOGY: Kinetic
CLINICAL USE: High in sarcoidosis, more often when the disease is active; assessment of the response of sarcoidosis to corticosteroid therapy
CPT: 82164

**[ACECSF] CSF Angiotensin Converting Enzyme**

SPECIMEN REQUIRED: Frozen CSF
TUBE OR CONTAINER: Sterile conical/capped tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-7 days
REFERENCE RANGE: 0.0-2.5 U/L
METHODOLOGY: Spectrophotometry
CLINICAL USE: May be used to support the diagnosis of sarcoidosis or neurosarcoidosis
[ACEFLD]  ANGIOTENSIN CONVERTING ENZ FLD

SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
REFERENCE RANGE:
METHODOLOGY: Spectrophotometry
CLINICAL USE: High in sarcoidosis, more often when the disease is active; assessment of the response of sarcoidosis to corticosteroid therapy
CPT: 82164

[ACEID]  ACE POLYMORPH INSERTION/DELET

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-14 days
OTHER NAMES: Angiotensin Converting enzyme Insertion/Deletion
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898; 83912

[ACET]  Acetaminophen Level

SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIAL HANDLING: When evaluating for possible toxicity, a 4 to 6 post-ingestion sample should be drawn
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Therapeutic: 10-20 mg/L
Potentially toxic: >50 mg/L
OTHER NAMES: Datril; Excedrin; Liquiprin; Paracetamol; Tempra; Tylenol
METHODOLOGY: Immunoturbidimetric
CLINICAL USE: Monitor therapeutic drug levels; evaluate toxicity
CPT: 82003

[ACETAB]  Acetylcholine Receptor Antibody

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: No isotopes administered 24 hours prior to venipuncture
SPECIMEN VOLUME: 1 mL
**[ACETN] Acetone, Quantitative**

| SPECIMEN REQUIRED: Refrigerated serum |
| TUBE OR CONTAINER: Red or Gold |
| SPECIMEN VOLUME: 1 mL |
| MINIMUM VOLUME: 0.5 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 24 hours |
| REFERENCE RANGE: OTHER NAMES: Propanone; Dimethyl ketone |
| METHODOLOGY: Gas chromatography (GC) |
| CLINICAL USE: Primary use is to rule out Isopropanol or Acetone |
| CPT: 82010 |

**[ACH] ACHONDRROPLASIA**

| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIMEN VOLUME: 5 mL |
| MINIMUM VOLUME: 2 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 7-10 days |
| METHODOLOGY: Polymerase Chain Reactio (PCR) |
| CLINICAL USE: Confirm the nature of the dwarfism in an affected individual |
| CPT: 83890; 83892 x 2; 83894 x 2; 83898 x 3; 83912 |

**[ACIDLAB] Acid Labile Subunit IGF Bind Prot**

| SPECIMEN REQUIRED: Frozen serum |
| TUBE OR CONTAINER: Gold or Red |
| SPECIAL HANDLING: Separate within 45 minutes of collection |
| SPECIMEN VOLUME: 1 ml |
| MINIMUM VOLUME: 0.5 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 5-19 days |
| METHODOLOGY: Double antibody Radioimmunoassay (RIA) |
| CPT: 83519 |

**[ACIDLIP] ACID LIPASE**

| SPECIMEN REQUIRED: Whole blood on wet ice |
TUBE OR CONTAINER: Yellow (ACD)
SPECIAL HANDLING: Must be received in lab by 1:30 pm
Monday-Thursday only
SPECIMEN VOLUME: 10 ml
MINIMUM VOLUME: 7 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 3-21 days
REFERENCE RANGE: 55-600 pmol/min/mg protein
METHODOLOGY: Chloroform extraction
CPT: 82658

[ACPHOS]  Leukocyte Acid Phosphatase Stain

[ACTH]  Adrenocorticotropic Hormone
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Collect into iced tube and immerse in ice immediately after collection; plasma should be separated and frozen as soon as possible following collection; Specimen WILL be be rejected if not submitted on ice
CAUSE FOR REJECTION: Not received on ice.
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 1-3 Days
REFERENCE RANGE: 0-46 pg/mL
OTHER NAMES: ACTH; Adrenal Corticotropin; Corticotropin
METHODOLOGY: Immunochemiluminometric assay (ICMA)
CLINICAL USE: Pituitary function test useful in the differential diagnosis of Cushing's syndrome, ectopic ACTH syndrome (eg, carcinoma of lung, islet cell tumors, carcinoid tumors, medullary carcinoma of thyroid), Addison's disease, hypopituitarism, and ACTH- producing pituitary tumors
CPT: 82024

[ACVR1]  FOP VIA ACVR1 GENE
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 8 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 weeks
OTHER NAMES: Fibrodysplasia Ossificans Progressiva (FOP)
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83898 x 7; 83904 x 5; 83909 x 2; 83912

[ACYCL]  Acyclovir Level
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.7 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-9 days
OTHER NAMES: Zovirax
METHODOLOGY: High-Pressure Liquid Chromatography (HPLC)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

[ACYLC5ISO] Acylcarnitine Fractionation
SPECIMEN REQUIRED: Dried blood spots at room temperature
TUBE OR CONTAINER: Filter paper card
SPECIMEN VOLUME: 3 dried blood spots
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 days
METHODOLOGY: Ultrahigh Pressure Liquid Chromatography-Tandem Mass Spectrometry
CPT: 82017

[ACYLGQU] UR ACYLGLYCINES QUANT
SPECIMEN REQUIRED: Frozen urine (random)
TUBE OR CONTAINER: Plastic urine tube
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-8 days
REFERENCE RANGE: Ethylmalonic Acid: 0.5-20.2 ug/mg Creatinine
2-Methylsuccinic Acid: 0.4-13.8
Glutaric Acid: 0.6-15.2
Isobutyrylglycine: n-Butyrylglycine: 0.1-2.1
2-Methylbutyrylglycine: 0.3-7.5
Isovalerylglycine: 0.3-14.3
n-Hexanoylglycine: 0.2-1.9
n-Octanoylglycine: 0.1-2.1
3-Phenylpropionylglycine: Suberylglycine: trans-Cinnamoylglycine: 0.2-14.7
Dodecanedioic Acid (12:0): 0.1-1.1
Tetradecanedioic Acid (14:0): Hexadecanedioic Acid (16:0): METHODOLOGY: Gas Chromatography-Mass Spectrometry (GC-MS)
Stable Isotope Dilution Analysis
CPT: 82544

[ACYRES] ACYCLOVIR RESISTANCE
SPECIMEN REQUIRED: Actively growing isolate at room temperature
TUBE OR CONTAINER: Media tube
SPECIAL HANDLING: Fill tube with media and cap tightly
TEST AVAILABILITY: Daily
TURNAROUND TIME: 12-20 days
METHODOLOGY: Plaque reduction assay
### [AD] ALEXANDER DISEASE (GFAP GENE)

<table>
<thead>
<tr>
<th>Specimen Required</th>
<th>Whole blood or buccal swab at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or container</td>
<td>Lavender (EDTA) or swab</td>
</tr>
<tr>
<td>Specimen volume</td>
<td>5 mL</td>
</tr>
<tr>
<td>Minimum volume</td>
<td>3 mL</td>
</tr>
<tr>
<td>Test availability</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround time</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Other names</td>
<td>GFAP gene sequencing</td>
</tr>
<tr>
<td>Methodology</td>
<td>Bi-directional sequence analysis</td>
</tr>
<tr>
<td>Clinical use</td>
<td>Confirmation of clinical diagnosis; prenatal diagnosis</td>
</tr>
</tbody>
</table>

CPT: 83891 x 9; 83892 x 2; 83894 x 9; 83898 x 18; 83904 x 18; 83912

### [ADA] Adenosine Deaminase

<table>
<thead>
<tr>
<th>Specimen Required</th>
<th>Refrigerated serum or Pleural fluid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or container</td>
<td>Red or gold; screw-cap tube (fluids)</td>
</tr>
<tr>
<td>Specimen volume</td>
<td>1 mL</td>
</tr>
<tr>
<td>Minimum volume</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>Test availability</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround time</td>
<td>3-9 days</td>
</tr>
<tr>
<td>Reference range</td>
<td>Serum: 0-15.0 U/L</td>
</tr>
<tr>
<td></td>
<td>CSF: 0-5.0 U/L</td>
</tr>
<tr>
<td></td>
<td>Pleural fluid: 0 - 24.0 U/L</td>
</tr>
<tr>
<td>Methodology</td>
<td>Spectrophotometry</td>
</tr>
</tbody>
</table>

CPT: 84311

### [ADAFLD] Body Fluid Adenosine Deaminase

<table>
<thead>
<tr>
<th>Specimen Required</th>
<th>Frozen body fluid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or container</td>
<td>Sterile container</td>
</tr>
<tr>
<td>Specimen volume</td>
<td>0.3 mL</td>
</tr>
<tr>
<td>Minimum volume</td>
<td>0.1 mL</td>
</tr>
<tr>
<td>Test availability</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround time</td>
<td>2-5 days</td>
</tr>
<tr>
<td>Methodology</td>
<td>Spectrophotometry</td>
</tr>
</tbody>
</table>

CPT: 84311

### [ADAWB] Adenosine Deaminase

<table>
<thead>
<tr>
<th>Specimen Required</th>
<th>Refrigerated whole blood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or container</td>
<td>Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td>Specimen volume</td>
<td>4 mL</td>
</tr>
<tr>
<td>Minimum volume</td>
<td>2 mL</td>
</tr>
<tr>
<td>Test availability</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround time</td>
<td>3-12 days</td>
</tr>
<tr>
<td>Reference range</td>
<td>0.5 - 1.7 U/g Hgb</td>
</tr>
<tr>
<td>Methodology</td>
<td>Kinetic Spectrophotometry (KS)</td>
</tr>
</tbody>
</table>
REFLEX TEST INFORMATION:
CPT: 84311

<table>
<thead>
<tr>
<th>[ADB] Anti-DNase-B (Streptococcal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.4 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-4 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: &lt; 251 U/mL</td>
</tr>
<tr>
<td>OTHER NAMES: ADB; Streptodornase</td>
</tr>
<tr>
<td>METHODOLOGY: Neutralization</td>
</tr>
<tr>
<td>CLINICAL USE: Document recent streptococcal infection</td>
</tr>
<tr>
<td>CPT: 86215</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[ADENCSF] CSF Adenovirus Antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated CSF</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile CSF container</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 3-6 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: &lt; 1:1</td>
</tr>
<tr>
<td>METHODOLOGY: Complement fixation (CF)</td>
</tr>
<tr>
<td>CPT: 86603</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[ADENOAB] Adenovirus Antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Room temperature serum</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Acute and convalescent specimens must be submitted on separate test forms</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 3 Days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative: &lt; 1:8</td>
</tr>
<tr>
<td>METHODOLOGY: Complement fixation (CF)</td>
</tr>
<tr>
<td>CLINICAL USE: Serologic diagnosis of adenovirus infection</td>
</tr>
<tr>
<td>CPT: 86603</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[ADENPCR] Adenovirus DNA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>Other specimens: Bone marrow, tissue or BAL at room temperature</td>
</tr>
<tr>
<td>Frozen CSF</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>Sterile tube (Bronchial lavage, urine &amp; CSF)</td>
</tr>
<tr>
<td>Sterile tube w/saline (tissue)</td>
</tr>
</tbody>
</table>
Sodium heparin tube (bone marrow)
SPECIMEN VOLUME: 5 mL whole blood, 2 mL (bronchial lavage),
2 mL (bone marrow), 1 mL (CSF-frozen),
BAL fluid (room temp)

MINIMUM VOLUME: 3 mL whole blood, 1 mL (bronchial lavage),
1 mL (bone marrow), 0.3 mL (CSF-frozen),
BAL fluid (room temp)
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2 days
REFERENCE RANGE: Not detected
METHODOLOGY: Quantitative, Real-time PCR
CPT: 87799

[ADH] Anti-Diuretic Hormone

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Separate plasma immediately
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-8 days
REFERENCE RANGE: 1.0 - 13.3 pg/mL
OTHER NAMES: Vasopressin; Arginine Vasopressin
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: Aid in the diagnosis of urine concentration disorders, especially diabetes insipidus, syndrome of inappropriate ADH (SIADH), psychogenic water intoxication, and syndromes of ectopic ADH production
CPT: 84588

[ADIP] Adiponectin

SPECIMEN REQUIRED: Refrigerated serum plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIAL HANDLING: Centrifuge and separate immediately
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-9 days
METHODOLOGY: Enzyme linked immunosorbent assay (ELISA)
CPT: 83520

[ADRENALAB] Anti-Adrenal Antibody

SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
REFERENCE RANGE: Negative
OTHER NAMES: Antiadrenal Cortex Antibodies
METHODOLOGY: Indirect fluorescent antibody (IFA)
CLINICAL USE: Evaluate for adrenal insufficiency and Addison disease
CPT: 86256

[ADVISH]  ADENOVIRUS IN SITU HYBRIDIZ
SPECIMEN REQUIRED: Formalin fixed or paraffin embedded tissue
TUBE OR CONTAINER: Container
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
METHODOLOGY: In Situ Hybridization with Biotin-Labeled probes

[AFBCUL]  AFB Culture W/O Direct Smear
[AFBSENS]  AFB SENSITIVITY TESTING ONLY
[AFBSMDIR]  AFB Smear Direct
TEST AVAILABILITY: Daily
CLINICAL INFORMATION: AFB smear is included with all AFB cultures. Please do not order an AFB smear separately.

[AFPCSF]  CSF Tumor Marker Alpha Fetoprotein
SPECIMEN REQUIRED: Refrigerated or frozen CSF
TUBE OR CONTAINER: Sterile tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.7 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: < 0.5 ng/mL
METHODOLOGY: Immunochemiluminometric Assay (ICMA)
CLINICAL USE:
CPT: 83520

[AFPNTD]  AFP NEURAL TUBE DEFECT SCREEN
SPECIMEN REQUIRED: Refrigerated or frozen serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Alpha-fetoprotein and an interpretation
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 3-8 days
METHODOLOGY: Chemiluminescence
CLINICAL USE: Screening test for open neural tube defects
CPT: 82105

[AFPTETRA]  MATERNAL SCREEN QUAD MARKER
SPECIMEN REQUIRED: Refrigerated or frozen serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST INCLUDES: Alpha-fetoprotein, quantitative HCG, Inhibin A, unconjugated estriol and an interpretation
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 3-8 days
OTHER NAMES: AFP Quad marker screen
METHODOLOGY: Chemiluminescence
CLINICAL USE: Screening test for open neural tube defects
CPT: 82105, 84702, 82677, 86336

**[AFPTM] Tumor Marker Alpha Fetoprotein**

SPECIMEN REQUIRED: Frozen serum; avoid hemolysis
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: Daily - weekdays
REFERENCE RANGE: 0.6-6.7 ng/mL
Normal values apply only to males and to nonpregnant females. These results are not interpretable for pregnant females.
METHODOLOGY: Chemiluminescence
CLINICAL USE: Diagnosis of hepatocellular carcinoma
CPT: 82105

**[AFPTMFLD] Fluid Tumor Mark Alpha Fetoprotein**

SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Sterile tube
SPECIAL HANDLING: Specify source of fluid (amniotic fluid is not acceptable)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
METHODOLOGY: Enzyme Immunoassay (EIA)
CPT: 83520

**[AFPX] ALPHA FETOPROTEIN EXTRA**

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Gold
SPECIAL HANDLING: Centrifuge and submit whole tube; do not pour off; Additional information required includes: patient's age, date of LMP (or EDC or gestational age by ultrasound), race, estimated gestational age, weight, twin or singleton pregnancy, diabetic status
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST INCLUDES: AFP; HCG and unconjugated estriol (uE3)
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-7 days  
METHODOLOGY: Immunochemiluminometric assay (ICMA)  
CLINICAL USE: Screening test for open neural tube defects  
(detects 80% open spina bifida, 90% anencephaly),  
Down syndrome (detects 75% to 80%), and trisomy  
18 (detects 73%)  
CPT: 82105; 82677; 84702

<table>
<thead>
<tr>
<th>AGALACT</th>
<th>ALPHA GALACTOSIDASE LEUKOCYTES</th>
</tr>
</thead>
</table>
| SPECIMEN REQUIRED: Refrigerated whole blood  
TUBE OR CONTAINER: Yellow (ACD)  
SPECIAL HANDLING: Specimen must be received in the laboratory before 2:00 p.m. Monday-Thursday  
Sample must arrive at performing lab within 48 hours of collection  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 5 mL  
TEST AVAILABILITY: Monday-Thursday  
REFERENCE RANGE: 28.0-80.0 nmol/hour/mg protein  
OTHER NAMES: Fabry Disease  
METHODOLOGY: Determination of enzymatic activity with 4-methylumbelliferyl-a-D-galactopyranoside  
CLINICAL USE: Diagnose patients with Fabry disease  
CPT: 82657 |

<table>
<thead>
<tr>
<th>AGS</th>
<th>AICARDI-GOUTIERES SYNDROME</th>
</tr>
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</table>
| SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)  
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 pm, Sunday through Wednesday only  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Sunday-Wednesday  
REFERENCE RANGE: No mutation detected  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83891; 83894 x 26; 83898 x 13; 83904 x 26; 83912 |

<table>
<thead>
<tr>
<th>AGXTMUT</th>
<th>ALANINE:GLYOXYLATE AMINOTRANSF</th>
</tr>
</thead>
</table>
| SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)-whole blood  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2 weeks  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83890; 83892; 83894; 83898; 83912 |

<table>
<thead>
<tr>
<th>AH50</th>
<th>Complement CH50 Alternate Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum</td>
<td></td>
</tr>
</tbody>
</table>
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Separate from cells immediately after clot has formed
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 77 - 159
METHODOLOGY: Hemolysis assay
CPT: 86162

[AHO] ALBRIGHT HERED OSTEODYSTROPHY

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 weeks
OTHER NAMES: Martin-Albright syndrome; Pseudohypoparathyroidism type 1A; GNAS1 gene sequencing
METHODOLOGY: PCR amplification and DNA sequencing of exons 2-13 of the GNAS1 gene
CLINICAL USE: Detection of mutation in the GNAS1 gene
CPT: 83890; 83894 x 2; 83898 x 8; 83904 x 18; 83912

[AIRE] AUTOIMMUNE REGULATOR GENE(AIRE)

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6 weeks
METHODOLOGY: Bi-directional sequencing
REFLEX TEST INFORMATION: Tier 2 testing (the remainder of the gene) is available for patients who are negative with Tier 1
CPT: 83891 x 10; 83892 x 2; 83894 x 10; 83898 x 10; 83904 x 10; 83912

[AIS] ANDROGEN INSENS SYNDROME PANEL

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 pm Monday through Thursday only
Ship within 24 hours of collection
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2-3 weeks
METHODOLOGY: DNA Sequencing
CPT: 83891; 83894 x 42; 83898 x 21; 83904 x 42; 83912
### [AL] Aluminum Level

- **SPECIMEN REQUIRED:** Room temperature plasma (preferred) or serum
- **TUBE OR CONTAINER:** Royal Blue (EDTA) or Red
- **SPECIAL HANDLING:** Submit original unopened tube. Tube does not need to be spun down and plasma taken off. Serum from red-stopper tube should be transferred to a plastic transport tube within 45 minutes of collection.
- **SPECIMEN VOLUME:** 7 mL
- **MINIMUM VOLUME:** 0.6 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** Environmental exposure: 0-9 ug/L
  - Dialysis patients: Potentially toxic: >60 ug/L
- **METHODOLOGY:** Atomic absorption spectrometry (AAS)
- **CLINICAL USE:** Monitor exposure to aluminum
- **CPT:** 82108

### [ALAG1SEQ] ALAGILLE SEQUENCING (TIER 1)

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 5-7 weeks
- **OTHER NAMES:** JAG1 Gene sequencing
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83890; 83891; 83894; 83898 x 22; 83904 x 22; 83912

### [ALAGILLE] ALAGILLE SYNDROME (FISH)

- **SPECIMEN REQUIRED:** Fresh whole blood at room temperature
- **TUBE OR CONTAINER:** Dark Green (Sodium heparin)
- **SPECIAL HANDLING:** Specimen needs to be shipped same day that it is drawn to arrive w/in 48 hours
- **SPECIMEN VOLUME:** 5 mL (children/adults)
  - 2 mL (newborn < 3 months old)
- **MINIMUM VOLUME:** 3 mL (children/adults)
  - 0.5 mL (newborn < 3 months old)
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 10 working days
- **METHODOLOGY:** Fluorescence in situ hybridization (FISH)
- **REFLEX TEST INFORMATION:**
- **CPT:** 88230, 88271, 88273

### [ALARAN] Urine Delta Aminolevulinic Acid

- **SPECIMEN REQUIRED:** Frozen urine (random)
- **TUBE OR CONTAINER:** Urine container
- **SPECIAL HANDLING:** Acidify w/ 33% glacial acetic acid and protect from light (pH < 6)
- **SPECIMEN VOLUME:** 10 mL
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
REFERENCE RANGE: 0.0-5.4 mg/L  
OTHER NAMES: ALA, Random Urine; Aminolevulinic Acid, Random; Delta-ALA, Random; Delta Aminolevulinic Acid, Random  
METHODOLOGY: Column chromatography; Ehrlich's reagent  
CLINICAL USE: Diagnose porphyrias  
CPT: 82135

<table>
<thead>
<tr>
<th>ALB</th>
<th>Albumin</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated plasma or serum</td>
<td>TUBE OR CONTAINER: Light Green (heparin) or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME: 8 hours</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0-1 month: 2.6-3.6 gm/dl</td>
<td>1 month-10 years: 3.4-5.2 gm/dl</td>
</tr>
<tr>
<td>10 years+: 3.4-5.0 gm/dl</td>
<td>METHODOLOGY: Bromcresol purple (BCP)</td>
</tr>
<tr>
<td>CLINICAL USE: Aid in diagnosis and treatment of numerous diseases primarily involving the liver and/or kidneys</td>
<td>CPT: 82040</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ALBFL</th>
<th>Body Fluid Albumin</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated body fluid</td>
<td>TUBE OR CONTAINER: Sterile container</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Specify source of fluid</td>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 hours</td>
<td>REFERENCE RANGE: None established</td>
</tr>
<tr>
<td>METHODOLOGY: Bromcresol purple (BCP)</td>
<td>CPT: 82042</td>
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</table>

<table>
<thead>
<tr>
<th>ALBPL</th>
<th>Pleural Fluid Albumin</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated fluid</td>
<td>TUBE OR CONTAINER: Sterile container</td>
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<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME: 8 hours</td>
</tr>
<tr>
<td>REFERENCE RANGE: None established</td>
<td>METHODOLOGY: Bromcresol purple (BCP)</td>
</tr>
<tr>
<td>CPT: 82042</td>
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<table>
<thead>
<tr>
<th>ALBPT</th>
<th>Peritoneal Fluid Albumin</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated fluid</td>
<td>TUBE OR CONTAINER: Sterile container</td>
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<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME: 8 hours</td>
</tr>
<tr>
<td>REFERENCE RANGE: None established</td>
<td>METHODOLOGY: Bromcresol purple (BCP)</td>
</tr>
<tr>
<td>CPT: 82042</td>
<td></td>
</tr>
</tbody>
</table>
SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Bromcresol purple (BCP)
CPT: 82042

[ALBSF] CSF Albumin

SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile container
days
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 days
METHODOLOGY: Immunologic
CLINICAL USE: Evaluate the degree of permeability of the
blood-brain barrier
CPT: 82042

[ALC] Plasma/Serum Blood Alcohol

SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIAL HANDLING: Prepare draw site with betadine, not alcohol;
collect specimen in SST tube and do NOT open
after centrifuging
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 hours
REFERENCE RANGE: < 10 mg/dL
OTHER NAMES: Blood Alcohol Level; Blood Ethanol Level; Ethyl
Alcohol, Blood; EtOH
METHODOLOGY: Enzymatic rate
CLINICAL USE: Diagnose alcohol intoxication and determine
appropriate therapy
CPT: 82055

[ALCI] Isopropyl Alcohol Level, Quant

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Clean venipuncture site well with Betadine
(NOT alcohol) prior to collection. Mix tube
well after collection
Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: < 10 mg/dL
OTHER NAMES: Isopropyl alcohol; Isopropanol
METHODOLOGY: Gas chromatography (GC)
CPT: 84600

[ALCM] Methyl Alcohol Level, Quant

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: < 10 mg/dL = Not detected
OTHER NAMES: Methanol; Methyl Alcohol; Wood Alcohol; MEOH
METHODOLOGY: Gas chromatography (GC)
CPT: 84600

[ALDO] Aldolase

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold, Green (heparin) or Lavender (EDTA)
SPECIAL HANDLING: Separate serum or plasma immediately after coagulation (30 minutes); not removing refrigerated specimens from the clot results in aldolase levels 12% to 46% higher
CAUSE FOR REJECTION: Hemolysis (red cells contain aldolase)
SPECIMEN VOLUME: 2 mL (adult)
MINIMUM VOLUME: 0.5 mL (pediatric)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 Days
REFERENCE RANGE: 1.2 - 7.6 units/L
METHODOLOGY: Kinetic - 340 nm at 37 C
CLINICAL USE: Evaluate muscle wasting process
CPT: 82085

[ALDOS] Aldosterone

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIAL HANDLING: Patient preparation: No isotopes administered 24 hours prior to venipuncture. Patient should be in either supine or upright position 4 hours before and during blood drawing. If patient is on diuretics, antihypertensive drugs, cyclic progesterone, estrogens, or licorice, results for aldosterone may not be interpretable. Patient should be on a normal sodium diet 2-4 weeks (135 nmol or
3gm/sodium/day).
SPECIMEN VOLUME: 0.8 mL
MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat
testing)
PEDIATRIC TEST INFO: Order PEDALDOS for pediatric testing to be
performed by Esoterix
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 Days
REFERENCE RANGE: Adult: Average sodium diet:
Recumbent: 1.0-16.0 ng/dL
Standing: 4.0-31.0 ng/dL
Adrenal Vein: 200.0-800.0 ng/dL
Pediatric: 1-3 years: 5.0-60.0 ng/dL
4-7 years: 4.0-76.0 ng/dL
8-11 years: 3.0-28.0 ng/dL
12-16 years: 1.0-18.0 ng/dL
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: Evaluate patients with hypertension and possible
hyperaldosteronism
CPT: 82088

[ALDOSTM] UR ALDOSTERONE TIMED
SPECIMEN REQUIRED: Refrigerated aliquot (24 hour urine)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect urine in B container (1 g boric acid
per liter of urine, added before collection)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL (this volume does not allow for repeat
testing)
TEST AVAILABILITY: Daily
REFERENCE RANGE: Adults: Normal Diet: 2-21 ug/24 hours
Low Salt Diet: 17-44 ug/24 hours
High Salt Diet: < 14 ug/24 hours
Pediatrics: 0-1 month: 1-11 ug/24 hours
2-11 months: 1-22 ug/24 hours
1-15 years: 2-16 ug/24 hours
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: Study of adrenocortical-renin-angiotensin system;
adrenal cortical function test; evaluate renal
hypertension; diagnose Conn's syndrome (primary
aldosteronism); evaluate hypokalemia with
hypertension
CPT: 82088

[ALKP] Total Alkaline Phosphatase
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
**[ALKP] Bone Specific Alkaline Phosphatase**

- **SPECIMEN REQUIRED:** Frozen serum
- **TUBE OR CONTAINER:** Red or gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-4 days
- **OTHER NAMES:** Bone Alkaline Phosphatase (BAP); Ostase; Skeletal Alkaline Phosphatase (SALP)
- **METHODOLOGY:** Immunoradiometric assay (IRMA)
- **CLINICAL USE:** Aid in the management of patients with Paget disease and osteoporosis
- **CPT:** 84080

**[ALLAPP] Apple Allergen IgE Antibody**

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
<table>
<thead>
<tr>
<th>MINIMUM VOLUME: 0.5 mL</th>
<th>TEST AVAILABILITY: Daily</th>
<th>TURNAROUND TIME: 2-4 days</th>
<th>METHODOLOGY: Quantitative allergen-specific IgE test</th>
<th>CPT: 86003</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ALLAV] Avocado Allergen IgE Antibody</td>
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<tr>
<td>[ALLBAR] ALLERGEN BARLEY WHOLE GRAIN</td>
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<tr>
<td>[ALLBEK] Kidney Bean Allergen</td>
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<tr>
<td>[ALLBEL] Lima Bean Allergen</td>
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<tr>
<td>[ALLBEP] Pinto Bean Allergen</td>
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<tr>
<td>[ALLCAR] Carrot Allergen</td>
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<tr>
<td>[ALLCASHP] ALLERGEN TEST CASHEW PROFILE</td>
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<td>[ALLCHICK] ALLERGEN CHICKEN</td>
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<tr>
<td>[ALLCHICKP] Chickpea Allergen IgE Antibody</td>
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<tr>
<td>[ALLCOCKF] ALLERGEN COCKATIEL FEATHERS</td>
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<tr>
<td>[ALLCOCO] Coconut Allergen IgE Antibody</td>
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</tr>
<tr>
<td>[ALLEGGWHIGG] Egg White Allergen IgG Antibody</td>
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</tr>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
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<tr>
<td>TUBE OR CONTAINER: Gold or Red</td>
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<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
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<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
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<tr>
<td>TURNAROUND TIME: 2-5 days</td>
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<tr>
<td>CPT: 86001</td>
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<tr>
<td>[ALLEGGYIGG] Egg Yolk Allergen IgG Antibody</td>
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<td></td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
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<td></td>
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<tr>
<td>TUBE OR CONTAINER: Gold or Red</td>
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<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
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<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
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<td></td>
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<tr>
<td>TURNAROUND TIME: 2-5 days</td>
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<tr>
<td>CPT: 86001</td>
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<td></td>
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<tr>
<td>Specimen Required: Refrigerated serum</td>
<td>Tube or Container: Gold or Red</td>
<td>Specimen Volume: 1 mL</td>
<td>Minimum Volume: 0.5 mL</td>
<td>Test Availability: Daily</td>
</tr>
<tr>
<td>--------------------------------------</td>
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</tr>
</tbody>
</table>

**ALLMILKCIGG**  
Cow's Milk Allergen IgG4 Antibody

**ALLOP**  
Allopurinol & Metabolites

**ALLPEAGR**  
Allergen Pea Green

**ALLPEANIGG**  
Peanut Allergen IgG Antibody

**ALLPEAR**  
Pear Allergen
<table>
<thead>
<tr>
<th>Specimen</th>
<th>Description</th>
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<tbody>
<tr>
<td>[ALLPOTWH]</td>
<td><strong>ALLERGEN POTATO WHITE</strong></td>
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<tr>
<td>[ALLRICE]</td>
<td><strong>ALLERGEN RICE</strong></td>
</tr>
<tr>
<td>[ALLSAL]</td>
<td><strong>Salmon Allergen IgE Antibody</strong></td>
</tr>
<tr>
<td>[ALLSHELL]</td>
<td><strong>ALLERGEN SHELLFISH</strong></td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: Allergen test for clam, crab, shrimp, scallops, oyster and lobster</td>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative for each allergen</td>
<td>METHODOLOGY: Quantitative allergen-specific IgE test</td>
</tr>
<tr>
<td>CLINICAL USE: Detect possible specific IgE-mediated responses to various foods</td>
<td>CPT: 86003 x 6</td>
</tr>
<tr>
<td>[ALLSOYIGG]</td>
<td><strong>Soybean Allergen IgG Antibody</strong></td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td>TUBE OR CONTAINER: Gold or Red</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME: 2-5 days</td>
</tr>
<tr>
<td>CPT: 86001</td>
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<tr>
<td>[ALLSTAPHE]</td>
<td><strong>Allergen Specific IgE Antibody</strong></td>
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<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td>MINIMUM VOLUME: 0.2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME: 2-4 days</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>METHODOLOGY: Quantitative allergen-specific IgE test</td>
</tr>
<tr>
<td>CPT: 86003</td>
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<tr>
<td>[ALLSULF]</td>
<td><strong>Sulfamethoxazole Allergen IgE Ab</strong></td>
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<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td>TUBE OR CONTAINER: Red or Gold</td>
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<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME: 2-4 days</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td></td>
</tr>
</tbody>
</table>
**METHODOLOGY:** Quantitative allergen-specific IgE test  
CPT: 86003

### [ALLWAT] Watermelon Allergen

**SPECIMEN REQUIRED:** Serum or plasma at room temperature  
**TUBE OR CONTAINER:** Red, Lavender (EDTA) or Dark green (heparin)  
**SPECIAL HANDLING:** Do NOT collect specimen in gel barrier tube  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 1.5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 4-6 days  
**OTHER NAMES:** Xanax

### [ALP] Alprazolam (Xanax) Level

**SPECIMEN REQUIRED:** Serum or plasma at room temperature  
**TUBE OR CONTAINER:** Red, Lavender (EDTA) or Dark green (heparin)  
**SPECIAL HANDLING:** Do NOT collect specimen in gel barrier tube  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 1.5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 4-6 days  
**OTHER NAMES:** Xanax  
**METHODOLOGY:** High Performance Liquid Chromatography (HPLC)  
**CLINICAL USE:** Therapeutic drug monitoring  
CPT: 80154

### [ALPH1TR] Alpha-1-Antitrypsin

**SPECIMEN REQUIRED:** Refrigerated serum or plasma; overnight fasting is preferred  
**TUBE OR CONTAINER:** Red, Gold, Lavender (EDTA) or Green (heparin)  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 1-2 days  
**REFERENCE RANGE:** 90-200 mg/dL  
**OTHER NAMES:** A1-Antitrypsin; A1AT; AAT; Acute Phase Proteins; Alpha1-Protease Inhibitor  
**METHODOLOGY:** Immunological  
**CLINICAL USE:** Detection of hereditary decreases in the production of alpha1-antitrypsin (AAT)  
CPT: 82103

### [ALPH2PL] Alpha-2-Anti-Plasmin

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Blue (citrate)  
**SPECIMEN VOLUME:** 2 mL  
**MINIMUM VOLUME:** 1 mL  
**TEST AVAILABILITY:** Daily  
**METHODOLOGY:** Chromogenic  
CPT: 85410

### [ALPHA] Alpha Subunit Tumor Marker

**SPECIMEN REQUIRED:** Frozen serum (preferred) or plasma  
**TUBE OR CONTAINER:** Red, Gold, Green(heparin), or Lavender (EDTA)  
**SPECIAL HANDLING:** Separate and freeze immediately  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.3 mL  
**TEST AVAILABILITY:** Daily
TURNAROUND TIME: 2-9 days  
REFERENCE RANGE: Male: < 50 years: 0.0-0.8 mIU/mL  
> 50 years: 0.3-1.8 mIU/mL  
Female: premenopausal: 0.0-1.1 mIU/mL  
postmenopausal: 0.0-3.9 mIU/mL  
OTHER NAMES: Pituitary Glycoproteins, Alpha Subunit  
METHODOLOGY: Immunochemiluminometric assay (ICMA)  
CLINICAL USE: Tumor marker  
CPT: 83519

### [ALPHAG] ALPHA-GLOBIN GENE ANALYSIS

| SPECIMEN REQUIRED: Whole blood at room temperature; Refrigerated amniotic fluid or chorionic villus |
| TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)-whole blood |
| Sterile container (amniotic fluid) |
| SPECIMEN VOLUME: 5 mL whole blood |
| 20 mL amniotic fluid |
| MINIMUM VOLUME: 3 mL whole blood |
| 10 mL amniotic fluid |
| TEST AVAILABILITY: Daily |
| REFERENCE RANGE: Interpretive report |
| METHODOLOGY: Southern blot and polymerase chain reaction (PCR) |
| CPT: 83891, 83892 x 3, 83894 x 7, 83896 x 2, 83897 x 2, 83901, 83912 |

### [ALPHAL] Alpha-L-iduronidase (Hurler)

| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Yellow (ACD) |
| SPECIAL HANDLING: Do NOT freeze |
| SPECIMEN VOLUME: 10 mL |
| MINIMUM VOLUME: 5 mL |
| TEST AVAILABILITY: Monday-Thursday |
| METHODOLOGY: Spectrophotometry |
| CLINICAL USE: Screen for Hurler Syndrome |
| CPT: 82657 |

### [ALPHGLUC] Alpha-Glucosidase

| SPECIMEN REQUIRED: Fibroblasts at room temperature |
| TUBE OR CONTAINER: T-25 flasks |
| SPECIMEN VOLUME: 2 flasks |
| TEST AVAILABILITY: Daily |
| CPT: 82963 |

### [ALPORT] COMPLETE ALPORT SYNDROME

| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIAL HANDLING: Must be received in laboratory by 2:00 pm on day collected (Monday through Thursday only) |
| SPECIMEN VOLUME: 15 mL |
**MINIMUM VOLUME**: 7 mL  
**TEST INCLUDES**: COL4A3 DNA Sequencing Test, COL4A4 DNA Sequencing Test, COL4A5 Sequencing and Deletion Analysis  
**TEST AVAILABILITY**: Monday through Thursday  
**TURNAROUND TIME**: 2-8 weeks  
**METHODOLOGY**: DNA sequencing, Multiplex Ligation-dependent Probe Amplification  
**CPT**: 83891; 83896 x 55; 83898 x 151; 83900; 83901 x 53; 83904 x 151; 83909 x 4; 83914 x 55; 83912

### [ALPS1A] ALPS TYPE 1A (TNFRSF6 GENE)

- **SPECIMEN REQUIRED**: Whole blood at room temperature  
- **TUBE OR CONTAINER**: Lavender (EDTA)  
- **SPECIMEN VOLUME**: 5 mL  
- **MINIMUM VOLUME**: 2 mL  
- **TEST AVAILABILITY**: Daily  
- **TURNAROUND TIME**: 6 weeks  
- **OTHER NAMES**: Autoimmune Lymphoproliferative Syndrome  
- **METHODOLOGY**: Bi-directional sequence analysis  
- **CPT**: 83891 x 2; 83892 x 2; 83894 x 3; 83898 x 3; 83904 x 3; 83912

### [ALPSFL] ALPS BY FLOW CYTOMETRY

- **SPECIMEN REQUIRED**: Whole blood at room temperature  
- **TUBE OR CONTAINER**: Lavender (EDTA)  
- **SPECIAL HANDLING**: Must be shipped same day as collected. Must be received in laboratory by 1:30 PM Monday-Thursday only  
- **SPECIMEN VOLUME**: 3 mL  
- **MINIMUM VOLUME**: 1 mL  
- **TEST AVAILABILITY**: Monday-Thursday  
- **OTHER NAMES**: Autoimmune Lymphoproliferative Syndrome  
- **METHODOLOGY**: Flow Cytometry  
- **CPT**: 88184; 88185 x 8

### [ALT] Alanine Aminotransferase (ALT/SGPT)

- **SPECIMEN REQUIRED**: Refrigerated plasma or serum  
- **TUBE OR CONTAINER**: Light Green (heparin) or Gold  
- **SPECIMEN VOLUME**: 1 mL  
- **MINIMUM VOLUME**: 0.5 mL  
- **TEST AVAILABILITY**: Daily  
- **TURNAROUND TIME**: 8 hours  
- **REFERENCE RANGE**: 10 - 45 U/L  
- **OTHER NAMES**: ALT; Glutamic Pyruvate Transaminase; GPT; SGPT  
- **METHODOLOGY**: Kinetic rate  
- **CLINICAL USE**: Aid in the treatment and diagnosis of certain liver and heart diseases  
- **CPT**: 84460
### [ALU] Aluminum Urine

- **Specimen Required:** Urine at room temperature (random or 24-hour)
- **Tube or Container:** Urine container (No preservative)
- **Specimen Volume:** 5 mL
- **Minimum Volume:** 1.5 mL
- **Test Includes:** Aluminum, creatinine, Aluminum:creatinine ratio
- **Test Availability:** Daily
- **Reference Range:**
  - Environmental exposure: 5-30 ug/L 0-32 ug/24 hours
  - Aluminum:creatinine ratio: < 50 ug/g creatinine
  - Occupational exposure: 150 ug/g creatinine collected at end of shift
- **Methodology:** Atomic absorption spectrometry (AAS)
- **Clinical Use:** Monitor exposure to aluminum
- **CPT:** 82108; 82570

### [AMA] Anti-Mitochondrial Antibody

- **Specimen Required:** Refrigerated serum
- **Tube or Container:** Gold or Red
- **Specimen Volume:** 1 mL
- **Minimum Volume:** 0.5 mL
- **Test Availability:** Monday-Friday
- **Turnaround Time:** 1-2 days
- **Reference Range:** Negative
- **Other Names:** AMA; M2; Mitochondrial Antibody
- **Methodology:** Indirect Fluorescent Antibody (IFA)
- **Reflex Test Information:** If initial AMA screen is positive, a semiquantitive titer will be performed at an additional charge
- **Clinical Use:** Differential diagnosis of chronic liver disease and to provide confirmatory evidence for a diagnosis of primary biliary cirrhosis
- **CPT:** 86256

### [AMIKL] Random Amikacin Level

- **Specimen Required:** Refrigerated serum or plasma
- **Tube or Container:** Red or Dark Green (heparin)
- **Special Handling:** Do NOT use gel barrier tubes
- **Specimen Volume:** 1 mL
- **Minimum Volume:** 0.3 mL
- **Test Availability:** Daily
- **Turnaround Time:** 24 hours
- **Other Names:** Amikin
- **Methodology:** Immunoassay
- **Clinical Use:** Therapeutic drug monitoring
- **CPT:** 80150

### [AMIKP] Amikacin Level Peak

- **Specimen Required:** Refrigerated serum or plasma
- **Tube or Container:** Red or Dark Green (heparin)
- **Special Handling:** Peak samples should be drawn 60 minutes after
an IM injection, 30 minutes after the end of a
30 minute IV infusion, or immediately after a
60 minute infusion
Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Therapeutic Peak: 20.0-25.0 ug/mL
Potentially toxic: peak: >35.0 ug/mL
OTHER NAMES: Amikin
METHODOLOGY: Immunoassay
CLINICAL USE: Therapeutic drug monitoring
CPT: 80150

[AMIKT] Amikacin Level Trough

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Dark Green (heparin)
SPECIAL HANDLING: Trough (valley) levels should be collected
just prior to the administration of the next
dose of Amikacin
Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Therapeutic trough; 5.0-10.0 ug/mL
Potentially toxic: trough: >10.0 ug/mL
OTHER NAMES: Amikin
METHODOLOGY: Immunoassay
CLINICAL USE: Therapeutic drug monitoring
CPT: 80150

[AMINCSF] AMINO ACIDS QUANTITATIVE CSF

SPECIMEN REQUIRED: Frozen CSF
TUBE OR CONTAINER: Plastic transport tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: More than 30 amino acids
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
METHODOLOGY: High-pressure liquid chromatography (HPLC)
separation with postcolumn Ninhydrin quantitation
of each amino acid
CLINICAL USE: Useful in the diagnosis of several disorders,
most notably nonketotic hyperglycemia
CPT: 82139

[AMINOQNT] AMINO ACIDS QUANTITATIVE

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Light Green (heparin) or Dark Green (heparin)
SPECIAL HANDLING: State patient's age, sex, and brief clinical history on requisition. Separate plasma and freeze within one hour after collection. If hemolyzed, please recollect specimen if possible.
SPECIMEN VOLUME: 1 mL plasma
MINIMUM VOLUME: 0.5 mL plasma
TEST INCLUDES: Quantitation of 38 amino acids
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 days
REFERENCE RANGE: Specific for each amino acid measured
METHODOLOGY: Ninhydrin reaction
CLINICAL USE: Determination of all amino acids
CPT: 82139, 82492

[AMINOUBAY] UR AMINO ACIDS BAYLOR
SPECIMEN REQUIRED: Frozen urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
METHODOLOGY: Thin-layer chromatography (TLC) followed by Ninhydrin visualization
CLINICAL USE: Evaluate inborn errors of metabolism for amino acids
CPT: 82139; 82570

[AMINURQT] UR AMINO ACIDS QUANT TIMED
SPECIMEN REQUIRED: Frozen urine aliquot
TUBE OR CONTAINER: 24 hour plastic container
SPECIAL HANDLING: Collect 24 hour urine in "P" container (no preservative); keep urine refrigerated during collection
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
METHODOLOGY: High-pressure liquid chromatography (HPLC) separation with postcolumn Ninhydrin quantitation of each amino acid
CLINICAL USE: Evaluate inborn errors of metabolism for amino acids
CPT: 82139

[AMIO] AMIODARONE
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red, Lavender (EDTA) or Green (Heparin)
SPECIAL HANDLING: Collect no sooner than 12 hours after last dose
Do NOT collect specimen in a gel barrier tube  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.3 mL  
TEST INCLUDES: Amiodarone and its metabolite Noramiodarone  
TEST AVAILABILITY: Daily  
REFERENCE RANGE: Therapeutic: amiodarone: 1.0-2.5 ug/mL  
noramiodarone: 1.0-2.5 ug/mL  
OTHER NAMES: Cordarone  
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)  
CLINICAL USE: Therapeutic drug monitoring  
CPT: 80299

**[AMITR] AMITRIPTYLINE/NORTRIPTYLINE**

SPECIMEN REQUIRED: Refrigerated serum or plasma  
TUBE OR CONTAINER: Red, Lavender (EDTA) or Dark Green (heparin)  
SPECIAL HANDLING: Do NOT collect in gel barrier tubes  
MINIMUM VOLUME: 0.3 mL  
TEST INCLUDES: Amitriptyline, nortriptyline and total  
TEST AVAILABILITY: Daily  
REFERENCE RANGE: Therapeutic: amitriptyline + nortriptyline:  
120-250 ng/mL  
OTHER NAMES: Elavil; Endep; Etrafon; Triavil  
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)  
CLINICAL USE: Monitor therapeutic levels and evaluate toxicity  
CPT: 80152

**[AMM] Ammonia**

SPECIMEN REQUIRED: Plasma on ice  
TUBE OR CONTAINER: Light Green or Dark Green (heparin)  
SPECIAL HANDLING: Place specimen on ice immediately after collection. Must be separated from cells and frozen if not analyzed within 30 minutes  
STABILITY: 30 minutes on ice  
48 hours when plasma is separated and frozen  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
REFERENCE RANGE: 0 days-1 month: 64-107 umol/L  
1 month-13 years: 21- 50 umol/L  
13 years +: 11- 32 umol/L  
OTHER NAMES: Blood Ammonia; Blood NH3; NH3; NH4  
METHODOLOGY: Timed endpoint  
CLINICAL USE: Aid in the diagnosis of hepatic encephalopathy and hepatic coma in the terminal stages of liver
cirrhosis, hepatic failure, acute and subacute necrosis, and Reye's syndrome
CPT: 82140

[AMMTM] UR AMMONIA TIMED
SPECIMEN REQUIRED: Frozen urine (24 hour collection)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: 24 hour urine collected in "P" container (no preservative); keep refrigerated during collection
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
METHODOLOGY: Enzymatic
CPT: 82140

[AMOXP] AMOXAPINE (ASENDIN) PANEL
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Dark green (heparin)
SPECIAL HANDLING: Do NOT use gel barrier tubes
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Amoxapine and its metabolite
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 days
REFERENCE RANGE: 200 - 400 ng/mL

OTHER NAMES: Asendin
METHODOLOGY: High Performance Liquid Chromatography with Ultraviolet Detection (HPLC-UV)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

[AMPD1] ADENOSINE MONOPHOSPH DEAMINASE
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Must ship within 5 days of collection; Store refrigerated until time of shipment
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 20; 83904 x 40; 8.909 x 40; 83912 (FULL SEQUENCING)

[AMPHOB] Amphotericin B Level
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
OTHER NAMES: Fungilin; Fungizone; Abelcet; Amphocil
METHODOLOGY: High-Pressure Liquid Chromatography (HPLC)
CPT: 80299

[AMPR] HIV Amprenavir Resistance
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
METHODOLOGY: High-Pressure Liquid Chromatography (HPLC)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

[AMY] Amylase Level
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: Adult: 2 mL
Pediatric: 0.6 mL
MINIMUM VOLUME: Adult: 1 mL
Pediatric: 0.5 mL or 1/2 microtainer
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 25-115 U/L
METHODOLOGY: Enzymatic rate
CLINICAL USE: Diagnosis and treatment of pancreatitis
CPT: 82150

[AMYAS] Body Fluid Amylase
SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Enzymatic rate
CPT: 82150

[AMYFL] Body Fluid Amylase
SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Enzymatic rate reaction
CPT: 82150

[AMYISO] AMYLASE ISOENZYMES

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Pancreatic amylase, Salivary amylase and total amylase
TEST AVAILABILITY: Daily
REFERENCE RANGE: Total amylase: 31-124 units/L
Pancreatic amylase: 10-53 units/L
Salivary amylase: 11-83 units/L
METHODOLOGY: Enzymatic, Colorimetric
CLINICAL USE: Evaluate parotitis and pancreatic disease
CPT: 82150 x 2

[AMYLPR] Amyloid Beta-Protein

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Separate and freeze plasma as soon as possible
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 20 - 80 pg/mL
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: Detection of Amyloid B-Protein which causes vascular and cerebral plaque formation
CPT: 83519

[AMYPL] Pleural Fluid Amylase

SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Enzymatic rate
CPT: 82150

[AMYPT] Peritoneal Fluid Amylase

SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Enzymatic rate
CPT: 82150

[AMYTM] UR AMYLASE TIMED
SPECIMEN REQUIRED: Refrigerated aliquot from a 24-hour urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect timed urine in "P" container (no preservative); specify number of hours
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 2-17 IU/hr
METHODOLOGY: Enzymatic rate
CLINICAL USE: Work-up for abdominal pain, epigastric tenderness, nausea, and vomiting; aids in differential diagnosis of pancreatitis
CPT: 82150

[AMYU] Urine Random Amylase
SPECIMEN REQUIRED: Refrigerated random urine
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Enzymatic rate reaction
CLINICAL USE: Work-up for abdominal pain, epigastric tenderness, nausea, and vomiting
CPT: 82150

[ANA] Anti-Nuclear Antibody Screen
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 24-48 hours
REFERENCE RANGE: Negative
OTHER NAMES: Anti-Centromere B; ANA
METHODOLOGY: Enzyme-linked immunoassay (ELISA)
REFLEX TEST INFORMATION: A positive ANA screen will reflex an ANA titer at an additional charge
CLINICAL USE: Screening test for lupus and other rheumatic autoimmune diseases, including autoimmune thyroid and liver diseases
[ANAFL] **Body Fluid Anti-Nuclear Antibody**

SPECIMEN REQUIRED: Frozen body fluid (CSF, pleural, joint or pericardial fluid)

TUBE OR CONTAINER: Gold or Red

SPECIAL HANDLING: Specify source of fluid

SPECIMEN VOLUME: 1 mL

MINIMUM VOLUME: 0.5 mL

TEST AVAILABILITY: Daily

TURNAROUND TIME: 2-3 days

REFERENCE RANGE: Negative

METHODOLOGY: Enzyme-linked immunoassay (ELISA)

REFLEX TEST INFORMATION: A positive result reflexes titer test

CPT: 86038

[ANAOMR] **Anti-Nuclear Antibody Screen**

SPECIMEN REQUIRED: Refrigerated serum

TUBE OR CONTAINER: Red or Gold

SPECIMEN VOLUME: 1 mL

MINIMUM VOLUME: 0.5 mL

TEST AVAILABILITY: Monday-Friday

REFERENCE RANGE: Negative or < 40

METHODOLOGY: Indirect fluorescent antibody (IFA)

REFLEX TEST INFORMATION: A positive ANA screen will reflex an ANA titer at an additional charge

CLINICAL USE: Screening test for lupus and other rheumatic autoimmune diseases, including autoimmune thyroid and liver diseases

CPT: 86038

[ANAPL] **Pleural Fluid Anti-Nuclear Antibody**

SPECIMEN REQUIRED: Frozen fluid

TUBE OR CONTAINER: Gold

SPECIMEN VOLUME: 1 mL

MINIMUM VOLUME: 0.5 mL

TEST AVAILABILITY: Daily

TURNAROUND TIME: 1-2 days

REFERENCE RANGE: Negative: < or = 1:40

METHODOLOGY: Enzyme-linked immunoassay (ELISA)

REFLEX TEST INFORMATION: A positive ANA will reflex an ANA titer at an additional charge

CLINICAL USE: Detect antibodies to nuclear antigens

CPT: 86038

[ANASTER] **ANABOLIC STEROIDS URINE**

SPECIMEN REQUIRED: Refrigerated urine (random)

TUBE OR CONTAINER: Plastic urine container

SPECIMEN VOLUME: 50 mL

MINIMUM VOLUME: 25 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Gas Chromatography/Mass Spectrometry (GC/MS)
CLINICAL USE: Exposure monitoring
CPT: 80100

[ANASY]  Body Fluid Anti-Nuclear Antibody

SPECIMEN REQUIRED: Refrigerated synovial fluid
TUBE OR CONTAINER: Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 days
REFERENCE RANGE: Negative: < or = 1:40
METHODOLOGY: Enzyme-linked immunoassay (ELISA)
CLINICAL USE: Detect antibodies to nuclear antigens
CPT: 86038

[ANCAOMRF]  AB ANTI NEUT CYTOPLASMIC OMRF

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Antimyeloperoxidase (MPO) antibodies; antiproteinase 3 (PR3) antibodies; cytoplasmic (C-ANCA) & perinuclear (P-ANCA) antineutrophil antibodies
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
OTHER NAMES: ANCA; MPO-ANCA; PR3-ANCA
METHODOLOGY: ANCA: Indirect fluorescent antibody (IFA); PR3 & MPO: Enzyme-linked immunosorbent assay (ELISA)
REFLEX TEST INFORMATION: PR3 and MPO will be reflexed from a positive ANCA
CLINICAL USE: Diagnosis and monitoring inflammatory activity in primary systemic small vessel vasculitides
CPT: 86021 x 3

[AND]  3A Androstanediol Glucuronide

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Separate and freeze within one hour of collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.7 mL
TEST INCLUDES:
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-14 days
REFERENCE RANGE: 0 - 10 years: < 5 - 42 ng/dL
Adults: Male: 190 - 900 ng/dL
Female: 35 - 200 ng/dL
METHODOLOGY: Radioimmunoassay (RIA) after Hydrolysis of glucuronide and chromatography
CPT: 82154

[ANDR] Androstenedione

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIAL HANDLING: No isotopes should be administered 24 hours prior to venipuncture
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL (this volume does not allow for repeat testing)
PEDIATRIC TEST INFO: Order PEDANDRO for pediatric testing to be performed by Esoterix
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 Days
REFERENCE RANGE: Age specific
OTHER NAMES: Delta4-Androstene,3,17-dione
METHODOLOGY: High pressure liquid chromatography/tandem mass spectrometry (HPLC/MS-MS)
CLINICAL USE: Evaluation of androgen production in hirsute females; less useful in evaluation of other aspects of virilization
CPT: 82157

[ANGELSYN] ANGELMAN SYNDROME

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 week
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83894 x 2; 83898 x 2; 83912 (METHYLATION)

[ANGIO] Angiotensin II

SPECIMEN REQUIRED: Frozen plasma with Trasylol
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Collect specimen in chilled EDTA (lavender) tube. Add 0.25 mL Trasylol (to be performed in lab); separate and freeze plasma
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1.5 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Radioimmunoassay (RIA)
CPT: 82163

[ANIRID] ANIRIDA/WAGR SYNDROME

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark green (heparin)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10-12 days
METHODOLOGY: Fluorescence in-situ hybridization (FISH)
CPT: 88230; 88271 x 3; 88273; 88280

ANTIMONY
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Royal blue (EDTA)
SPECIMEN VOLUME: 7 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-8 days
REFERENCE RANGE: 0-6 μg/L
METHODOLOGY: Inductively Coupled Plasma/Mass Spectrometry (ICP/MS)
CLINICAL USE: Exposure monitoring
CPT: 83018

CHROMATIN ANTIBODY
SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
Positive: >/= 20 units
OTHER NAMES: Antibodies to LE Cell Phenomenon
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Help diagnose drug-induced lupus (DIL) and systemic lupus erythematosus (SLE)
CPT: 83516

APOLIPOPROTEIN A-1
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Serum is stable for 72 hours refrigerated. If longer storage is required, freeze specimen; patient must be fasting 12-14 hours
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
REFERENCE RANGE: Male: 110-180 mg/dL Female: 110-205 mg/dL
OTHER NAMES: A-1 Apolipoprotein; Alpha Apolipoprotein; Apo A-1
METHODOLOGY: Immunologic
CLINICAL USE: Comprises 60% to 70% of the protein content of HDL Apo A-I serves as an activator of LCAT which is involved in the transport of cholesterol from
peripheral tissues to the liver where it is degraded
CPT: 82172

### [APOB] Apolipoprotein B

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Stable up to 72 hours refrigerated. Freeze if storage for more than 3 days is expected; patient must be fasting for 12-14 hours
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
REFERENCE RANGE: Male: 60-140 mg/dL
Female: 50-130 mg/dL
METHODOLOGY: Immunologic
OTHER NAMES: Apo B; Apo B100; Beta Apolipoprotein
CLINICAL USE: LDL and its major protein, apolipoprotein B, play an essential role in lipid transport and metabolism
CPT: 82172

### [APOE] APOLIPOPROTEIN E GENOTYPING

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING: Cause for rejection - frozen or grossly hemolyzed specimens
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Correlate Apo E genotype and risk for development of coronary disease
CPT: 83891; 83892; 83894; 83898; 83912

### [APRAXDNA] APRATAXIN DNA SEQUENCING

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Must arrive @ Athena within 24 hours after blood is drawn. Monday-Thursday only
SPECIMEN VOLUME: 15 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 14-21 days
REFERENCE RANGE: No sequence alteration detected
OTHER NAMES: AOA1 Gene Sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA sequencing
CPT: 83891; 83898 x 7; 83904 x 7; 83909; 83912
**[APT]  Fetal Hemoglobin APT Test**

SPECIMEN REQUIRED: Gastric aspirate or stool; Must contain fresh "red" blood  
TUBE OR CONTAINER: Sterile container; diaper is acceptable  
SPECIMEN VOLUME: 2 mL gastric aspirate  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
REFERENCE RANGE: Negative  
CPT: 83033

**[APTTSSVA]  Lupus Anticoagulant Sensitive APTT**

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Blue (citrate)  
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma  
SPECIMEN VOLUME: 1 full tube  
Testing volume: 1 mL of PLASMA  
MINIMUM VOLUME: 1 full tube  
Testing volume: 0.5 mL of PLASMA  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 1-3 days  
REFERENCE RANGE: 27.4-47.8 seconds  
METHODOLOGY: Clot detection  
CPT: 85730

**[ARG]  Arginase Deficiency**

SPECIMEN REQUIRED: Refrigerated whole blood (ship on wet ice)  
TUBE OR CONTAINER: Yellow (ACD)  
SPECIAL HANDLING: Specimen must be received in laboratory by 1:30 pm, Monday through Thursday only; Specimen must arrive at performing lab within 48 hours of collection  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 7 mL  
TEST AVAILABILITY: Monday-Thursday  
TURNAROUND TIME: 2 weeks  
REFERENCE RANGE: 2.0 - 7.0 umol/hr/mg Hgb  
METHODOLOGY: Spectrophotometry  
CPT: 82657

**[ARHSP]  Autosomal Recessive HSP**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIAL HANDLING: Ship within 24 hours of collection; Must be received in laboratory by 1:30 pm Monday
through Thursday only
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 6 mL
TEST INCLUDES: Paraplegin (SPG7) DNA Sequencing Test, Spatacsin (SPG11) DNA Sequencing Test
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 4-6 Weeks
REFERENCE RANGE: No mutations detected
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA Sequencing
CLINICAL USE: Detects mutations in two of the most common ARHSP genes; SPG7, SPG11
CPT: 83891; 83898 x 58; 83904 x 58; 83909 x 2; 83912

[ARIP] Aripiprazole (Abilify) Level
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Lavender (EDTA) or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-9 days
OTHER NAMES: Abilify
METHODOLOGY: High Performance Liquid Chromatography (HPLC)
CLINICAL USE: Therapeutic drug monitoring
CPT: 82542

[ARL13B] JOUBERT SYNDROME VIA ARL13B
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
OTHER NAMES: Joubert Syndrome via ARL13B gene sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 10; 83904 x 10; 83912

[AROM] AROMATIC SOLVENTS EXPOSURE
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Venipuncture site must be disinfected with povidone-iodine or similar product
SPECIMEN VOLUME: 7 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Benzene, ethyl benzene, styrene, toluene, xylenes
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
METHODOLOGY: Gas chromatography (GC)
CLINICAL USE: Monitor exposure to benzene, ethyl benzene,
<table>
<thead>
<tr>
<th><strong>[ARPKD] AUTORECESSIVE POLY CYST KIDNEY</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood, tissue or amniocytes at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA), sterile container, paraffin block or T25 flasks</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 10 mLs or 2 flasks</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mLs or 1 flask</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2 weeks</td>
</tr>
<tr>
<td>OTHER NAMES: Autosomal Recessive Polycystic Kidney Disease</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83891 x 2; 83896 x 14; 83898 x 14; 83909 x 5; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[ARS] Arsenic</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Royal-blue (EDTA) or Royal-blue (Na-heparin)</td>
</tr>
<tr>
<td>LAV (EDTA) also acceptable</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.6 mL</td>
</tr>
<tr>
<td>TURNAROUND TIME: 3 Days</td>
</tr>
<tr>
<td>REFERENCE RANGE: 2-23 ug/L</td>
</tr>
<tr>
<td>METHODOLOGY: Inductively coupled plasma-mass spectrometry (ICP-MS)</td>
</tr>
<tr>
<td>CLINICAL USE: Monitor recent or acute exposure to arsenic</td>
</tr>
<tr>
<td>CPT: 82175</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[ARSA] ARYLSULFATASE A SEQUENCING</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4 weeks</td>
</tr>
<tr>
<td>OTHER NAMES: Metachromatic Leukodystrophy via ARSA Gene Sequencing</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83890; 83891; 83894; 83898 x 6; 83904 x 6; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[ARSH] Hair Arsenic</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Bundle of hair</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Plastic container</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Bundle, cut at roots, wrap with twist tie at root end</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 500 mg Hair (pencil-thick segment)</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 100 mg</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 7-12 days</td>
</tr>
</tbody>
</table>
**METHODOLOGY:** Inductively Coupled Plasma/Mass Spectrometry (ICP/MS)
**CLINICAL USE:** Exposure monitoring
**CPT:** 82175

### ARSTM] UR ARSENIC TIMED

**SPECIMEN REQUIRED:** Urine at room temperature (random or 24 hour collection)
**TUBE OR CONTAINER:** Plastic urine container
**SPECIAL HANDLING:** 24 hour urine collected in "P" container; or a random urine. Patient must avoid all seafood for 72 hours prior to collection
**SPECIMEN VOLUME:** 5 mL
**MINIMUM VOLUME:** 2.5 mL
**TEST INCLUDES:** Arsenic total; arsenic (inorganic); creatinine; arsenic (inorganic):creatinine ratio;
**TEST AVAILABILITY:** Daily
**REFERENCE RANGE:** Environmental exposure:
Arsenic (Inorganic): 0-19 ug/L
Total arsenic: < 50 ug/L
Total Arsenic 24 hours: 0-50 ug/24 hours
**METHODOLOGY:** Inductively coupled mass spectrometry (ICP-MS) and flow injection atomic absorption spectrometry (FIAS)
**CLINICAL USE:** Monitor chronic exposure
**CPT:** 82175; 82570

### ARVC] ARRHYTHMOGENIC RT VENT CARDIO

**SPECIMEN REQUIRED:** Whole blood at room temperature
**TUBE OR CONTAINER:** Lavender (EDTA)
**SPECIMEN VOLUME:** 10 mL
**MINIMUM VOLUME:** 5 mL
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 8-10 weeks
**METHODOLOGY:** Polymerase chain reaction (PCR)
**CPT:** 83891; 83898 x 96; 83904 x 96; 83909 x 96; 83912

### ARX] ARX GENE SEQUENCING

**SPECIMEN REQUIRED:** Whole blood at room temperature
**TUBE OR CONTAINER:** Lavender (EDTA)
**SPECIMEN VOLUME:** 10 mL
**MINIMUM VOLUME:** 5 mL
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 4 weeks
**OTHER NAMES:** X-linked lissencephaly-2 via ARX gene; ARX-related disorders
**METHODOLOGY:** Polymerase Chain Reaction (PCR)
**CPT:** 83891; 83894; 83898 x 10; 83904 x 25; 83909 x 25; 83912

### ARYLA] Urine Arylsulfatase A
SPECIMEN REQUIRED: Refrigerated aliquot from a 24-hour urine collection
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect urine in 24 hour container with no preservative; refrigerate during collection
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 days
REFERENCE RANGE: > 1 U/L
METHODOLOGY: Colorimetric, Kinetic
CLINICAL USE: Aid in diagnosis of Lysosomal Storage Disease
CPT: 82657

[ARYLALEU] ARYL SULFATASE A LEUKOCYTES

SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Yellow (ACD)
SPECIAL HANDLING: Collect Monday-Thursday only; Must arrive at referral lab within 48 hours of collection
SPECIMEN VOLUME: 15 mL
MINIMUM VOLUME: 10 mL
TEST AVAILABILITY: Monday-Thursday
REFERENCE RANGE: 25.0 - 90.0 nmol/hr/mg protein
OTHER NAMES: ASA Deficiency; Metachromatic Leukodystrophy; MLD
METHODOLOGY: Determination of enzymatic activity with p-nitrocatecholsulfate
CLINICAL USE: Diagnose patient with metachromatic leukodystrophy (MLD)
CPT: 82657

[ASO] Anti-Streptolysin O Antibody

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Gold, Red or Light Green (heparin)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 1 day
REFERENCE RANGE: 0.0 - 200.00 IU/mL
OTHER NAMES: ASO
METHODOLOGY: Turbidimetric
CLINICAL USE: Document exposure to streptococcal streptolysin O
CPT: 86060

[ASPAB] ASPERGILLUS AB PANEL

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Aspergillus fumigatus, flavus, and niger
TEST AVAILABILITY: Daily
<table>
<thead>
<tr>
<th>Test Abbreviation</th>
<th>Test Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPABFL</td>
<td>ASPERGILLUS AB FLUID</td>
</tr>
<tr>
<td>ASPAG</td>
<td>ASPERGILLUS GALACTOMANNAN AG</td>
</tr>
<tr>
<td>ASPAMINWBC</td>
<td>Aspartylglucosamine Aminohydrolase</td>
</tr>
<tr>
<td>ASPGAM</td>
<td>ASPERGILLUS AB IGG/A/M</td>
</tr>
</tbody>
</table>

**ASPABFL** ASPERGILLUS AB FLUID

- **SPECIMEN REQUIRED:** Fluid at room temperature
- **TUBE OR CONTAINER:** Sterile container
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST INCLUDES:** Aspergillus fumigatus, flavus, and niger
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4-7 days
- **METHODOLOGY:** Immunodiffusion
- **CLINICAL USE:** Confirm the presence of precipitation antibodies to Aspergillus
- **CPT:** 86331 x 3

**ASPAG** ASPERGILLUS GALACTOMANNAN AG

- **SPECIMEN REQUIRED:** Frozen serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-5 days
- **REFERENCE RANGE:** Negative
- **METHODOLOGY:** Enzyme-linked Immunosorbent assay (ELISA)
- **CLINICAL USE:** Aid in the diagnosis of Invasive Aspergillosis
- **CPT:** 87305

**ASPAMINWBC** Aspartylglucosamine Aminohydrolase

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Dark Green (heparin)
- **SPECIMEN VOLUME:** 10 mL
- **MINIMUM VOLUME:** 5 mL
- **TEST AVAILABILITY:** Daily
- **CPT:** 82657

**ASPGAM** ASPERGILLUS AB IGG/A/M

- **SPECIMEN REQUIRED:** Refrigerated or frozen serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.8 mL
- **TEST INCLUDES:** Aspergillus IgG, IgA, IgM
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-6 days
- **REFERENCE RANGE:** Negative: < 0.81 Index
- **METHODOLOGY:** Enzyme immunoassay (EIA)
- **CPT:** 86606 x 3
<table>
<thead>
<tr>
<th>Test Name</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Other Names</th>
<th>Methodology</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>[ASPM] AUTOSOMAL REC MICROCEPH (ASPM)</strong></td>
<td>Whole blood at room temperature;</td>
<td>Lavender (EDTA)</td>
<td>10 mL</td>
<td>3 mL</td>
<td>Daily</td>
<td>6-8 weeks</td>
<td></td>
<td>Polymerase chain reaction (PCR)</td>
<td>83891, 83898 x 9, 83904 x 9, 83912</td>
</tr>
<tr>
<td><strong>[ASS1] CITRULLINEMIA TYPE 1 (ASS1)</strong></td>
<td>Whole blood at room temperature</td>
<td>Lavender (EDTA) or Yellow (ACD)</td>
<td>5 mL</td>
<td>2 mL</td>
<td>Daily</td>
<td>4-6 weeks</td>
<td>ASS1 Gene Sequencing</td>
<td>Polymerase chain reaction (PCR)</td>
<td>83890; 83891; 83894; 83898 x 14; 83904 x 14; 83912</td>
</tr>
<tr>
<td><strong>[AST] Aspartate Amino Transf (AST/SGOT)</strong></td>
<td>Refrigerated plasma or serum</td>
<td>Light Green (heparin) or Gold</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>Daily</td>
<td>8 hours</td>
<td>AST; GOT; Serum Glutamic Oxaloacetic Transaminase; SGOT</td>
<td>Enzymatic rate</td>
<td>84450</td>
</tr>
<tr>
<td><strong>[AT3A] Anti-Thrombin III Immunologic</strong></td>
<td>Frozen plasma</td>
<td>Blue (Citrate)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>[AT3FUN] Functional Antithrombin III</strong></td>
<td>Frozen plasma</td>
<td>Blue (Citrate)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Testing specimen: 2 transport tubes with 1 ml plasma each
MINIMUM VOLUME: 1 full tube
Testing specimen: 2 transport tubes with 0.5 ml plasma each
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-7 days
REFERENCE RANGE: 80-125%
OTHER NAMES: Antithrombin III Activity; AT3 Activity; AT III Activity; Factor Xa Inhibitor; Heparin Cofactor Activity; Serine Protease Inhibitor
REFLEX TEST INFORMATION: If result is below normal, Antithrombin 3 Antigen will be reflexed at an additional charge
CLINICAL USE: Confirmation and characterization of congenital AT deficiency
CPT: 85300

## [ATAXCOM] COMPLETE ATAXIA PANEL

| SPECIMEN REQUIRED: Refrigerated whole blood |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIAL HANDLING: Ship within 24 hours, Monday - Thursday only |
| SPECIMEN VOLUME: 20 mL |
| MINIMUM VOLUME: 10 mL |
| TEST INCLUDES: SCA1, SCA2, SCA3 (MJD), SCA6, SCA7, SCA8, SCA10, SCA14, SCA17, DRPLA, Friedreich ataxia, Aprataxin DNA Test and SETX DNA Test |
| TEST AVAILABILITY: Monday-Thursday |
| TURNAROUND TIME: 2-3 weeks |
| METHODOLOGY: Polymerase Chain Reaction (PCR), Southern blot, Pulse Field Gel Electrophoresis, Fragment Analysis, Capillary Electrophoresis and DNA Sequencing |
| CPT: 83891; 83894 x 10; 83898 x 67; 83904 x 54; 83912 |

## [ATAXNEURO] ATAXIA NEUROLOGICAL PANEL

## [ATAXSCA] SPINOCEBELLAR ATAXIA PANEL

| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIMEN VOLUME: 5 mL |
| MINIMUM VOLUME: 1 mL |
| TEST INCLUDES: SCA 1, SCA 2, SCA 3, SCA 6 and SCA 7 |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 2-3 weeks |
| REFERENCE RANGE: No mutation detected |
| METHODOLOGY: Polymerase Chain Reaction (PCR) amplification |
| CLINICAL USE: Confirmation of diagnosis; prenatal testing |

## [ATAXTELAN] ATAX-TELANGIECTASIA(RADIOSENS)

| SPECIMEN REQUIRED: Whole blood at room temperature |
TUBE OR CONTAINER: Dark green (heparin)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
OTHER NAMES: Chromosomes, Spontaneous Breakage
METHODOLOGY: 72 hour culture with Phytohemagglutinin (PHA)
CLINICAL USE: Evaluate patients with possible chromosome instability syndromes including ataxia telangiectasia (AT) and Nijmegen breakage syndrome
CPT: 88230, 88248

[ATAZ] HIV Atazanavir Resistance
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Serum must be separated within 45 minutes
Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
REFERENCE RANGE: 0.05 - 10.00 mcg/mL
OTHER NAMES: Reyataz
METHODOLOGY: High-Pressure Liquid Chromatography (HPLC)
CLINICAL USE: HIV monitor
CPT: 80299

[ATHAL] ALPHA-THALASSEMIA
SPECIMEN REQUIRED: Whole blood, amniotic fluid, chorionic villus sample (CVS) (submission of maternal blood is required for fetal testing), or buccal swab at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD), sterile tube or two confluent T-25 flasks, or LabCorp buccal swab kit
SPECIMEN VOLUME: 7 mL (whole blood); 10 mL (amniotic fluid); 20 mg CVS; buccal swab kit
MINIMUM VOLUME: 3 mL (whole blood); 5 mL (amniotic fluid); 10 mg CVS; two buccal swabs
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase Chain Reaction (PCR) and gel electrophoresis
CPT: 83891; 83894; 83900; 83901 x 7; 83912

[ATMSEQ] ATAXIA-TELANGIECTASIA SEQ
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 p.m., Monday - Thursday only
SPECIMEN VOLUME: 10 mL (2 tubes)
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 8 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83894; 83898 x 58; 83904 x 58; 83912

[ATP7A]  ATP7A SEQUENCING
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 weeks
OTHER NAMES: Menkes Disease; Occipital Horn syndrome
METHODOLOGY: Polymerase Chain Reaction
CPT: 83890; 83891, 83894; 83898 x 25, 83904 x 25; 83912

[ATPase]  ATPase SUBUNITS
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 6 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 weeks
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83898; 83904 x 4; 83912

[AUH]  3-METHYLGLUTACONIC (AUH GENE)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
OTHER NAMES: 3-Methylglutaconic Aciduria Type I (MGA1)
METHODOLOGY: Bi-directional sequence analysis
CPT: 83890; 83891; 83894; 83898 x 10; 83904 x 10; 83912

[AUTOATAX]  AUTOSOMAL DOMINANT ATAXIA
SPECIMEN REQUIRED: Whole blood room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must me received in laboratory Monday-Thursday by 2:00 p.m. to be shipped same day as collected
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 15 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2-3 weeks
METHODOLOGY:
**[B2GLYGM] BETA-2 GLYCOPROTEIN IGG/M**

SPECIMEN REQUIRED: Frozen serum or plasma  
TUBE OR CONTAINER: Red, Gold or Blue (citrate)  
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma  
SPECIMEN VOLUME: 1 full tube  
Testing volume: 1 mL of PLASMA  
MINIMUM VOLUME: 1 full tube  
Testing volume: 1 mL of PLASMA  
TEST INCLUDES: Beta-2 glycoprotein IgG and IgM  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-8 days  
REFERENCE RANGE: < 20 units  
OTHER NAMES: Anti-2 Glycoprotein 1; Anti-2 GP1; Beta-2 Glycoprotein 1 Antibodies, IgG, IgM  
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)  
CLINICAL USE: Assess the risk of thrombosis in patients who may be at risk for antiphospholipid syndrome (APS)  
CPT: 86146 x 2

**[B2GLYIGA] Anti-beta-2-Glycoprotein I IgA Ab**

SPECIMEN REQUIRED: Refrigerated serum  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME:  
REFERENCE RANGE: < 20 units  
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA) to detect antibodies binding to a microtiter plate coated with purified 2-glycoprotein 1 antigen  
CLINICAL USE: Assess the risk of thrombosis in patients who may be at risk for antiphospholipid syndrome (APS). This test should be used in conjunction with current traditional anticardiolipin and anticoagulant tests  
CPT: 86146

**[B2MIC] Beta-2-Microglobulin**

SPECIMEN REQUIRED: Refrigerated serum  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 0.5 mL  
MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat testing)
<table>
<thead>
<tr>
<th><strong>[B2MICCSF]</strong> CSF Beta-2-Microglobulin</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Refrigerated CSF</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> CSF tube</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 2 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 1 mL</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 2-4 days</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Radioimmunassay (RIA)</td>
</tr>
<tr>
<td><strong>CLINICAL USE:</strong> Elevated concentrations of CSF B2M correlate with clinical involvement (tumor cells, increased protein or both) of CNS in patients with lymphoma and leukemia</td>
</tr>
<tr>
<td><strong>CPT:</strong> 82232</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[BABAB]</strong> BABESIA MICROTI AB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Refrigerated serum</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Red or Gold</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 1 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 0.2 mL</td>
</tr>
<tr>
<td><strong>TEST INCLUDES:</strong> Babesia IgG and IgM</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 4-6 days</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Immunofluorescence assay (IFA)</td>
</tr>
<tr>
<td><strong>CLINICAL USE:</strong> Screening assay for Babesia microti infection or exposure</td>
</tr>
<tr>
<td><strong>CPT:</strong> 86753 x 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[BAC]</strong> Baclofen Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Refrigerated serum or plasma</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Red, Lavender (EDTA) or Dark Green (heparin)</td>
</tr>
<tr>
<td><strong>SPECIAL HANDLING:</strong> Do NOT collect in gel barrier tube</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 1 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 0.4 mL</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 3-5 days</td>
</tr>
<tr>
<td><strong>OTHER NAMES:</strong> Lioresal</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)</td>
</tr>
<tr>
<td><strong>CLINICAL USE:</strong> Therapeutic drug monitoring</td>
</tr>
<tr>
<td><strong>CPT:</strong> 80299</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[BACTR]</strong> BACTRIM (TRIMETHOPRIM)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Frozen serum or plasma</td>
</tr>
</tbody>
</table>
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube;
Separate from cells within 2 hours of
collection
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 1.6 mL
TEST INCLUDES: Trimethoprim and Sulfamethoxazole
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-9 days
OTHER NAMES: Bactrim; Sulfamethoxazole; Septra; Sulfatrim
METHODOLOGY: High Performance Thin Layer Chromatography (HPTLC)
Spectrophotometry (SP)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299; 82489

[BARBSCR] Blood Barbiturates Screen

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, or Dark Green (heparin)
SPECIAL HANDLING: Do not collect in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.6 mL
TEST INCLUDES: Quantitation of barbiturates present in blood
when specific barbiturate is not known. Includes
amobarbital, butabarbital, butalbital, pentobarbital, phenobarbital, secobarbital.
TEST AVAILABILITY: Daily
METHODOLOGY: Gas chromatography (GC)
REFLEX TEST INFORMATION: Quantification of specific barbituates
will be reflexed in screen if positive
CLINICAL USE: Evaluate barbiturate toxicity, drug abuse,
therapeutic levels; if barbiturates are suspected
in a drug overdose, determination of long-, medium-, or short-acting may influence treatment
CPT: 82205

[BARTAB] AB Bartonella

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: IgG and IgM to B. henselae & B. quintana
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 days
REFERENCE RANGE: Negative
OTHER NAMES: Cat Scratch Disease Antibody (CSD); Rochalimaea
METHODOLOGY: Indirect Fluorescent antibodies (IFA)
CLINICAL USE: Aid in diagnosis of Cat Scratch Disease
CPT: 86611 x 4

[BARTH] BARTH SYNDROME (G4.5 MUTATION)
**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIMEN VOLUME:** 14 mL  
**MINIMUM VOLUME:** 2 mL (infant)  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 7-10 days  
**REFERENCE RANGE:** No mutation detected  
**METHODOLOGY:** Automatic Fluorescent DNA sequencing  
**CLINICAL USE:** Identify mutations in the G4.5 gene  
**CPT:** 83890; 83898 x 6; 83904 x 12; 83912

### [BARTHCSF] BARTONELLA HENSELAE CSF

**SPECIMEN REQUIRED:** Frozen CSF  
**TUBE OR CONTAINER:** Sterile capped tube  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST INCLUDES:** Bartonella henselae IgG/IgM  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-9 days  
**REFERENCE RANGE:** IgG: < 1:64 Negative  
IgM: < 1:16 Negative  
**METHODOLOGY:** Indirect fluorescent antibody (IFA)  
**CLINICAL USE:** Aid in diagnosis of Bartonella infections  
**CPT:** 86611 x 2

### [BARTQCSF] BARTONELLA QUINTANA CSF

**SPECIMEN REQUIRED:** Frozen CSF  
**TUBE OR CONTAINER:** Sterile capped tube  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST INCLUDES:** Bartonella quintana IgG/IgM  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-9 days  
**REFERENCE RANGE:** IgG: < 1:64 Negative  
IgM: < 1:16 Negative  
**METHODOLOGY:** Indirect fluorescent antibody (IFA)  
**CLINICAL USE:** Aid in diagnosis of Bartonella infections  
**CPT:** 86611 x 2

### [BARTTXPCR] Bartonella DNA (PCR) (LAB)

**SPECIMEN REQUIRED:** Fresh frozen tissue  
**TUBE OR CONTAINER:** Screw-capped sterile container  
**SPECIMEN VOLUME:** Tissue  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3-7 days  
**REFERENCE RANGE:** Negative  
**OTHER NAMES:** Cat scratch disease (CSD)  
**METHODOLOGY:** Rapid Polymerase Chain Reaction (PCR)  
**CLINICAL USE:** Aid in diagnosis of Bartonella infection; this test does not differentiate between B. henselae
and B. quintana
CPT: 87798

### [BBS1] BARDET-BIEDL SYNDROME (TYPE 1)

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 4-5 weeks  
**METHODOLOGY:** Polymerase Chain Reaction (PCR)  
**CPT:** 83890; 83891; 83894; 83895 x 16; 83904 x 16; 83912

### [BBS2] BARDET-BIEDL SYNDROME (BBS2)

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 4-5 weeks  
**METHODOLOGY:** Polymerase Chain Reaction (PCR)  
**CPT:** 83890; 83891; 83894; 83898 x 16; 83904 x 16; 83912

### [BCDGP] CDG: N-GLYCAN & CDT PANEL

**SPECIMEN REQUIRED:** Frozen serum or plasma  
**TUBE OR CONTAINER:** Red (no gel) or Dark Green (heparin)  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 1 mL  
**TEST AVAILABILITY:** Monday-Thursday  
**TURNAROUND TIME:** 2 weeks  
**REFERENCE RANGE:**  
**OTHER NAMES:** Carbohydrate Deficient Glycoprotein syndrome; Congenital Disorders of Glycosylation (CDG)  
**METHODOLOGY:** Matrix-Assisted Laser Desorption/Ionization-Time of flight/Time of flight (MALDI-TOF/TOF) and Mass Spectrometry (MS)  
**CPT:** 82373 x 2; 83788; 84375

### [BCELLIMM] B-CELL IMMUNODEFICIENCY

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Dark green (Heparin) or Lavender (EDTA)  
**SPECIAL HANDLING:** Specimen must be analyzed within 48 hours (heparin) or 30 hours (EDTA) of collection  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 3 mL (pediatric)  
**TEST INCLUDES:** Total Immunoglobulins; % IgA, IgD, IgG, IgM, CD19 and HLA-DR  
**TEST AVAILABILITY:** Monday-Thursday (must arrive in the lab before 2:30 pm)  
**TURNAROUND TIME:** 2 days
**METHODOLOGY:** Flow Cytometry  
**CLINICAL USE:** Measures circulating B-cells (CD19), their surface immunoglobulins (Total Ig, IgG, IgD, IgM and IgA), and a common HLA class II antigen  
**CPT:** 86356 x 7

<table>
<thead>
<tr>
<th>[BCELLPCR] B-CELL GENE REARRANGEMENTS PCR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Refrigerated or room temperature whole blood or bone marrow</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 5 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 2 mL</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Monday-Friday</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 5-7 days</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Polymerase Chain Reaction (PCR)</td>
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<tr>
<td><strong>CPT:</strong> 83890; 83894; 83898 x 2; 83912</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>[BCL2QL] BCL-2 TRANSLOCATION PCR QUAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Refrigerated whole blood or bone marrow (preferred specimen) or frozen tissue</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td><strong>SPECIAL HANDLING:</strong> Must be received in the lab within 24 hours of collection</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 5 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 2 mL</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 7-9 days</td>
</tr>
<tr>
<td><strong>REFERENCE RANGE:</strong> Gene rearrangement not detected</td>
</tr>
<tr>
<td><strong>OTHER NAMES:</strong> BCL2-IGH Fusion Gene Detection</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Polymerase chain reaction (PCR)</td>
</tr>
<tr>
<td><strong>CPT:</strong> 83891; 83894 x 3; 83898 x 6; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[BCORP85L] LMS VIA BCOR GENE (P85L MUT)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Whole blood room temperature or buccal swab</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Lavender (EDTA) or swab</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 5 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 2 mL</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 3-4 weeks</td>
</tr>
<tr>
<td><strong>OTHER NAMES:</strong> Lenz Microphthalmia Syndrome (LMS) via BCOR gene-P85L mutation only</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td><strong>CPT:</strong> 83891 x 2; 83892 x 2 ; 83894 x 2; 83898 x 2; 83904 x 4; 83912</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>[BCRABLFI]$B$CH</th>
<th>BCR-ABL TRANSLOCATION BY FISH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Refrigerated or room temperature whole blood or bone marrow</td>
<td></td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Dark Green (heparin)</td>
<td></td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 3 mL</td>
<td></td>
</tr>
<tr>
<td>Test Code</td>
<td>Test Name</td>
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<td>-------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>[BCRABLQNT]</td>
<td>BCR/ABL Quant PCR (Copy #)</td>
</tr>
<tr>
<td>[BCRABLQUAL]</td>
<td>BCR/ABL Qual PCR (Present/Absent)</td>
</tr>
<tr>
<td>[BCRKin]</td>
<td>BCR/ABL Kinase Domain Mutation</td>
</tr>
</tbody>
</table>

**MINIMUM VOLUME:** 1 ml  
**TEST AVAILABILITY:** Monday-Friday  
**TURNAROUND TIME:** 5-7 days  
**METHODOLOGY:** Fluorescent in situ hybridization (FISH)  
**CPT:** 88368 x 2

**MINIMUM VOLUME:** 2 mL (whole blood)  
**MINIMUM VOLUME:** 1 mL (bone marrow)  
**TEST AVAILABILITY:** Monday-Friday  
**TURNAROUND TIME:** 5-7 days  
**METHODOLOGY:** Reverse transcriptase & real time polymerase amplification (PCR)  
**CPT:** 83891, 83894, 83900, 83902, 83912

**MINIMUM VOLUME:** 1 mL (whole blood)  
**MINIMUM VOLUME:** 1 mL (bone marrow)  
**TEST AVAILABILITY:** Monday-Friday  
**TURNAROUND TIME:** 5-7 days  
**METHODOLOGY:** Reverse transcriptase & real time polymerase amplification (PCR) to detect the presence of the major, minor and mu breakpoints  
**CPT:** 83891, 83894, 83900, 83902, 83912
TURNAROUND TIME: 10-14 days
REFERENCE RANGE: No mutation detected
OTHER NAMES: ABL1 Mutation Analysis for Resistance to Imatinib Mesylate; Gleevec Resistance Mutation Analysis; Imatinib Mesylate Resistance Analysis
METHODOLOGY: Polymerase chain reaction (PCR); direct sequencing; capillary electrophoresis
CPT: 83891; 83892; 83894; 83898 x 6; 83903; 83904 x 4; 83912

[BCS1L] COMPLEX III-BSC1L DEFICIENCY
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 14 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83898 x 4; 83904 x 10; 83912

[BENZOD] Benzodiazepines
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
METHODOLOGY: Immunoassay/HPLC
CPT: 80101

[BENZT] Benztropine Level
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
REFERENCE RANGE: 5.0 - 25.0 ng/ml
OTHER NAMES: Cogentin
Methodology: Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

[BETAGAL] BETA-GALACTOSIDASE DEFICIENCY
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Yellow (ACD)
SPECIAL HANDLING: Collect specimen Monday-Wednesday only
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 47.2-140.0 nmol/h/mg protein
OTHER NAMES: Galactosialidosis, MPS IVb; Morquio B Disease

METHODOLOGY: Determination of enzyme activity with 4-methylumbelliferyl-beta-D-galactopyranoside
CLINICAL USE: Diagnose patients with GM1-gangliosidosis, Morquio disease type B (MPS IVb), and combined beta-galactosidase/neuraminase deficiency (galactosialidosis)
CPT: 82657

[BETGLU] Beta-Glucosidase
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Yellow (ACD)
SPECIAL HANDLING: Collect specimen Monday-Thursday only; must arrive at performing lab within 48 hours
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2-8 days
REFERENCE RANGE: 0.08-0.35 U/10(10) cells
Note: Results from this assay do not reflect carrier status because of individual variation of beta-glucosidase enzyme levels
METHODOLOGY: Fluorometric
CPT: 82963

[BETHYD] B-Hydroxybutyrate
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green(heparin)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: 0.0-3.0 mg/dL
METHODOLOGY: Enzymatic
CLINICAL USE: Monitor the presence and degree of ketosis
CPT: 82010

[BETTRAN] Beta-2-Transferrin
SPECIMEN REQUIRED: Frozen body fluid (nasal, otic....)
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: Not detected
METHODOLOGY: Immunofixation Electrophoresis
CLINICAL USE: Detection of spinal fluid in body fluids such as ear or nasal fluid
CPT: 86335

**[BFCHEM] BODY FLUID CHEMISTRY PROFILE**

SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Sodium, Potassium, Chloride, Carbon Dioxide, BUN, Creatinine and Glucose
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: See individual tests
METHODOLOGY: See individual tests
CPT: 82570; 82945; 84520; 84295; 84132; 82438; 82374

**[BFLIPID] BODY FLUID LIPID ANALYSIS**

SPECIMEN REQUIRED: Frozen body fluid
TUBE OR CONTAINER: Plastic transfer tube
SPECIAL HANDLING: Separate supernatant and send both supernatant and sediment in separate tubes
Protect from light
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Cholesterol; Triglycerides; Bilirubin; Hemoglobin and interpretation
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
METHODOLOGY: Colorimetry/Spectrophotometry (SP)/Electrophoresis
CPT: 82247; 82664; 84311; 84478

**[BH4NCSF] TETRAHYDROBIOPTERIN/NEOPTERIN**

SPECIMEN REQUIRED: Frozen CSF
TUBE OR CONTAINER: Special collection containers; contact Lab
SPECIAL HANDLING: Must be in Lab Monday-Thursday by 2:00 pm
SPECIMEN VOLUME: 0.5 mL each tube
TEST INCLUDES: Tetrahydrobiopterin (BH4) and Neopterin
TEST AVAILABILITY: Monday-Thursday only
TURNAROUND TIME: 1 week
OTHER NAMES: Tetrahydrobiopterin/neopterin
CPT: 82492

**[BHD] BIRT-HOGG-DUBE' SYNDROME (FLCN)**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 weeks (mutation detection)
METHODOLOGY: Polyermase Chain Reaction (PCR)
CPT: 83891 x 15; 83892 x 2; 83894 x 15; 83898 x 15; 83904 x 30; 83912

[BHENDNA] Bartonella henselae DNA (PCR)

SPECIMEN REQUIRED: Whole blood at room temperature or Refrigerated CSF
TUBE OR CONTAINER: Lavender (EDTA), Yellow (ACD) or Sterile container
SPECIMEN VOLUME: 5 mL (whole blood)
0.5 mL (CSF)
MINIMUM VOLUME: 0.5 mL (whole blood)
0.2 mL (CSF)
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Detects the presence of Bartonella sp. DNA
CPT: 87471

[BHENTX] Bartonella henselae DNA (PCR)

SPECIMEN REQUIRED: Formalin-fixed, paraffin-embedded tissue block with consultation materials at room temperature
TUBE OR CONTAINER: Paraffin block
SPECIMEN VOLUME: Tissue block
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative
OTHER NAMES: B. henselae; Cat scratch disease (CSD)
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Detects the presence of DNA from Bartonella henselae
CPT: 87798

[BILAF] Amniotic Fld Bilirubin OD 450 Scan

SPECIMEN REQUIRED: Amniotic fluid
TUBE OR CONTAINER: Plastic container
SPECIAL HANDLING: Centrifuge and transport immediately; Protect specimen from exposure to light
Include weeks of gestation
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST INCLUDES: Delta OD value at 450 nm
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 8 hours
OTHER NAMES: Amniotic Fluid Bilirubin; Delta OD, Amniotic Scan; Liley Scan ; OD 450
METHODOLOGY: Spectrophotometry
CLINICAL USE: Evaluate cases of suspected maternal-fetal blood incompatibility, hemolytic disease of the newborn
CPT: 82143
**[BILD] Bilirubin Direct and Total**

- **SPECIMEN REQUIRED:** Refrigerated plasma or serum
- **TUBE OR CONTAINER:** Light Green or Gold
- **SPECIAL HANDLING:** Protect specimen from light
- **SPECIMEN VOLUME:** Adult: 1 mL
  Pediatric: 0.6 mL
- **MINIMUM VOLUME:** Adult: 0.5 mL
  Pediatric: 0.5 mL or 1/2 microtainer
- **TEST INCLUDES:** Total and Direct (Conjugated) bilirubin; bilirubin indirect (unconjugated)
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8 hours
- **REFERENCE RANGE:** See individual tests
- **METHODOLOGY:** Timed endpoint Diazo
- **CLINICAL USE:** Evaluate liver and biliary disease
- **CPT:** 82247; 82248

**[BILE] Total Bile Acids**

- **SPECIMEN REQUIRED:** Frozen serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIAL HANDLING:** Patient should be fasting (8 hours)
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-5 days
- **REFERENCE RANGE:** 0.0-8.1 umol/L
- **OTHER NAMES:** Glyco and Taurochenodeoxycholic Acid; Cholyglycine Bile salts
- **METHODOLOGY:** Enzymatic
- **CLINICAL USE:** Evaluate the enterophagic cycle consisting of the biliary system, intestine, portal circulation, and hepatocytes
- **CPT:** 82239

**[BILE] Urine Bile Acid**

- **SPECIMEN REQUIRED:** Frozen urine (random)
- **TUBE OR CONTAINER:** Urine container
- **SPECIMEN VOLUME:** 50 mL
- **MINIMUM VOLUME:** 10 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2 weeks
- **OTHER NAMES:** Bile Salts urine
- **METHODOLOGY:** Mass Spectrometry (MS)
- **CPT:** 82239

**[BILT] Total Bilirubin**

- **SPECIMEN REQUIRED:** Refrigerated serum or plasma
- **TUBE OR CONTAINER:** Light Green(heparin) or Gold
- **SPECIAL HANDLING:** Protect specimen from light
SPECIMEN VOLUME: Adult: 1.0 mL  
Pediatric: 0.6 mL  
MINIMUM VOLUME: Adult: 0.5 mL  
Pediatric: 0.5 mL or 1/2 microtainer  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
REFERENCE RANGE: 0-1 month: 1.0 - 10.5 mg/dL  
1 month-adult: 0.3 - 1.2 mg/dL  
METHODOLOGY: Timed-endpoint Diazo  
CLINICAL USE: Evaluate liver and biliary disease  
CPT: 82247  

**[BIO]** Biotin Level  
SPECIMEN REQUIRED: Frozen serum or plasma  
TUBE OR CONTAINER: Red or Lavender (EDTA)  
SPECIAL HANDLING: Do not collect in gel barrier tube  
ORDERING MODULE: LAB  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-5 days  
REFERENCE RANGE: 0.00 - 0.83 ng/mL  
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)  
CPT: 84591  

**[BIOP]** BIOPTERIN  
SPECIMEN REQUIRED: Urine (random) or urine spot on PKU card  
TUBE OR CONTAINER: Urine container on PKU card  
SPECIMEN VOLUME:  
MINIMUM VOLUME:  
TEST AVAILABILITY: Daily  
TURNAROUND TIME:  
REFERENCE RANGE:  
METHODOLOGY:  
CLINICAL USE:  
CPT: 82492  

**[BIOT]** BIOTINIDASE DEFICIENCY  
SPECIMEN REQUIRED: Frozen serum  
TUBE OR CONTAINER: Red or Gold  
SPECIAL HANDLING: Separate within 30 minutes of venipuncture  
SPECIMEN VOLUME: 3 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
METHODOLOGY: Determination of enzyme activity with biotin-4-aminobenzoic acid  
CLINICAL USE: Diagnosis of biotinidase deficiency  
CPT: 82261
### [BIS] Bismuth Level

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIAL HANDLING:** Submit original tube
- **SPECIMEN VOLUME:** 7 mL
- **MINIMUM VOLUME:** 1.1 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** Normal: METHODOLOGY: Inductively coupled plasma-mass spectrometry (ICP-MS)
- **CLINICAL USE:** Monitor exposure to bismuth
- **CPT:** 83018

### [BISU] Urine Bismuth

- **SPECIMEN REQUIRED:** Urine (random or 24-hour) at room temperature
- **TUBE OR CONTAINER:** Urine container
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 1.1 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-4 days
- **REFERENCE RANGE:** Environmental exposure: 0.3-4.6 g/L
- **METHODOLOGY:** Inductively coupled plasma-mass spectrometry (ICP-MS)
- **CLINICAL USE:** Monitor exposure to bismuth
- **CPT:** 83018

### [BKVPCR] BK VIRUS PCR QUANTITATIVE

- **SPECIMEN REQUIRED:** Whole blood & random urine at room temperature
- **Other acceptable specimens:** CSF or tissue
- **TUBE OR CONTAINER:** EDTA (Lav) & screw top transfer tube (urine) Sterile tube w/saline
- **SPECIMEN VOLUME:** 5 mL whole blood & 5 mL urine
  - 1 mL Frozen CSF
- **MINIMUM VOLUME:** 3 mL whole blood & 3 mL urine
  - 0.3 mL Frozen CSF
- **TEST INCLUDES:** Detection of BKV virus on both blood and urine
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-3 days
- **REFERENCE RANGE:** Not Detected
- **OTHER NAMES:** Polyomavirus by PCR
- **METHODOLOGY:** Quantitative, Real-time PCR
- **CPT:** 87799

### [BKVUR] Urine BK Virus DNA Quant (PCR)

- **SPECIMEN REQUIRED:** Urine (random) at room temperature
- **TUBE OR CONTAINER:** Tightly sealed urine container
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 3 mL
**BK Virus DNA Quantitative (PCR)**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 3 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-3 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Not Detected</td>
</tr>
<tr>
<td>OTHER NAMES: Polyoma virus-blood</td>
</tr>
<tr>
<td>METHODOLOGY: Quantitative, Real-time PCR</td>
</tr>
<tr>
<td>CPT: 87799</td>
</tr>
</tbody>
</table>

**Beta-Lactamase Test**

**AB Blastomyces Dermatitidis**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.4 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-5 days</td>
</tr>
<tr>
<td>METHODOLOGY: Complement Fixation (CF) - detects IgG</td>
</tr>
<tr>
<td>Immunodiffusion - detects total antibody</td>
</tr>
<tr>
<td>CPT: 86612 x 2</td>
</tr>
</tbody>
</table>

**BlastoMycoses Dermatitis Ag**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Room temperature urine or serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red or Gold (serum)</td>
</tr>
<tr>
<td>Plastic tube or cup (urine)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-5 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: &lt; 1.0</td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme immunoassay (EIA)</td>
</tr>
<tr>
<td>CLINICAL USE: Aid in diagnosis of disseminated or acute pulmonary blastomycosis</td>
</tr>
<tr>
<td>CPT: 87449</td>
</tr>
</tbody>
</table>

**BM Engraftment by PCR**

| SPECIMEN REQUIRED: Room temperature whole blood or bone marrow |
| TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)            |
**SPECIMEN VOLUME:** 20 mL  
**MINIMUM VOLUME:** 10 mL  
**TEST AVAILABILITY:** Monday-Friday  
**TURNAROUND TIME:** 2 weeks  
**METHODOLOGY:** Polyermase Chain Reaction (PCR) and Capillary Electrophoresis  
**CPT:** VARIES DUE TO SAMPLES TESTED  
83890; 93900; 83901 x 7; 83909 x 3; 83912 (most common)

### [BMEXYFISH] BONE MARROW ENGRAFT-XY FISH

**SPECIMEN REQUIRED:** Room temperature whole blood or bone marrow  
**TUBE OR CONTAINER:** Dark Green (heparin)  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 1 ml  
**TEST AVAILABILITY:** Monday-Friday  
**TURNAROUND TIME:** 5-7 days  
**METHODOLOGY:** Fluorescent in situ hybridization (FISH)  
**CLINICAL USE:** Determines percentages of male and female cells in peripheral blood or bone marrow of individuals transplanted with opposite-sex donor bone marrow  
**CPT:** 88368 x 2

### [BMP] BASIC METABOLIC PANEL

**SPECIMEN REQUIRED:** Refrigerated plasma or serum  
**TUBE OR CONTAINER:** Light Green (heparin) or Gold  
**SPECIMEN VOLUME:** Adult: 2 mL  
Pediatric: 1 mL  
**MINIMUM VOLUME:** Adult: 1 mL  
Pediatric: 0.5 mL or 1/2 microtainer  
**TEST INCLUDES:** Sodium, potassium, chloride, carbon dioxide, calcium, BUN, creatinine, and glucose  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 8 hours  
**REFERENCE RANGE:** See individual tests  
**METHODOLOGY:** See individual tests  
**CPT:** 80048

### [BMPIONCA] BASIC METABOLIC PANEL/ION CA

### [BMWBCP] BM NUCLEATED COUNT PROFILE

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST INCLUDES:** WBC and Bone Marrow harvest calculation  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 1 day  
**METHODOLOGY:** Automated cell counter  
**CPT:** 85048
**[BNGLY] CDG: N-GLYCAN STRUCTURAL ANALY**

SPECIMEN REQUIRED: Frozen serum or plasma  
TUBE OR CONTAINER: Red (no gel) or Dark green (heparin)  
SPECIMEN VOLUME: 3 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Monday-Thursday  
TURNAROUND TIME: 7-10 days  
OTHER NAMES: Congenital Disorders of Glycosylation (CDG);  
METHODOLOGY: Matrix-Assisted Laser Desorption/Ionization-Time of flight/Time of flight (MALDI-TOF/TOF)  
CPT: 82373; 83788; 84375

**[BNP] B-Type Natriuretic Peptide**

SPECIMEN REQUIRED: Refrigerated EDTA plasma  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIAL HANDLING: Room temperature: Plasma - stable for 4 hours  
Frozen: Plasma - 9 months  
SPECIMEN VOLUME: 3 mL whole blood  
1 mL plasma  
MINIMUM VOLUME: 1 mL whole blood  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 1 hour  
REFERENCE RANGE: < 100 pg/mL  
OTHER NAMES: Brain Natriuretic Peptide; BNP  
METHODOLOGY: Chemiluminescence  
CLINICAL USE: Support a diagnosis of congestive heart failure (CHF)  
CPT: 83880

**[BOGLY] CDG: O-GLYCAN PROFILE & QUANT**

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Dark Green (heparin)  
SPECIAL HANDLING: Refrigerate until time of shipment; Send within 24 hours of collection; If unable to ship whole blood within 24 hours, send frozen plasma  
SPECIMEN VOLUME: 5 mL (whole blood)  
2 mL (plasma)  
MINIMUM VOLUME: 1 mL (whole blood)  
1 mL (plasma)  
TEST AVAILABILITY: Monday-Thursday  
TURNAROUND TIME: 10-14 days  
REFERENCE RANGE: T antigen: Sialyl T antigen: >= 13 umol  
T antigen/Sialyl T ratio: >=0.06  
OTHER NAMES: Congenital Disorders of Glycosylation (CDG);  
METHODOLOGY: Matrix-Assisted Laser Desorption/Ionization-Time of flight/Time of flight (MALDI-TOF/TOF) and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
**[BOP] Blood, Ova & Parasites**

SPECIMEN REQUIRED: Collect fresh stool specimen. Transfer to Para-Pak Zn-PVA Fixative (gray) and Formalin (pink) within one hour of collection. Also submit hemoccult card. Avoid contamination of stool by urine or barium.

TUBE OR CONTAINER: Para-Pak An-PVA and Formalin

TEST INCLUDES: Concentration and examination of specimen; trichrome stain; occult blood

TEST AVAILABILITY: Monday-Friday

CLINICAL INFORMATION: Aid in the diagnosis of parasitic infestation

CPT: 82270; 87177; 88313

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**[BORDAB] AB BORDETELLA PERT IGG AND IGM**

SPECIMEN REQUIRED: Refrigerated serum

TUBE OR CONTAINER: Red or Gold

SPECIMEN VOLUME: 2 mL

MINIMUM VOLUME: 1 mL

TEST INCLUDES: IgG and IgM antibodies

TEST AVAILABILITY: Daily

REFERENCE RANGE: Negative: < 9 units

METHODOLOGY: Enzyme immunoassay (EIA)

CLINICAL USE: Establish evidence of infection/exposure to Bordetella pertussis, the causative agent of whooping cough

CPT: 86615 x 2

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**[BORDDNA] BORDETELLA PERTUSSIS DNA PCR**

SPECIMEN REQUIRED: Refrigerated swab or aspirate

TUBE OR CONTAINER: Viral transport media (NP swab) or sterile plastic container (nasal aspirate)

TEST INCLUDES: B. pertussis and B. parapertussis

TEST AVAILABILITY: Daily

TURNAROUND TIME: 2-4 days

METHODOLOGY: Polymerase Chain Reaction (PCR)

CLINICAL USE: Detect Bordetella pertussis (whooping cough) and Bordetella parapertussis (whooping cough-like syndrome) in nasopharyngeal specimens

CPT: 87798 x 2

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**[BORRAB] AB BORRELIA HERMSII**

SPECIMEN REQUIRED: Refrigerated serum

TUBE OR CONTAINER: Red or Gold

SPECIMEN VOLUME: 1 mL

MINIMUM VOLUME: 0.3 mL (serum)

TEST INCLUDES: IgG and IgM

TEST AVAILABILITY: Daily

TURNAROUND TIME: 2-10 days
REFERENCE RANGE: IgG IgM
METHODOLOGY: Immunofluorescent antibody (IFA)
CPT: 86619 x 2

**[BOTTOX] Botulism Toxin Testing (CDC)**

**[BRAFVTH] BRAF V600E MUTATION IN THYROID**

- SPECIMEN REQUIRED: Paraffin-embedded, formalin-fixed tissue block at room temperature
- TUBE OR CONTAINER: Paraffin block
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 10-14 days
- METHODOLOGY: Polymerase chain reaction (PCR)/Fluorescence Monitoring analysis
- CPT: 83896 x 2; 83898; 83907; 83912

**[BRS] BRUGADA SYNDROME (BrS)**

- SPECIMEN REQUIRED: Whole blood at room temperature
- TUBE OR CONTAINER: Lavender (EDTA)
- SPECIMEN VOLUME: 10 mL
- MINIMUM VOLUME: 5 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 8-10 weeks
- METHODOLOGY: Polymerase chain reaction (PCR)
- CPT: 83891; 83898 x 34; 83904 x 34; 83909 x 34; 83912

**[BRUCCSF] AB BRUCELLA CSF IGG/IGM**

- SPECIMEN REQUIRED: Frozen CSF
- TUBE OR CONTAINER: Sterile capped tube
- SPECIMEN VOLUME: 1 mL
- MINIMUM VOLUME: 0.2 mL
- TEST INCLUDES: IgM and IgG antibodies
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2-9 days
- REFERENCE RANGE: 0.89 IV or less: Negative
  0.90-1.10 IV: Equivocal
  1.11 IV or greater: Positive
- METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA)
- CPT: 86622 x 2

**[BRUGC] Brucella abortus IgG Antibody**

- SPECIMEN REQUIRED: Serum at room temperature
- TUBE OR CONTAINER: Red or Gold
- SPECIMEN VOLUME: 0.4 mL
- MINIMUM VOLUME: 0.2 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 3-6 Days
- REFERENCE RANGE: Negative
- METHODOLOGY: Enzyme immunoassay (EIA)
- CLINICAL USE: Detection of IgG antibodies to Brucella abortus
- CPT: 86622
**[BRUCM] Brucella abortus IgM Antibody**

SPECIMEN REQUIRED: Serum at room temperature  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 0.5 mL  
MINIMUM VOLUME: 0.2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-6 days  
REFERENCE RANGE: Negative  
METHODOLOGY: Enzyme immunoassay (EIA)  
CLINICAL USE: Detection of IgM antibodies to Brucella abortus in human sera  
CPT: 86622

**[BSS-PGE] BERNARD-SOULIER (PGE) BY FLOW**

SPECIMEN REQUIRED: Refrigerated whole blood  
TUBE OR CONTAINER: Yellow (ACD)  
SPECIAL HANDLING: Send patient sample and control sample from an unrelated donor; Specimen must arrive in lab before 1:30 pm, Monday-Thursday only  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Monday-Thursday  
TURNAROUND TIME: 3-4 days  
METHODOLOGY: Flow Cytometry  
CPT: 88184; 88185

**[BSSSEQ] BERNARD-SOULIER SEQUENCING**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 3 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 4-5 weeks  
OTHER NAMES: Giant Platelet Syndrome  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83890; 83900; 83901 x 5; 83904 x 2; 83909; 83912

**[BTHAL] BETA-THALASSEMIA**

SPECIMEN REQUIRED: Whole blood, amniotic fluid, CVS or buccal swab at room temperature  
TUBE OR CONTAINER: Lavender (EDTA), Yellow (ACD), sterile conical tube, T-25 flasks or buccal swab kit  
SPECIMEN VOLUME: 7 mL (whole blood)  
10 mL (amniotic fluid)  
20 mg CSF  
2 buccal swabs  
MINIMUM VOLUME: 3 mL (whole blood)  
5 mL (amniotic fluid)  
10 mg CSF
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 7-14 days  
OTHER NAMES: Cooley's Anemia; B-Thal  
METHODOLOGY: Polymerase chain reaction (PCR)  
CLINICAL USE: Carrier testing, prenatal diagnosis, and prognosis to predict clinical severity for proper treatment of B-thalassemia  
CPT: 83891; 83894; 83898; 83904; 83909 x 3; 83912

### [BTK] BTK GENE MUTATION

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th>Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td>5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME</td>
<td>1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME</td>
<td>10 weeks</td>
</tr>
<tr>
<td>METHODOLOGY</td>
<td>Bi-directional sequence analysis</td>
</tr>
<tr>
<td>CPT</td>
<td>83891 x 20, 83892 x 2, 83894 x 20, 83898 x 20, 83904 x 40, 88386, 83912</td>
</tr>
</tbody>
</table>

### [BUFFY] Buffy Coat Smear

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME</td>
<td></td>
</tr>
<tr>
<td>PEDIATRIC TEST INFO</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY</td>
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<tr>
<td>TURNAROUND TIME</td>
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<tr>
<td>REFERENCE RANGE</td>
<td></td>
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<tr>
<td>METHODOLOGY</td>
<td></td>
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<tr>
<td>REFLEX TEST INFORMATION</td>
<td></td>
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<tr>
<td>CLINICAL USE</td>
<td></td>
</tr>
<tr>
<td>CPT</td>
<td></td>
</tr>
</tbody>
</table>

### [BUN] Blood Urea Nitrogen

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th>Refrigerated plasma or serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td>Light Green (heparin) or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME</td>
<td>8 hours</td>
</tr>
</tbody>
</table>
| REFERENCE RANGE   | 0-30 days: 2-19 mg/dL  
1 month-59 years: 7-18 mg/dL  
> 59 years: 8-21 mg/dL | |
| METHODOLOGY      | Enzymatic rate              |
| CLINICAL USE     | Aid in diagnosis and treatment of certain renal and metabolic diseases |
| CPT             | 84520                       |
**[BUNFL] Body Fluid Urea Nitrogen**

SPECIMEN REQUIRED: Refrigerated body fluid  
TUBE OR CONTAINER: Sterile container  
SPECIAL HANDLING: Specify source of fluid  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
REFERENCE RANGE: None established  
METHODOLOGY: Enzymatic rate  
CPT: 84520

**[BUPIV] Bupivacaine Level**

SPECIMEN REQUIRED: Refrigerated serum or plasma  
TUBE OR CONTAINER: Red or Lavender (EDTA)  
SPECIAL HANDLING: The use of serum separator is not recommended  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-6 days  
OTHER NAMES: Levobupivacaine Marcaine; Sensorcaine  
METHODOLOGY: Gas Chromatography (GC)  
CLINICAL USE: Therapeutic drug monitoring  
CPT: 80299

**[BUSUL] Busulfan Level**

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Green (heparin)  
SPECIAL HANDLING: Place specimen on ice immediately after collection; Label each tube with exact collection time  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Monday-Thursday  
TURNAROUND TIME: 2-3 days  
OTHER NAMES: Myleran  
METHODOLOGY: Gas chromatography  
CPT: 80299

**[BWS] BECKWITH-WIEDEMANN METHYLATION**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)  
SPECIAL HANDLING: Must arrive at performing lab within 3 days of collection;  
SPECIMEN VOLUME: 7 mL  
MINIMUM VOLUME: 3 mL  
TEST INCLUDES: Methylation of H19 gene (DMR1) and LIT1 gene (DMR2)  
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Confirmation of a clinical diagnosis of BWS; Assessment of prenatal cases
CPT: 83891; 83892; 83900; 83909 x 2; 83914 x 26; 83912

[C1EFUNC] Functional C1 Esterase Inhibitor
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 days
REFERENCE RANGE: % of mean normal activity
Abnormal: < 41%
Equivocal: 41% - 67%
Normal: > 67%
OTHER NAMES: C1 Esterase Inhibitor; C1 Inactivator; C1 Inhibitor; Hereditary Angioneurotic Edema Test
METHODOLOGY: Enzyme immunoassay (EIA)
CPT: 86161

[C1EST] C1 Esterase Inhibitor
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Collect and chill on ice while clotting
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 21-39 mg/dL
OTHER NAMES: C1 Esterase Inhibitor; C1 Inactivator; C1 Inhibitor; Hereditary Angioneurotic Edema Test
METHODOLOGY: Immunologic, quantitative
CLINICAL USE: C1 esterase inhibitor is decreased in hereditary angioneurotic edema; decrease may be functional or quantitative
CPT: 86160

[C1Q] C1q Binding Immune Complex Detect
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red, Gold, or Lavender (EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 days
REFERENCE RANGE: < 4.0 ug Eq/mL
OTHER NAMES: C1q Binding; C1q Immune Complexes; Circulating Immune Complexes
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Monitor immune complex diseases and progress of
some malignancies
CPT: 86332

[C3FLD] Fluid Complement C3
SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Plastic transport tube
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Not established
OTHER NAMES: C3 Body Fluid
METHODOLOGY: Immunologic
CLINICAL USE: Detect individuals with inborn deficiency of this factor or those with immunologic disease in whom complement is consumed at an increased rate
CPT: 86160

[C3GENE] COMPLEMENT C3 GENE
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 months
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 41; 83904 x 41; 83912

[C4FLD] Fluid Complement C4
SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Plastic transport tube
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Not established
OTHER NAMES: C4 Body Fluid
METHODOLOGY: Immunologic
CLINICAL USE: Detect individuals with inborn deficiency of this factor or those with immunologic disease in whom complement is consumed at an increased rate
CPT: 86160

[CA] Calcium Level
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 0-9 days: 7.6-10.4 mg/dL
10 days-2 years: 9.0-11.0 mg/dL
2-12 years: 8.8-10.8 mg/dL
12-18 years: 8.4-10.2 mg/dL
> 18 years: 8.6-10.0 mg/dL
METHODOLOGY: Indirect Potentiometry
CLINICAL USE: Aid in diagnosis and treatment of parathyroid disease, a variety of bone diseases, chronic renal disease and tetany
CPT: 82310

[CA125] CA 125 Antigen
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Mon-Wed-Fri
TURNAROUND TIME: 1-3 days
REFERENCE RANGE: 0-21 units/mL
OTHER NAMES: Cancer Antigen (CA) 125
METHODOLOGY: Chemiluminescence
CLINICAL USE: Tumor marker for monitoring disease progression in nonmucinous epithelial neoplasms of the ovary
CPT: 86304

[CA125FLD] Body Fluid CA 125 Antigen
SPECIMEN REQUIRED: Frozen body fluid
TUBE OR CONTAINER: Sterile tube
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: None established
OTHER NAMES: Cancer Antigen (CA) 125, Body Fluid
METHODOLOGY: Electrochemiluminescent Immunoassay
CPT: 86304

[CA15] CA 15-3 Antigen
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold or Light Green (heparin)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.8 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-3 days
REFERENCE RANGE: < 0.5-32.4 U/mL
OTHER NAMES: Cancer Antigen (CA) 15-3
METHODOLOGY: Chemiluminescence
CLINICAL USE: Monitor patients with systemic recurrence of breast carcinoma after diagnosis and initial
### [CA15-3FLD] Body Fluid CA 15-3 Antigen

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th>Refrigerated or frozen body fluid</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td>Sterile tube</td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME</td>
<td>2-3 days</td>
</tr>
<tr>
<td>REFERENCE RANGE</td>
<td>None established</td>
</tr>
<tr>
<td>OTHER NAMES</td>
<td>Cancer Antigen (CA) 15-3, Body Fluid</td>
</tr>
<tr>
<td>METHODOLOGY</td>
<td>Electrochemiluminescent Assay</td>
</tr>
<tr>
<td>CPT</td>
<td>86300</td>
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</tbody>
</table>

### [CA19] CA 19-9 Antigen

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th>Refrigerated serum or plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td>Red, Gold or Light Green (heparin)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td>2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME</td>
<td>0.8 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY</td>
<td>Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE</td>
<td>&lt; 1.2-35.0 U/mL</td>
</tr>
<tr>
<td>OTHER NAMES</td>
<td>Cancer Antigen (CA) 19-9</td>
</tr>
<tr>
<td>METHODOLOGY</td>
<td>Chemiluminescence</td>
</tr>
<tr>
<td>CLINICAL USE</td>
<td>Monitor gastrointestinal, pancreatic, liver and colorectal malignancies</td>
</tr>
<tr>
<td>CPT</td>
<td>86301</td>
</tr>
</tbody>
</table>

### [CA19FLD] Body Fluid CA 19-9 Antigen

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th>Frozen body fluid</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td>Sterile tube</td>
</tr>
<tr>
<td>SPECIAL HANDLING</td>
<td>Specify source of fluid</td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME</td>
<td>2-3 days</td>
</tr>
<tr>
<td>REFERENCE RANGE</td>
<td>None established</td>
</tr>
<tr>
<td>OTHER NAMES</td>
<td>Cancer Antigen (CA) 19-9, Body Fluid</td>
</tr>
<tr>
<td>METHODOLOGY</td>
<td>Chemiluminescence</td>
</tr>
<tr>
<td>CPT</td>
<td>86301</td>
</tr>
</tbody>
</table>

### [CA27] CA 27.29

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th>Refrigerated serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td>Red, Gold or Light Green (heparin)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td>2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME</td>
<td>0.8 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME</td>
<td>1-3 days</td>
</tr>
<tr>
<td>REFERENCE RANGE</td>
<td>&lt; 3.5-38.6 U/mL</td>
</tr>
<tr>
<td>OTHER NAMES</td>
<td>Cancer Antigen (CA) 27.29; Truquant BR</td>
</tr>
</tbody>
</table>
METHODOLOGY: Chemiluminescence
CLINICAL USE: Manage patients with metastatic carcinoma of the breast
CPT: 86300

[CACREAT]  CALCIUM/CREATININE RATIO
SPECIMEN REQUIRED: Refrigerated random urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING:
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Urine calcium; Urine creatinine; ratio
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 day
REFERENCE RANGE: None established
METHODOLOGY: Indirect ion-selective electrode; Indirect potentiometry
CPT: 82570; 82340

[CAD]  Cadmium
SPECIMEN REQUIRED: Room temperature whole blood
TUBE OR CONTAINER: Royal-blue (EDTA) or Royal-blue (Na-heparin)
LAV (EDTA) also acceptable
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Environmental exposure:
nonsmoker: 0.3-1.2 g/L
smoker: 0.6-3.9 g/L
Occupational exposure:
OSHA Cadmium Standard: 5.0 g/L; BEI
(timing not critical): 5.0 g/L
METHODOLOGY: Inductively coupled plasma-mass spectrometry (IPC-MS)
CLINICAL USE: Monitor recent or acute exposure to cadmium
CPT: 82300

[CADDNA]  CADASIL DNA
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Must be shipped within 24 hours of collection;
Must be in laboratory by 2:00 pm,
Monday-Thursday only
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday only
TURNAROUND TIME: 21-28 days
REFERENCE RANGE: No mutation detected
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA sequencing
CLINICAL USE: Detects mutation in the Notch3 gene
[CADU] Cadmium Urine

SPECIMEN REQUIRED: Urine at room temperature (random or 24 hour)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect 24 hour urine in a "P" container (no preservative)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2.5 mL
TEST INCLUDES: Cadmium, urine; creatinine, urine; cadmium:creatinine ratio
TEST AVAILABILITY: Daily
REFERENCE RANGE: Environmental exposure: Occupational exposure: OSHA Cadmium Standard:
3.0 ug/g creatinine
BEI: 5.0 ug/g creatinine
METHODOLOGY: Inductively coupled plasma-mass spectrometry (ICP-MS)
CLINICAL INFORMATION: Monitor exposure to cadmium
CPT: 82300; 82570

[CAF] Caffeine Level

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Lavender (EDTA) or Dark Green (heparin)
SPECIAL HANDLING: Do not collect in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-3 days
REFERENCE RANGE: Therapeutic: 3.0-15.0 ug/mL
Neonatal apnea: 8-14 ug/mL
Infant (Potentially toxic: > 50.0 ug/mL
OTHER NAMES: Cafcit Injection (Caffeine Citrate); Durvitan
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
CLINICAL USE: Monitor caffeine concentration in newborns receiving theophylline or caffeine
CPT: 80299

[CAFLD] Body Fluid Calcium

SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Sterile tube
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Indirect ion-selective electrode
CPT: 82310
**[CAH] CONGENITAL ADRENAL HYPERPLASIA**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 15-20 days
OTHER NAMES: CAH; CYP21; 21-Hydroxylase Gene Mutation
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Detect mutations in the steroid 21-hydroxylase gene
CPT: 83890; 83892 x 7; 83898 x 2; 83904 x 10; 83912

**[CAHDETX] CAHdetx BY PCR**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83892; 83894 x 2; 83898 x 3; 83909 x 4; 83914 x 26; 83912

**[CAION] Ionized Calcium**

SPECIMEN REQUIRED: Whole blood on ice
TUBE OR CONTAINER: Unopened Light Green (heparin)
SPECIAL HANDLING: Do NOT open tube
Specimen WILL be rejected if specimen is not anaerobically received
Do not draw EDTA (will be rejected)
SPECIMEN VOLUME: Adult: 2 mL
Pediatric: 1 mL or 1 full microtainer
MINIMUM VOLUME: Adult: 1 mL
Pediatric: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 1.12-1.32 mmol/L
OTHER NAMES: Calcium Free; Calcium Unbound
METHODOLOGY: Ion-selective electrode (ISE)
CLINICAL USE: Evaluate nonbound calcium, calcium metabolism, physiologically active calcium fraction, hyperparathyroidism, ectopic hyperparathyroidism
CPT: 82330

**[CALC] Calcitonin Level**

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Collect specimen from a fasting patient;
Spin in refrigerated centrifuge; separate and freeze immediately

**SPECIMEN VOLUME:** 1 mL

**MINIMUM VOLUME:** 0.4 mL (this volume does not allow for repeat testing)

**TEST AVAILABILITY:** Daily

**REFERENCE RANGE:** Male: 0.0 - 8.4 pg/mL
Female: 0.0 - 5.0 pg/mL

**OTHER NAMES:** Thyrocalcitonin

**METHODODOLOGY:** Immunochemiluminometric assay (ICMA)

**CLINICAL USE:** Detection and confirmation of C-cell hyperplasia as well as tumor marker for diagnosis & management of medullary carcinoma of the thyroid gland

**CPT:** 82308

---

**[CALCO] Calcofluor Prep**

**SPECIMEN REQUIRED:** Clinical specimen at room temperature

**TUBE OR CONTAINER:** Sterile container

**SPECIAL HANDLING:** Indicate source of specimen

**ORDERING MODULE:** MIC

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 1 day

**CLINICAL USE:** Determine the presence or absence of fungal forms

**CPT:** 87205

---

**[CALPRO] Stool Calprotectin**

**SPECIMEN REQUIRED:** Frozen stool

**TUBE OR CONTAINER:** Plastic container

**SPECIAL HANDLING:** Can remain at room temperature for up to eight days

**SPECIMEN VOLUME:** 5 grams

**MINIMUM VOLUME:** 1 gram

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 2-6 days

**REFERENCE RANGE:** 0 - 120 ug/g

**METHODODOLOGY:** Enzyme-linked Immunosorbent Assay (ELISA)

**CLINICAL USE:** Aid in diagnosis of inflammatory bowel disease (IBD)

**CPT:** 83993

---

**[CAMPYAB] Campylobacter jejuni IgG Antibody**

**SPECIMEN REQUIRED:** Refrigerated serum or plasma

**TUBE OR CONTAINER:** Red, Gold, Green(heparin) or Lavender(EDTA)

**SPECIMEN VOLUME:** 1 mL

**MINIMUM VOLUME:** 0.5 mL

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 2-9 days

**REFERENCE RANGE:** < 0.90

**METHODODOLOGY:** Enzyme-linked immunosorbent assay (ELISA)

**CLINICAL USE:** Markedly elevated levels of antibodies
recognizing C. jejuni typically indicate recent or ongoing infection, even though stool cultures may be negative
CPT: 86625

[CANDAB] Candida albicans Antibody
SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative
METHODOLOGY: Double immunodiffusion (DID)
CLINICAL USE: Diagnose systemic candidiasis
CPT: 86628

[CANNABU] UR CANNABINOID W/CONFIRMATION
SPECIMEN REQUIRED: Random urine
TUBE OR CONTAINER: Sterile urine container
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 15 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Gas chromatography/mass spectrometry (GC/MS)
CLINICAL USE: Confirmation of urine cannabinoids
CPT: 80102

[CARB] Carbamazepine (Tegretol) Level
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIAL HANDLING: Indicate whether level is random, peak, or trough
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 4.0-12.0 mg/L
OTHER NAMES: Carbatrol; Tegretol
METHODOLOGY: Turbidimetric
CLINICAL USE: Monitor for compliance, efficiency and toxicity
CPT: 80156

[CARBDTP] CARBOHYDRATE DEFIC TRANS PROF
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Mono-oligosaccharide/di-oligosaccharide and a-oligosaccharide/di-oligosaccharide
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
REFERENCE RANGE: MONO-OLIGOSACCHARIDE/DI-OLIGOSACCHARIDE
< or = 0.074
0.075-0.109 (Indeterminate)
A-OLIGOSACCHARIDE/DI-OLIGOSACCHARIDE
< or = 0.022
OTHER NAMES: Congenital Disorders of Glycosylation (CDG); Transferrin Isoforms
METHODOLOGY: Affinity Chromatography/Mass Spectrometry (MS)
CPT: 82373

[CARBEPO] Carbamazepine-10,11-Epoxide
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Dark Green (heparin)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 0.2-2.0 ug/mL
OTHER NAMES: Tegretol metabolite
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80156

[CARBF] Free Carbamazepine (Tegretol) Level
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Dark Green (heparin)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Therapeutic: 0.6-4.2 g/mL
OTHER NAMES: Tegretol, Free
METHODOLOGY: Ultrafiltrate assayed by immunoassay
CLINICAL USE: Therapeutic drug monitoring
CPT: 80157

[CARBU] Urine Carbohydrate
SPECIMEN REQUIRED: Frozen urine (random)
TUBE OR CONTAINER: Urine container
SPECIAL HANDLING: Early morning specimen preferred
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Negative
If positive, carbohydrate is identified
METHODOLOGY: Thin-Layer Chromatography, Qualitative
CLINICAL USE: Screen disorders with increased excretion of fructose, glucose, galactose, disaccharides,
and oligosaccharides, as well as succinylpurines
CPT: 84377

<table>
<thead>
<tr>
<th>CARDGAM</th>
<th>ANTICARDIOLIPIN PROFILE G,A,M</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Specimens referred to OMRF by physician request only</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: IgG, IgA, and IgM anticardiolipin antibodies</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-3 days</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: Normal: 0-12 APL 0-10 GPL 0-9 MPL</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Antiphospholipids; APL; Cardiolipin Ab; ACA</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Aid in diagnosis of antiphospholipid antibody syndrome</td>
<td></td>
</tr>
<tr>
<td>CPT: 86147 x 3</td>
<td></td>
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</tbody>
</table>

<table>
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<tr>
<th>CARDOMRF</th>
<th>ANTICARDIOLIPIN PROFILE OMRF</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: Anticardiolipin antibodies IgA, IgG, and IgM</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 7-10 days</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: IgG &lt; 10 GPL IgM &lt; 10 MPL IgA: Negative</td>
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<tr>
<td>OTHER NAMES: Antiphospholipids; Cardiolipin Ab; ACA</td>
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<tr>
<td>CLINICAL USE: Aid in diagnosis of antiphospholipid antibody syndrome</td>
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<tr>
<td>CPT: 86147 x 3</td>
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</table>

<table>
<thead>
<tr>
<th>CARIS</th>
<th>CARISOPRODOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum or plasma</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red, Lavender (EDTA); or Dark Green (heparin)</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.6 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: Carisoprodol; meprobamate (carisoprodol metabolite)</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: Therapeutic: Meprobamate: 6-12 g/mL</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Rela; Sodol; Soma; Sopridol; Soridol</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Gas chromatography (GC)</td>
<td></td>
</tr>
</tbody>
</table>
**CLINICAL USE:** Evaluate toxicity; monitor therapeutic levels  
**CPT:** 80299

---

### [CARNCARD] Carnitine

- **SPECIMEN REQUIRED:** Dried blood spots at room temperature  
- **TUBE OR CONTAINER:** Filter paper card  
- **SPECIMEN VOLUME:** 3 dried blood spots  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 2-4 days  
- **METHODOLOGY:** Mass Spectrometry  
- **CPT:** 82379

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### [CARNCOMBO] Carnitine/Acylcarn Combination

- **SPECIMEN REQUIRED:** Frozen plasma  
- **TUBE OR CONTAINER:** Green (heparin)  
- **SPECIMEN VOLUME:** 1 mL  
- **MINIMUM VOLUME:** 0.5 mL  
- **TEST INCLUDES:** Acylcarnitine; Free carnitine  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 4-6 days  
- **METHODOLOGY:** Tandem mass spectrometry  
- **CLINICAL USE:** Assessment of a patient for disorders of fatty acid oxidation and other organic acidopathies  
- **CPT:** 82017; 82379

---

### [CARDEFS] Carnitine Def Syst (SLC22A5)

- **SPECIMEN REQUIRED:** Refrigerated whole blood  
- **TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)  
- **SPECIMEN VOLUME:** 5 mL  
- **MINIMUM VOLUME:** 1.5 mL  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 4 weeks  
- **OTHER NAMES:** Carnitine Transporter Deficiency; Organic Cation Transporter - OCTN2; SLC22A5 gene sequencing; Carnitine Deficiency, systemic primar (CDSP)  
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)  
- **CPT:** 83891; 83898 x 10; 83904 x 10; 83909; 83912

---

### [CARPAML] Carnitine Palmitoyl Transferas

- **SPECIMEN REQUIRED:** Fibroblasts or whole blood at room temperature  
- **TUBE OR CONTAINER:** Confluent T-25 flasks or Yellow (ACD)  
- **SPECIAL HANDLING:** Specimen must arrive in laboratory by 1:30 pm, Monday-Wednesday only  
- **SPECIMEN VOLUME:** 2 flasks  
- **10 mL (whole blood)**  
- **MINIMUM VOLUME:** 1 flask  
- **3 mL (whole blood)**  
- **TEST AVAILABILITY:** Monday-Wednesday  
- **TURNAROUND TIME:** 4-6 weeks (fibroblasts)
2-4 weeks (whole blood)
METHODOLOGY: Quantitative palmitoylcarnitine measurements using L-(methyl-14C)carnitine-HCl
CPT: 82658; 84157; 88233

<table>
<thead>
<tr>
<th>[CARNU] UR CARNITINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen urine (Random)</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Plastic urine container</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: Total carnitine, Free carnitine, Esterified carnitine and ratio</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 3-10 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0-5 months: 160-1552 mol/g creatine</td>
</tr>
<tr>
<td>6-23 months: 231-1710 mol/g creatinine</td>
</tr>
<tr>
<td>2 years and older: 73-731 mol/g creatinine</td>
</tr>
<tr>
<td>METHODOLOGY: Tandem Mass Spectrometry</td>
</tr>
<tr>
<td>CPT: 82379</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[CARO] Carotene</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum protected from light</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Patient should be fasting (8 hours) and receive no vitamin supplement or foods containing vitamin A or carotene for 24 hrs before testing in patient ages 0-6 months, 48 hrs for older groups (6 months or older)</td>
</tr>
<tr>
<td>Protect specimen from light</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1.2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE: 10-85 ug/dL</td>
</tr>
<tr>
<td>OTHER NAMES: Beta-carotene</td>
</tr>
<tr>
<td>METHODOLOGY: High-pressure liquid chromatography (HPLC)</td>
</tr>
<tr>
<td>CLINICAL USE: Confirm the diagnosis of carotenoderma; detect fat malabsorption; depressed carotene levels may be found in cases of steatorrhea</td>
</tr>
<tr>
<td>CPT: 82380</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[CASR] CA HOMEOSTASIS VIA CASR GENE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Friday</td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83891 x 24; 83892 x 2; 83894 x 24; 83898 x 2 83904 x 12; 83912</td>
</tr>
</tbody>
</table>
[CATALDIS]  CATALASE DISTRIBUTION FIBROBL
SPECIMEN REQUIRED: Fibroblasts at room temperature
TUBE OR CONTAINER: T-25 flasks
SPECIMEN VOLUME: 2 flasks
MINIMUM VOLUME: 1 flask
TEST AVAILABILITY: Daily
CPT: 82657

[CATF]  CATECHOLAMINES FRACTIONATED
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA) or Green (heparin)
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2.5 mL
TEST INCLUDES: Plasma catecholamines, total and fractionated
(dopamine, epinephrine, norepinephrine)
TEST AVAILABILITY: Daily
REFERENCE RANGE: Adults: total: epinephrine: dorepinephrine: dopamine:
OTHER NAMES: Adrenalin, Dopamine, Epinephrine, Noradrenaline,
Norepinephrine, Plasma Catecholamines
METHODOLOGY: High-pressure liquid chromatography (HPLC) with
electrochemical (EC) detection
CLINICAL USE: Diagnose pheochromocytoma and those paragangliomas
which may secrete epinephrine, norepinephrine, or
both
CPT: 82384

[CATFU]  UR CATECHOLAMINE FRACTIONATED
SPECIMEN REQUIRED: Refrigerated or frozen urine (24-hour)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: 24 hour urine collected in "D" container.
Keep specimen on ice during collection
Final pH must be 1-3
SPECIMEN VOLUME: 30 mL
MINIMUM VOLUME: 4 mL
TEST INCLUDES: Urinary epinephrine; urinary norepinephrine;
urinary dopamine
TEST AVAILABILITY: Daily
REFERENCE RANGE: Epinephrine: 0 - 24 ug/24 hours
Norepinephrine: 0-140 ug/24 hours
Dopamine: 65-610 ug/24 hours
OTHER NAMES: Dopamine, Urine; Epinephrine, urine; Free
Free Catecholamine Fractionation; Norepinephrine
METHODOLOGY: High-pressure liquid chromatography (HPLC) with
electrochemical (EC) detection
CLINICAL USE: Work up neuroblastoma; diagnose pheochromocytoma
CPT: 82384

[CATFURAN]  UR CATECHOLAMINE FRACT-RANDOM
SPECIMEN REQUIRED: Refrigerated or frozen urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Adjust pH to 1-3 with 6N HCl
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 4 mL
TEST INCLUDES: Urinary epinephrine; urinary, norepinephrine; urinary dopamine; creatinine
TEST AVAILABILITY: Daily
REFERENCE RANGE: Age specific
OTHER NAMES: Dopamine, Urine; Epinephrine, urine; Free Catecholamine Fractionation; Norepinephrine, urine
METHODOLOGY: High-pressure liquid chromatography (HPLC) with electrochemical (EC) detection
CLINICAL USE: Work up neuroblastoma; diagnose pheochromocytoma
CPT: 82384

[CATHARLAX] CATHARTIC LAXATIVE PANEL

SPECIMEN REQUIRED: Frozen stool (liquid or solid)
TUBE OR CONTAINER: Tightly sealed container
SPECIMEN VOLUME: 20 mLs or 20 grams
MINIMUM VOLUME: 10 mLs or 10 grams
TEST INCLUDES: Anthraquinones, Bisacodyl, Magnesium, Oils, Oxyphenisatin, Phenolphthalein, Phosphorus
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-10 days
METHODOLOGY: Flame Atomic Absorption Spectroscopy (FAAS); Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP/AES); Thin Layer Chromatography (TLC)
CPT: 83735; 84100

[CATM] UR CALCIUM TIMED

SPECIMEN REQUIRED: Refrigerated aliquot of 24-hour urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect 24-hour urine in "P" container (no preservative)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE:
50-150 mg/24hrs based on Low to Average Calcium intake
100-300 mg/24hrs based on Average Calcium intake
METHODOLOGY: Indirect potentiometry
CLINICAL USE: Reflects intake rates of intestinal calcium absorption, bone resorption, and renal loss
CPT: 82340

[CAUR] Urine Random Calcium

SPECIMEN REQUIRED: Refrigerated random urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Adjust pH to < 2 with 6N HCl
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Indirect ion-selective electrode
CPT: 82310

[CAV3] CAVEOLINOPATHY VIA CAV3 GENE

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 3; 83904 x 3; 83912

[CBC] COMPLETE BLOOD COUNT W/DIFF

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Mix immediately to avoid platelet clumping
Refrigerate if specimen is held past 24 hours
Specimen must not be hemolyzed, clotted, or diluted with IV fluid
Clotted specimens WILL be rejected
4.5 mL tubes requires at least 2.0 mL blood
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
EDTA MICROTAINER Minimum: 250 uL
TEST INCLUDES: Hematocrit; hemoglobin; MCV; MCH; MCHC; RDW;
percentage and absolute differential counts;
platelet count; red and white blood cell counts
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-4 hours
METHODOLOGY: Automated cell counter
CLINICAL USE: Evaluate anemia, leukemia, reaction to inflammation and infections, peripheral blood cellular characteristics, state of hydration & dehydration, polycythemia, hemolytic disease of the newborn, inherited disorders of red cells, white cells, and platelets; manage chemotherapy decisions; determine qualitative and quantitative variations in white cell numbers and morphology, morphology of red cells and platelet evaluation.
CPT: 85025

[CBCWOD] CBC W/O DIFF

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Mix immediately to avoid platelet clumping
Refrigerate if specimen is held past 24 hours
Specimen must not be hemolyzed, clotted, or diluted with IV fluid
Clotted specimens WILL be rejected
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Hematocrit; hemoglobin; MCV; MCH; MCHC; RDW; platelet count; red and white blood cell counts
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-4 hours
METHODOLOGY: Automated cell counter
CLINICAL USE: Evaluate anemia, leukemia, reaction to inflammation and infections, peripheral blood cellular characteristics, state of hydration & dehydration, polycythemia, hemolytic disease of the newborn, inherited disorders of red cells, white cells, and platelets; manage chemotherapy decisions; determine qualitative and quantitative variations in white cell numbers and morphology, morphology of red cells and platelet evaluation.
CPT: 85027

[CBG] CAP BLOOD GASES W/MEAS O2 SAT
SPECIMEN REQUIRED: Whole blood in capillary tube
TUBE OR CONTAINER: Heparinized capillary
SPECIAL HANDLING: Transport immediately at room temp
Test should be performed within 30 minutes
SPECIMEN VOLUME: Adult: 2 mL
Pediatric: 0.5 mL
MINIMUM VOLUME: Adult: 1 mL
Pediatric : 0.3 mL
TEST INCLUDES: pH, pCO2, pO2, HCO3, base excess, measured % saturation
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10 minutes
METHODOLOGY: Potentiometry
CLINICAL USE: Evaluate O2 and CO2 gas exchange, respiratory function including hypoxia and acid-base status
CPT: 82805

[CBS] CYSTATHIONINE B-SYNTHASE GENO
SPECIMEN REQUIRED: Room temperature whole blood
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 weeks
METHODOLOGY: Amplification of DNA with restriction digest
**[CC2D2A] JOUBERT/MECKEL-GRUBER (CC2D2A)**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 4-6 weeks  
OTHER NAMES: Joubert and Meckel-Gruber Syndromes via CC2D2A gene sequencing  
METHODOLOGY: Polymerase chain reaction (PCR)  
CPT: 83890; 83891; 83894; 83898 x 30; 83904 x 30; 83912

**[CCD] CLEIDOCRANIAL DYSPLASIA**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 4 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3 weeks  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83890; 83894 x 8; 83898 x 8; 83904 x 16; 83912

**[CCHS] CONG CENTRAL HYPOVENTILATION**

SPECIMEN REQUIRED: Room temperature whole blood  
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)  
SPECIAL HANDLING: Ship M-Thurs only; refrigerate on weekend  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-3 weeks  
OTHER NAMES: PHOX2B gene mutations  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83891; 83894 x 5; 83898 x 4; 83904 x 8; 83909 x 8; 83912

**[CCP] Cyclic Citrullinated Peptide IgG Ab**

SPECIMEN REQUIRED: Refrigerated serum  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-7 days  
REFERENCE RANGE: Negative  
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)  
CLINICAL USE: Aids in the diagnosis of rheumatoid arthritis when considered in conjunction with other laboratory and clinical findings  
CPT: 86200
### [CD3] CD3 ONLY

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Whole blood at room temperature</th>
</tr>
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<tbody>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
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<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 3 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: CD3%, CD3 Absolute #, WBC, and % Lymph</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Friday, day shift only</td>
</tr>
<tr>
<td>REFERENCE RANGE: 28-76 %</td>
</tr>
<tr>
<td>METHODOLOGY: Flow cytometry</td>
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<tr>
<td>CPT: 88184</td>
</tr>
</tbody>
</table>

### [CD34] CD34

### [CD4] CD4 ONLY

<table>
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<th>SPECIMEN REQUIRED: Whole blood at room temperature</th>
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<tbody>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Specimens must be received in the lab by 12:00 noon on Fridays; this test is not performed on weekends or holidays</td>
</tr>
<tr>
<td>Please call Flow with questions (x-3592)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: CD4%, CD4 Absolute, WBC, and % Lymphocytes</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Friday (day shift only)</td>
</tr>
<tr>
<td>TURNAROUND TIME: 24 hours</td>
</tr>
<tr>
<td>METHODOLOGY: Flow cytometry</td>
</tr>
<tr>
<td>CLINICAL USE: Prognostic purposes and to monitor disease progression and antiretroviral therapy in HIV patients</td>
</tr>
<tr>
<td>CPT: 86361</td>
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</tbody>
</table>

### [CD4/C0D8] HELPER/SUPPRESSOR PROFILE

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Specimens must be received in the lab by 12:00 noon on Fridays; this test is not performed on weekends or holidays</td>
</tr>
<tr>
<td>Please call Flow with questions (x-3592)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 ml</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 3 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: CD4%, CD4 Absolute #, CD8%, CD8 Absolute #, CD4/CD8 Ratio, WBC, and % Lymph</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Friday</td>
</tr>
<tr>
<td>TURNAROUND TIME: 1-4 days</td>
</tr>
<tr>
<td>OTHER NAMES: CD4:CD8 ratio profile</td>
</tr>
<tr>
<td>METHODOLOGY: Flow cytometry</td>
</tr>
<tr>
<td>CLINICAL USE: Monitor patient's immune function</td>
</tr>
<tr>
<td>CPT: 86360</td>
</tr>
</tbody>
</table>

### [CD401] CD40 (HYPER IGM SYND) STAGE 1
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark green (heparin)
SPECIAL HANDLING: Must arrive in lab by 1:30 pm Monday-Thursday only; Must be shipped same day as collected
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 1.5 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2-6 days
REFERENCE RANGE: Present
METHODOLOGY: Flow Cytometry
CPT: 88184; 88185 x 6

[CD46] CD46

[CD4CD8ESO] HELPER/SUPPRESSOR ESOTERIX

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must be received in laboratory by 1:30 pm, Monday through Friday only
Analysis cannot be performed on specimens greater than 24 hours old
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST INCLUDES: CD3 + CD4 Absolute and %, CD3+ CD8 Absolute and %, CD3+T cells absolute and %, CD4/CD8 ratio, and total Lymphocytes
TEST AVAILABILITY: Monday-Friday only
TURNAROUND TIME: 2-3 days
METHODOLOGY: Flow cytometry
CLINICAL USE:
CPT:

[CD56P] CD56 (NATURAL KILLER PROFILE)

[CDG1A] CONG DISORDERS GLYCOSYLATION

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
OTHER NAMES: PMM2 Gene Sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 8; 83904 x 8; 83912

[CDGENE] CROHN'S DISEASE GENE

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 weeks
METHODOLOGY: DNA sequencing
CPT: 83890; 83894 x 2; 83898 x 4; 83904 x 8; 83912 (4 MARKERS)

[CDIFF] Clostridium Difficile Toxins

SPECIMEN REQUIRED: Loose stool in a leakproof specimen cup without transport media or preservatives. If unable to submit immediately to the OUMC Lab, refrigerate (4 degrees C) for no more than 72 hours. Rectal swabs and formed stool specimens will be rejected.
TUBE OR CONTAINER: Screw cap container.
SPECIAL HANDLING: Test will not be performed on formed stool or swabs, on patients less than 1 year of age, or on patients with a previous positive Toxin B assay in the last 30 days.

TEST AVAILABILITY: Daily
METHODOLOGY: PCR (Polymerase Chain Reaction)
CLINICAL INFORMATION: Aid in diagnosis of antibiotic related colitis. The C. difficile PCR has a reported negative predictive value of greater than 98%. Therefore, the test will only be performed once every 7 days when C. difficile-associated colitis is strongly suspected. Otherwise, alternate causes of diarrhea should be sought.

[CDIFFAG] Clostridium Difficile Antigen

SPECIMEN REQUIRED: Loose stool in a leakproof specimen cup without transport media or preservatives. If unable to submit immediately to the OUMC Lab, refrigerate (4 degrees C) for no more than 72 hours or freeze (-10 C or lower). Rectal swabs and formed stool specimens will be rejected.
TUBE OR CONTAINER: Screw cap container.
SPECIAL HANDLING: Test will not be performed on formed stool or swabs, on patients less than 1 year of age, or on patients with a previous positive Toxin B assay in the last 30 days.
TEST AVAILABILITY: Daily
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL INFORMATION: Aid in diagnosis of antibiotic related colitis. The C. difficile Ag-EIA has a reported negative predictive value of greater than 99%. Therefore, the test should only be repeated when C. difficile-associated colitis is strongly suspected. Otherwise, alternate causes of diarrhea should be sought. Stools positive for Clostridium difficile antigen will be tested for Toxin B to confirm the presence of a toxin-producing strain of C. difficile at an additional charge.

[CDIFTC] Clostridium Difficile Toxin B

SPECIMEN REQUIRED: Place a freshly collected liquid or loose
stool specimen in a tightly sealed sterile container. Do not add preservative. Refrigerate specimen until transport.
TUBE OR CONTAINER: Screw cap container.
SPECIAL HANDLING: Test will no be performed on formed stool, or patients less than 6 months of age.
TEST AVAILABILITY: Daily
METHODOLOGY: Tissue culture cytotoxicity assay

[CDKL5]  CDKL5 SEQUENCING
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 14 mL
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 12; 83904 x 25; 83909 x 25; 83912

[CEA]  Carcinoembryonic Antigen
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: 0-5 ng/mL
OTHER NAMES: CEA
METHODOLOGY: Chemiluminescence
CLINICAL USE: Tumor marker which is most useful as a chemical monitor of recurrence and therapy in patients with gastrointestinal carcinomas
CPT: 82378

[CEAFLD]  Body Fluid Carcinoembryonic Antigen
SPECIMEN REQUIRED: Body fluid at room temperature
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Specify type of fluid
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
REFERENCE RANGE: None established
METHODOLOGY: Chemiluminescence
CPT: 82378

[CEBPA]  CEBPA MUTATION ANALYSIS
SPECIMEN REQUIRED: Whole blood or bone marrow at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Dark green (heparin)
SPECIMEN VOLUME: 5 mL whole blood
2 mL bone marrow
MINIMUM VOLUME: 3 mL whole blood
1 mL bone marrow
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-12 days
METHODOLOGY: Polymerase chain reaction (PCR); direct sequencing; capillary electrophoresis
CPT: 83891; 83894 x 2; 83898 x 10; 83909 x 8; 83912

[CEFT] Ceftriaxone Level
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Collect within 15 minutes of next dose for the TROUGH level; Collect within 15-30 minutes after the end of IV infusion or 45-60 minutes after an IM injection or 90 minutes after oral intake for the PEAK level
Do NOT use gel barrier tubes
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
OTHER NAMES: Rocephin
METHODOLOGY: Bioassay (BA)
CLINICAL USE: Monitor therapeutic drug level
CPT: 80299

[CELCOMP] COMPREHENSIVE CELIAC PANEL
SPECIMEN REQUIRED: Refrigerated serum AND whole blood
TUBE OR CONTAINER: Gold or Red AND Lavender (EDTA)
SPECIMEN VOLUME: 2 mL serum AND 5 mL whole blood
MINIMUM VOLUME: 1 mL serum AND 2 mL whole blood
TEST INCLUDES: Deamidated gliadin Peptide IgG/IgA; Anti-endomysial IgA; Anti-tissue transglutaminase IgA; total IgA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-9 days
METHODOLOGY: ELISA; Indirect immunofluorescence and Nephelometry; Polymerase chain reaction (PCR)
REFLEX TEST INFORMATION: Genetics testing will be reflexed at an additional charge on samples with no detected Celiac markers
CLINICAL USE: Diagnose Celiac disease
CPT: 83520 x 3; 88347; 82784

[CELIAC] CELIAC PANEL (PROMETHEUS)
SPECIMEN REQUIRED: Room temperature serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.5 mL (pediatric)
TEST INCLUDES: Deamidated gliadin Peptide IgG/IgA; Anti-endomysial IgA; Anti-tissue transglutaminase IgA; total IgA
TURNAROUND TIME: 8 days
METHODOLOGY: ELISA; Indirect immunofluorescence and Nephelometry
CLINICAL USE: Helps to identify patients with celiac disease (gluten sensitivity) and aid in treatment monitoring
CPT: 83520 x 3; 88347; 82784

<table>
<thead>
<tr>
<th>CELIAGENE</th>
<th>CELIAC GENETICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Room temperature whole blood</td>
<td></td>
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<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
<td></td>
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<tr>
<td>TEST INCLUDES: HLA DQ2/DQ8</td>
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<tr>
<td>TURNAROUND TIME: 2-4 days</td>
<td></td>
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<tr>
<td>CLINICAL USE: Genetic test to rule out celiac disease for life with up to 99% certainty</td>
<td></td>
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<tr>
<td>CPT: 83891; 83900 x 2; 83896 x 72; 83912</td>
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<table>
<thead>
<tr>
<th>CELBAL</th>
<th>BAL CELL COUNT/DIFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated fluid</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile fluid container</td>
<td></td>
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<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: Microscopic examination for RBCs and WBCs, differential, and physical properties</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 hours</td>
<td></td>
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<tr>
<td>METHODOLOGY: Microscopic and macroscopic examination</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Evaluate Broncheal Alveolar Lavage for the presence of RBCs and WBCs for physical appearance</td>
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<tr>
<td>CPT: ??????????</td>
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<table>
<thead>
<tr>
<th>CELCSFD</th>
<th>CSF CELL CT/DIFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated cerebrospinal fluid (CSF)</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile container</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: Differential counts; RBC; WBC</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-8 hours</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Microscopic examination</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Evaluate bacterial or viral encephalitis, meningitis, meningoencephalitis, mycobacterial or fungal infection, primary or secondary</td>
<td></td>
</tr>
<tr>
<td><strong>CELLPC</strong></td>
<td><strong>PERICARDIAL FLD CELL CT/DIFF</strong></td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated fluid</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or sterile container</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: Microscopic examination for RBCs and WBCs, differential, and physical properties</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 hours</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Microscopic and macroscopic examination</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Evaluate body fluid for the presence of RBCs and WBCs and for physical appearance</td>
<td></td>
</tr>
<tr>
<td>CPT: 89051</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>CELLPL</strong></th>
<th><strong>PLEURAL FLD CELL CT/DIFF</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated fluid</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or sterile container</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: Microscopic examination for RBCs and WBCs, differential, and physical properties</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 hours</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Microscopic and macroscopic examination</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Evaluate body fluid for the presence of RBCs and WBCs and for physical appearance</td>
<td></td>
</tr>
<tr>
<td>CPT: 89051</td>
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</tr>
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</table>

<table>
<thead>
<tr>
<th><strong>CELLPT</strong></th>
<th><strong>PERITONEAL FLD CELL CT/DIFF</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated fluid</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or sterile container</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: Microscopic examination for RBCs and WBCs, differential, and physical properties</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 hours</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Microscopic and macroscopic examination</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Evaluate body fluid for the presence of RBCs and WBCs and for physical appearance</td>
<td></td>
</tr>
<tr>
<td>CPT: 89051</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>CELLSY</strong></th>
<th><strong>SYNOVIAL FLD CELL CT/DIFF</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated fluid</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or sterile container</td>
<td></td>
</tr>
</tbody>
</table>
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Microscopic examination for RBCs and WBCs, differential, and crystals; macroscopic examination for appearance and viscosity
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
METHODOLOGY: Microscopic and macroscopic examination
CLINICAL USE: Evaluate synovial fluid for the presence of RBCs, WBCs, and crystals and for physical appearance
CPT: 89051

[CELLTC]  THORACIC FLD CELL CT/DIFF

SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Lavender (EDTA) or sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Microscopic examination for RBCs and WBCs, differential, and physical properties
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
METHODOLOGY: Microscopic and macroscopic examination
CLINICAL USE: Evaluate body fluid for the presence of RBCs and WBCs and for physical appearance
CPT: 89051

[CENTRAB]  Anti-Centromere Antibody

SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
METHODOLOGY: Multiplex bead flow cytometry
CLINICAL USE: Aid in the assessment of scleroderma
CPT: 86039

[CEP290]  JOUBERT SYNDROME VIA CEP290

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: CEP290 gene
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
OTHER NAMES: Joubert syndrome Sequential evaluation via CEP290
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 12; 83904 x 12; 83912 (TIER 1)
CPT: 83890; 83891; 83894; 83898 x 41; 83904 x 41; 83912 (TIER 2)
### [CEPHAL] Cephalexin Level

- **SPECIMEN REQUIRED:** Frozen serum
- **TUBE OR CONTAINER:** Red
- **SPECIAL HANDLING:** Collect within 15 minutes of next dose for the TROUGH level; Collect within 15-30 minutes after the end of IV infusion or 45-60 minutes after an IM injection or 90 minutes after oral intake for the PEAK level
- **Do NOT use gel barrier tubes**
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-5 days
- **REFERENCE RANGE:** Peak: 0.5-18 ug/mL
- No trough therapeutic range established
- **OTHER NAMES:** Biocef; Keflex; Keftab; Panixine; Zartan
- **METHODOLOGY:** BioAssay
- **CLINICAL USE:** Therapeutic drug monitoring
- **CPT:** 80299

### [CER] Ceruloplasmin

- **SPECIMEN REQUIRED:** Frozen serum
- **TUBE OR CONTAINER:** Red, Gold or Green (heparin)
- **SPECIAL HANDLING:** Keep specimen on ice while clotting. Prolonged storage at room temperature decreases level
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.1 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-5 days
- **REFERENCE RANGE:** Male: 16.2-35.6 mg/dL
- Female: 17.9-53.3 mg/dL
- **METHODOLOGY:** Immunologic
- **CLINICAL USE:** Evaluation of chronic active hepatitis, cirrhosis and other liver diseases
- **CPT:** 82390

### [CEREZ] CEREZYME (IMIGLUCERASE)

- **SPECIMEN REQUIRED:** Frozen serum
- **TUBE OR CONTAINER:** Red or gold
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8-14 days
- **OTHER NAMES:** Imiglucerase

### [CFBGENE] COMPLEMENT FACTOR B GENE

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 4 mL
- **MINIMUM VOLUME:** 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 months
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 17; 83904 x 18; 83912

[CFC] CARDIO-FACIO-CUTANEOUS SYNDROM
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: DNA sequencing of exons 6, 11-17 of BRAF gene
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 weeks
REFERENCE RANGE: No mutation detected
OTHER NAMES: BRAF Gene Sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
REFLEX TEST INFORMATION: If BRAF gene is negative, testing for MAP2K1, MAP2K2 and KRAS will be reflexed at additional charges
CLINICAL USE: Confirmation of clinical diagnosis
CPT: 83890; 83891; 83894; 83898 x 7; 83904 x 7; 83912 (BRAF)
CPT: 83890; 83891; 83894; 83898 x 9; 83904 x 9; 83912 (TEST #2)

[CFC1] HETEROXTAXY SYNDROME (CFC1)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 weeks
OTHER NAMES: Heterotaxy Syndrome via CFC1 gene Sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 6; 83904 x 12; 83912

[CFHDNA] COMPLEMENT FACTOR H DNA
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 22; 83904 x 22; 83912

[CFHR5] COMPLEMENT FACTOR H-RELATED 5
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 months
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 10; 83904 x 10; 83912

[CFMUT] CYSTIC FIBROSIS MUTATION SCRN
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL (adults)
1 mL (pediatrics)
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 7-10 days
REFERENCE RANGE: By report
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83900, 83901 x 3; 83912

[CFPCR] CYSTIC FIBROSIS EXTENDED
SPECIMEN REQUIRED: Whole blood at room temperature or buccal swab
TUBE OR CONTAINER: Lavender (EDTA), Yellow (ACD) or Buccal swab
SPECIAL HANDLING: A completed Cystic Fibrosis Screening Questionnaire must accompany specimens
SPECIMEN VOLUME: 7 mL whole blood or buccal swab kit
MINIMUM VOLUME: 3 mL whole blood or two buccal swabs
TEST INCLUDES: Detection of 70 CF mutations
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8-10 days
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Expanded mutation panel of 70 mutations for CF for diagnostic testing and for testing in those persons whose family history or ethnicity require testing for less common mutations
CPT: 83891; 83900; 83901 x 68; 83892 x 2; 83914 x 70; 83912

[CGD] CHRONIC GRANULOMATOUS DISEASE
SPECIMEN REQUIRED: Whole blood, buccal swab, amniotic fluid or CVS at room temperature
TUBE OR CONTAINER: Lavender (EDTA), swab or T-25 flasks
SPECIMEN VOLUME: 5 mL or 2 T-25 flasks
MINIMUM VOLUME: 1 mL or 1 T-25 flasks
TURNAROUND TIME: 2-6 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891 x 2; 83892; 83894 x 4; 83898 x 2; 83904 x 2; 83912

[CH] CONGENITAL HYPERINSULINISM
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING: Blood samples should be submitted for proband and both parents whenever possible Specimen must arrive in laboratory by 1:30 pm Monday through Thursday only
[CH50]  **Total Complement (CH50)**

SPECIMEN REQUIRED: Frozen serum  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-7 days  
REFERENCE RANGE: 40 - 70 U/mL  
OTHER NAMES: Total Hemolytic Complement  
METHODOLOGY: Quantitative functional hemolysis by spectrophotometry  
CLINICAL USE: Evaluate and follow up SLE patient's response to therapy; may predict disease flare in SLE; screen for complement component deficiency; evaluate complement activity in cases of immune complex disease, glomerulonephritis, rheumatoid arthritis, SBE, cryoglobulinemia. The CH50 assay mainly evaluates the classical pathway  
CPT: 86162

[CH50FLD]  **Body Fluid Total Complement**

SPECIMEN REQUIRED: Frozen body fluid  
TUBE OR CONTAINER: Plastic transfer tube  
SPECIAL HANDLING: Specify source of fluid  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.8 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 5-8 days  
REFERENCE RANGE: None established  
METHODOLOGY: Microparticle enzyme immunoassay (MEIA)  
CPT: 86162

[CHARCOT]  **Charcot-Leyden Crystals**

SPECIMEN REQUIRED: Submit raw stool or feces preserved for O&P exam  
TEST AVAILABILITY: Monday-Friday  
NORMAL TEST VALUES: None detected  
METHODOLOGY: Microscopic exam

[CHARGE]  **CHARGE SYNDROME (CHD7 GENE)**
### [CHH] CARTILAGE-HAIR HYPOPLASIA
- **Specimen Required:** Whole blood at room temperature
- **Tube or Container:** Lavender (EDTA)
- **Specimen Volume:** 14 mL
- **Minimum Volume:** 3 mL
- **Test Availability:** Monday-Thursday
- **Turnaround Time:** 4 weeks
- **Reference Range:** No mutation detected
- **Methodology:** Bi-directional sequencing
- **Clinical Use:** Confirmation of clinical diagnosis; differentiation between CHH and other causes of dwarfism
- **CPT:** 83891; 83894; 83898 x 12; 83904 x 25; 83909 x 25; 83912

### [CHIC2] CHIC2 4Q12 ANOMALIES BY FISH
- **Specimen Required:** Whole blood or bone marrow at room temperature
- **Tube or Container:** Dark green (heparin)
- **Specimen Volume:** 10 mL
- **Minimum Volume:** 2 mL
- **Test Availability:** Daily
- **Turnaround Time:** An interpretative report will be issued
- **Methodology:** Fluorescent in situ hybridization (FISH)
- **CPT:** 88271 x 4; 88275 x 2

### [CHIKAB] CHIKUNGUNYA AB IGG/IGM
- **Specimen Required:** Room temperature serum
- **Tube or Container:** Red or Gold
- **Specimen Volume:** 1 mL
- **Minimum Volume:** 0.1 mL
- **Test Availability:** Daily
- **Turnaround Time:** 2-9 days
- **Reference Range:** Negative
- **Methodology:** Immunofluorescence Assay (IFA)
- **CPT:** 86790 x 2

### [CHIMAB] AB ANTI-CHIMERIC
- **Specimen Required:** Room temperature serum
- **Tube or Container:** Red or Gold
- **Specimen Volume:** 2 mL
<table>
<thead>
<tr>
<th>Test Name</th>
<th>Description</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Special Handling</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Clinical Use</th>
<th>CPT Code(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>[CHITOT] Chitotriosidase</strong></td>
<td></td>
<td>Frozen serum</td>
<td>Red or gold</td>
<td>Specimen should not be collected within 1 hour prior to specimen collection.</td>
<td>2 mL</td>
<td>Daily</td>
<td>8-14 days</td>
<td>Useful in monitoring treatment of Gaucher disease</td>
<td>82657</td>
</tr>
<tr>
<td><strong>[CHLAMGC] CHLAMYDIA/GC AMPLIFICATION</strong></td>
<td>Urine at room temperature</td>
<td>Specimen container</td>
<td>The patient should not have urinated for at least one hour prior to specimen collection.</td>
<td>2 mL</td>
<td>Daily</td>
<td></td>
<td>Detection of Chlamydia trachomatis and Neisseria gonorrhoeae</td>
<td>87491; 87591</td>
<td></td>
</tr>
<tr>
<td><strong>[CHLOR] Random Chloramphenicol Level</strong></td>
<td>Frozen serum or plasma</td>
<td>Red or Dark green (heparin)</td>
<td>Do NOT collect specimen in gel barrier tube;</td>
<td>1mL</td>
<td>Daily</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
OTHER NAMES: Chloromycetin
METHODOLOGY: High Performance Liquid Chromatography with Ultraviolet Detection (HPLC-UV)
CLINICAL USE: Therapeutic drug monitoring
CPT: 82415

**[CHLORD] CHLORDIAZEPOXIDE (LIBRIUM)**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated serum or plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red, Dark Green (heparin) or Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Oral: peak: 4 hours; trough-immediately prior to next dose</td>
</tr>
<tr>
<td>Do NOT collect specimen in gel barrier tube</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.4 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: Chlordiazepoxide; Norchlordiazepoxide; Nordiazepam</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)</td>
</tr>
<tr>
<td>CLINICAL USE: Evaluate toxicity; monitor therapeutic levels</td>
</tr>
<tr>
<td>CPT: 80154</td>
</tr>
</tbody>
</table>

**[CHLORPP] CHLORPROMAZINE (THORAZINE) PRF**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated serum or plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red, Dark Green (heparin) or Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE: Therapeutic: 30-300 ng/mL Potentially toxic: &gt;750 ng/mL</td>
</tr>
<tr>
<td>OTHER NAMES: Thorazine</td>
</tr>
<tr>
<td>METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)</td>
</tr>
<tr>
<td>CLINICAL USE: Evaluate toxicity; monitor therapeutic levels</td>
</tr>
<tr>
<td>CPT: 84022</td>
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</table>

**[CHLP] AB CHLAMYDIA PANEL**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.4 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: IgM antibody for C. pneumoniae, C. trachomatis and C. psittaci</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-4 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: &lt; 1:10</td>
</tr>
</tbody>
</table>
[CHLPN] CHLAMYDIA PNEUMONIAE IGG/IGM

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.4 mL
- **TEST INCLUDES:** C. pneumoniae IgG and IgM
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-3 days
- **REFERENCE RANGE:** IgG: < 1:16
  IgM: < 1:10
- **METHODOLOGY:** Micro-Immunofluorescence (MICRO-IF)
- **CPT:** 86631, 86632

[CHLPPCR] CHlamydia pneumoniae DNA (PCR)

- **SPECIMEN REQUIRED:** Throat or nasopharyngeal (NP) swab, bronchia washings or bronchoalveolar lavage (BAL), or NP wash/aspirate at room temperature
- **TUBE OR CONTAINER:** Universal transport media (swab) or sterile container
- **SPECIMEN VOLUME:** One swab or 1 mL bronchial washings, BAL, or NP wash/aspirate
- **MINIMUM VOLUME:** One swab or 0.2 mL bronchial washings, BAL, or NP wash/aspirate
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:**
- **METHODOLOGY:** Real-time polymerase chain reaction (PCR)
- **CLINICAL USE:** Aid in diagnosis of Chlamydia (Chlamydophilia) pneumoniae infection
- **CPT:** 87486

[CHLPS] CHLAMYDIA PSITTACI PROFILE

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.4 mL
- **TEST INCLUDES:** C. psittaci IgG and IgM antibodies
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-6 days
- **REFERENCE RANGE:** IgG: < 1:16
- **METHODOLOGY:** Micro-immunofluorescence (IF)
- **CLINICAL USE:** Aid in the diagnosis of psittacosis
- **CPT:** 86631, 86632

[CHLT] AB CHLAMYDIA TRACHOMATIS PANEL

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
MINIMUM VOLUME: 0.4 mL
TEST INCLUDES: IgG and IgM
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: IgG: < 1:16
IgM: < 1:10
METHODOLOGY: Micro-Immunofluorescence (MICRO-IF)
CLINICAL USE: Diagnose possible chlamydial infection
CPT: 86631; 86632

<table>
<thead>
<tr>
<th>[CHOL] Cholesterol Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated plasma or serum</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Light Green (heparin) or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 hours</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0-1 year: 50-135 mg/dL</td>
</tr>
<tr>
<td>1-20 years: 70-170 mg/dL</td>
</tr>
<tr>
<td>&gt; 20 years: 120-200 mg/dL</td>
</tr>
<tr>
<td>METHODOLOGY: Timed endpoint</td>
</tr>
<tr>
<td>CLINICAL USE: Evaluate risk of coronary arterial occlusion and atherosclerosis</td>
</tr>
<tr>
<td>CPT: 82465</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[CHOL8-9] 8(9)-CHOLESTEROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>Other acceptable specimen: Frozen plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Green (heparin)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL (whole blood)</td>
</tr>
<tr>
<td>1 mL (plasma)</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL (whole blood)</td>
</tr>
<tr>
<td>0.5 mL (plasma)</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 5-8 days</td>
</tr>
<tr>
<td>METHODOLOGY: Gas Chromatography/Mass Spectrometry (GC/MS)</td>
</tr>
<tr>
<td>CPT: 82542</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[CHOLEST] Cholestanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>Other acceptable specimen: Frozen plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Green (heparin)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL (whole blood)</td>
</tr>
<tr>
<td>1 mL (plasma)</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL (whole blood)</td>
</tr>
<tr>
<td>0.5 mL (plasma)</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 5-8 days</td>
</tr>
<tr>
<td>METHODOLOGY: Gas Chromatography/Mass Spectrometry (GC/MS)</td>
</tr>
</tbody>
</table>
### [CHOLIN] Serum Cholinesterase

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Refrigerated serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Red or Gold</td>
</tr>
<tr>
<td>Special Handling:</td>
<td>Separate serum from red cells immediately after clotting (30 minutes)</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>0.2 mL</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time:</td>
<td>2-3 days</td>
</tr>
<tr>
<td>Reference Range:</td>
<td>1900 - 3800 IU/L</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Spectrophotometry (Ellman) - kinetic</td>
</tr>
<tr>
<td>Clinical Use:</td>
<td>Evaluate pre-operative patients for succinylcholine anesthetic sensitivity, genetic or secondary to insecticide exposure</td>
</tr>
<tr>
<td>CPT:</td>
<td>82480</td>
</tr>
</tbody>
</table>

### [CHOLINH] Cholin Inhibition by Dibucaine

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Refrigerated plasma AND whole blood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>Special Handling:</td>
<td>Collect 2 lavender tubes; centrifuge and separate 1 tube only; submit with remaining whole blood tube. Do not collect within 24 hours of administration of muscle relaxants</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>2 mL (plasma) 5 mL (whole blood)</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>0.1 mL (plasma) 1 mL (whole blood)</td>
</tr>
<tr>
<td>Test Includes:</td>
<td>Dibucaine number, plasma cholinesterase, and RBC cholinesterase</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time:</td>
<td>2-3 days</td>
</tr>
<tr>
<td>Reference Range:</td>
<td>See individual tests</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Cholinesterase by spectrophotometry (Ellman) with dibucaine inhibition</td>
</tr>
<tr>
<td>Clinical Use:</td>
<td>Assess the presence of homozygous or heterozygous &quot;atypical&quot; cholinesterase variant, in patients who have low result of serum or plasma cholinesterase assay, and may be at risk of apnea when given succinylcholine muscle relaxant</td>
</tr>
<tr>
<td>CPT:</td>
<td>82480; 82482; 82638</td>
</tr>
</tbody>
</table>

### [CHOLINR] RBC Cholinesterase

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Refrigerated whole blood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>Special Handling:</td>
<td>Refrigerate entire sample; do not separate. Stable in whole blood for at least 48 hours when refrigerated at 2 C to 8 C</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>5 mL</td>
</tr>
</tbody>
</table>
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
REFERENCE RANGE: 5300-10,000 IU/L
OTHER NAMES: Acetylcholinesterase, RBC; Cholinesterase I; True Cholinesterase
METHODOLOGY: Spectrophotometry (Ellman) - kinetic
CLINICAL USE: Diagnosis of organophosphate & carbamate toxicity and to detect atypical forms of the enzyme
CPT: 82482

[CHOLINTERM] CHOLEST BIOSYNTH INTERMEDIATES
SPECIMEN REQUIRED: Whole blood at room temperature
Other acceptable specimen: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA) or Green (heparin)
SPECIMEN VOLUME: 5 mL (whole blood)
1 mL (plasma)
MINIMUM VOLUME: 2 mL (whole blood)
0.5 mL (plasma)
TEST INCLUDES: 7-Dehydrocholesterol; Lathosterol and Desmosterol
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-8 days
METHODOLOGY: Gas Chromatography/Mass Spectrometry (GC/MS)
CPT: 82542

[CHOLPC] Pericardial Fluid Cholesterol
SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Timed endpoint
CPT: 84311

[CHOLPL] Pleural Fluid Cholesterol
SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Timed endpoint
CPT: 84311

[CHOLPT] Peritoneal Fluid Cholesterol
SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Timed endpoint
CPT: 84311

**[CHOLSY]** Synovial Fluid Cholesterol

SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Timed endpoint
CPT: 84311

**[CHRNA1]** CONGENITAL MYASTHENIC (CHRNA1)

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
OTHER NAMES: Congenital Myasthenic Syndromes & Lethal Multiple Pterygium Syndrome via CHRNA1 gene sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 10; 83904 x 10; 83912

**[CHROM]** Chromium Level

SPECIMEN REQUIRED: Room temperature plasma
TUBE OR CONTAINER: Royal-blue (EDTA) or Royal-blue (Na-heparin)
LAV (EDTA) also acceptable
SPECIAL HANDLING: Separate plasma immediately
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: Environmental exposure: 0.1-2.1 g/L
METHODOLOGY: Inductively coupled plasma-mass spectrometry (ICP-MS)
CLINICAL USE: Monitor industrial exposure
CPT: 82495

**[CHROMAMN]** CHROMOSOME ANALYSIS AMNIOTIC

SPECIMEN REQUIRED: Amniotic fluid at room temperature
TUBE OR CONTAINER: Sterile container
**SPECIMEN VOLUME**: 20 mL
**MINIMUM VOLUME**: 5 mL
**TEST AVAILABILITY**: Daily
**TURNAROUND TIME**: 3-5 weeks
**REFERENCE RANGE**: By report
**CLINICAL USE**: Determines fetal karyotype; allows prenatal detection of chromosomal aneuploidy, especially trisomy 21 in groups of pregnant women at risk
**CPT**: 88235; 88267

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**[CHROMAMNF] CHROM ANALYSIS AMNIO FL W/FISH**

SPECIMEN REQUIRED: Amniotic fluid at room temperature
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
REFERENCE RANGE: By report
METHODOLOGY: In situ cell culturing of amniocytes to investigate numerical and/or structural chromosome abnormalities
CLINICAL USE: Determines fetal karyotype; allows prenatal detection of chromosomal aneuploidy, especially trisomy 21 in groups of pregnant women at risk
CPT: 88235; 88269; 82106; 88271; 88273

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**[CHROMBLD] CHROMOSOME ANALYSIS BLOOD**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark green (heparin)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL (adults)
1.5 mL (pediatrics)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
REFERENCE RANGE: By report
METHODOLOGY: Chromosome analysis of 20 metaphases with preparation and analysis of multiple karyotypes
CLINICAL USE: Evaluate congenital malformations and suspected chromosomal disorders
CPT: 88262; 88230

---

**[CHROMBLDF] CHROM ANALYSIS BLOOD W/FISH**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark green (heparin)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST INCLUDES: Routine chromosome analysis and Fluorescent in situ hybridization
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
REFERENCE RANGE: By report

METHODOLOGY: Chromosome analysis of 20 metaphases with preparation and analysis of multiple karyotypes and Fluorescence in situ hybridization (FISH) chromosomal disorders

CPT: 88230; 88262; 88271; 88273

[CHROMBLDHI] CHROMOSOME BLD HI RES W/FISH

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark green (heparin)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 3-5 weeks
REFERENCE RANGE: By report
CLINICAL USE: Evaluate congenital malformations and suspected chromosomal disorders
CPT: 88230, 88262, 88289, 88271, 88273

[CHROMBM] CHROMOSOME ANALYS BONE MARROW

SPECIMEN REQUIRED: Bone marrow at room temperature
TUBE OR CONTAINER: Dark green (heparin)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL (adults)
1.5 mL (pediatrics)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
REFERENCE RANGE: By report
CLINICAL USE: Identify specific chromosomal abnormalities associated with myelodysplasia, chronic and acute leukemia and lymphoma
CPT: 88237; 88264

[CHROMBREAK] CHROM ANALYSIS BREAKAGE STUDY

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark green (heparin)
SPECIAL HANDLING: Must arrive in laboratory by 1:30 p.m. Monday-Thursday only (specimen must arrive at referring lab within 24 hours of collection)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 3-4 weeks
REFERENCE RANGE: By report
OTHER NAMES: Fanconi's Anemia; Mitomycin C
CLINICAL USE: Aid in differential diagnosis between idiopathic aplastic anemia and Fanconi anemia
CPT: 88230; 88249

[CHROMCVS] CHROMOSOME ANALYSIS CVS
SPECIMEN REQUIRED:
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
REFERENCE RANGE: By report
CLINICAL USE: Determines fetal karyotype; allows prenatal detection of chromosomal aneuploidy, especially trisomy 21 in groups of pregnant women at risk
CPT: 88235; 88267; 88280; 88285

[CHROMCVSFISH] CHROMOSOME ANALYSIS CVS W/FISH
SPECIMEN REQUIRED:
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
REFERENCE RANGE: By report
CLINICAL USE: Determines fetal karyotype; allows prenatal detection of chromosomal aneuploidy, especially trisomy 21 in groups of pregnant women at risk
CPT: 88235; 88267; 88280; 88285; 88271 x 5; 88273 x 2

[CHROMFISH] CHROMOSOME ANALYSIS-FISH
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark green (heparin)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
REFERENCE RANGE: By report
METHODOLOGY: Fluorescent in Situ Hybridization (FISH)
CPT: 88271; 88273

[CHROMLEUK] CHROMOSOME ANALYS LEUKEMIC BLD
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark green (heparin)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL (adults)
1.5 mL (pediatrics)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
REFERENCE RANGE: By report
CPT: 88237; 88264

[CHROMOG] Chromogranin A
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold, Lavender(EDTA) or Green (heparin)
SPECIMEN VOLUME: 0.2 mL
MINIMUM VOLUME: 0.1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: 0-5 nmol/L
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: Detect neuroendocrine cancers
CPT: 86316

[CHROMSCE] CHROM ANALYS SISTER CHROMATID
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark green (heparin)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Thursday
REFERENCE RANGE: By report
METHODOLOGY: Cell culture
CPT: 88230; 88245

[CHROMSKIN] CHROMOSOME TISSUE/SKIN BIOPSY
SPECIMEN REQUIRED: Refrigerated tissue specimen
TUBE OR CONTAINER: Sterile container
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
REFERENCE RANGE: By report
METHODOLOGY: Chromosome analysis of 20 metaphases with preparation and analysis of multiple karyotypes
CPT: 88262; 88233

[CHROMTUM] CHROM ANALYSIS-SOLID TUMOR
SPECIMEN REQUIRED: Refrigerated tissue specimen
TUBE OR CONTAINER: Sterile container
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
REFERENCE RANGE: By report
METHODOLOGY: Chromosome analysis of 20 metaphases with preparation and analysis of multiple karyotypes
CPT: 88264; 88239

[CHROMU] CHROMIUM URINE
SPECIMEN REQUIRED: Random urine at room temperature
TUBE OR CONTAINER: Urine container
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 0.6 mL
TEST INCLUDES: Chromium; creatinine, chromium:creatinine ratio
TEST AVAILABILITY: Daily
REFERENCE RANGE: Environmental exposure: 0.1-2.0 ug/L
Occupational exposure: BEI (sampling time is during shift): 10.0 ug/g creatinine
BEI (sampling time is end of shift at end
of work week): 30.0 ug/g creatinine
METHODOLOGY: Inductively coupled plasma-mass spectrometry (ICP-MS)
CLINICAL USE: Monitor industrial exposure to chromium
CPT: 82495; 82570

[CIAS1] MUCKLE-WELLS/CIAS1 MUTATION
SPECIMEN REQUIRED: Whole blood or buccal swab at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or swab
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6 weeks
OTHER NAMES: MWS; Urticaria-deafness-amyloidosis (UDA)
METHODOLOGY: Bi-directional sequence analysis
CLINICAL USE: Confirmation of clinical diagnosis; prenatal diagnosis
CPT: 83891 x 6; 83894 x 6; 83898 x 12; 83904 x 12; 83912

[CIDRES] CIDOFOVIR RESISTANCE
SPECIMEN REQUIRED: Actively growing isolate at room temperature
TUBE OR CONTAINER: Tube with media
TEST AVAILABILITY: Daily
METHODOLOGY: Plaque reduction assay
CLINICAL USE: Measures the extent to which various concentrations of cidofovir inhibit the growth of virus in cell culture
CPT: 87252; 87253

[CIPRO] Ciprofloxacin Level
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red (no gel) or Dark green (heparin)
SPECIAL HANDLING: Collect within 15 minutes of next dose for the TROUGH level; Collect within 15-30 minutes after the end of IV infusion or 45-60 minutes after an IM injection or 90 minutes after oral intake for the PEAK level
Do NOT use gel barrier tubes
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-8 days
METHODOLOGY: High-Performance Liquid Chromatography (HPLC)
CLINICAL USE: Monitor therapeutic drug level
CPT: 80299

[CITRAN] UR CITRATE RANDOM
SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Acidify urine to pH 1-3 with Boric acid or 6N HCL
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1.5 mL
TEST INCLUDES: Urine citrate and urine creatinine
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
METHODOLOGY: Spectrophotometry
CPT: 82507; 82570

[CITTM] UR CITRATE TIMED
SPECIMEN REQUIRED: Refrigerated urine (24-hour urine)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: 24 hour urine collected in "D" container (30 mLs 6N HCL); keep specimen refrigerated during collection; final pH must be 1-3 OR the sample can be frozen without the addition of acid
SPECIMEN VOLUME: 25 mL
MINIMUM VOLUME: 2.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 320-1240 mg/24 hours
METHODOLOGY: Spectrophotometry (kinetic at 340 nm)
CPT: 82507

[CK] Total Creatine Kinase
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE:
0-10 years: Female: 60-365 U/L; Male: 60-375 U/L
10-20 years: Female: 45-295 U/L; Male: 55-370 U/L
20-66 years: Female: 20-140 U/L; Male: 35-250 U/L
> 66 years: 30-140 U/L
OTHER NAMES: Creatine Phosphokinase; CPK
METHODOLOGY: Enzymatic rate
CLINICAL USE: Aid in diagnosis of myocardial infarction (MI) and skeletal muscular damage
CPT: 82550

[CKISO] CK ISOENZYMES
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Gold or Red
SPECIAL HANDLING: Serum ONLY; other specimen types will be rejected
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.6 mL
TEST INCLUDES: Total CK and relative percentage of BB(CK-1), MB (CK-2) and MM(CK-3)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 days
REFERENCE RANGE: Total CK: male: 24-204 U/L
female: 24-173 U/L
CK-MM: 96% to 100%
CK-MB: 0% to 4%
CK-BB: 0%
METHODOLOGY: Agarose gel electrophoresis with densitometry
CLINICAL USE: Aid in diagnosis of myocardial infarction (MI)
CPT: 82550; 82552

[CL] Chloride Level
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1.0 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: >3 months: 96-108 mEq/L
METHODOLOGY: Indirect Potentiometry
CLINICAL USE: Evaluate electrolytes, acid-base balance, H2O balance
CPT: 82435

[CLABG] ABG PROFILE-ET CARD CATH LAB

[CLARITH] Clarithromycin Sensitivity
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Collect within 15 minutes of next dose for the TROUGH level; Collect within 15-30 minutes after the end of IV infusion or 45-60 minutes after an IM injection or 90 minutes after oral intake for the PEAK level
Do NOT use gel barrier tubes
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
OTHER NAMES: Biaxin
METHODOLOGY: Bioassay
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

[CLBF] Body Fluid Chloride
SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Specify source of fluid
**[CLCN5] CLCN5 GENE IN DENT DISEASE**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8 weeks
- **METHODOLOGY:** Bi-directional sequence analysis
- **CPT:** 83891 x 22; 83892 x 2; 83894 x 22; 83898 x 22; 83904 x 10; 83912

**[CLIN] Clindamycin (Cleocin) Level**

- **SPECIMEN REQUIRED:** Frozen serum
- **TUBE OR CONTAINER:** Red (no gel)
- **SPECIAL HANDLING:** Do NOT collect in gel barrier tube
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4-7 days
- **OTHER NAMES:** Cleocin
- **METHODOLOGY:** Bioassay (BA)
- **CPT:** 80299

**[CLN8] EPILEPSY W/MR VIA CLN8 GENE**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)
- **SPECIAL HANDLING:**
- **SPECIMEN VOLUME:** 10 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4 weeks
- **OTHER NAMES:** Neuronalal Ceroid Lipofuscinosis type 8; CLN8 gene gene sequencing; Progressive epilepsy with mental retardation (EPMR)
- **METHODOLOGY:** Polymerase chain reaction (PCR)
- **CPT:** 83891; 83894; 83898 x 3; 83904 x 3; 83912

**[CLO] Clotest for H.pylori**

- **SPECIMEN REQUIRED:** Biopsy specimen
- **COLLECTION:** Allow urea medium to come to room temperature before use. Insert the biopsy specimen into the semisolid medium. Push the specimen into the agar with a sterile cotton
swab so that the biopsy is surrounded by media. Label tube with one of the small Meditech labels. Record time of inoculation on the media and on the large label.

**TUBE OR CONTAINER:** Urea media (obtain from Micro lab in advance)

**SPECIAL HANDLING:** Transport to the Microbiology Laboratory as soon as possible; Leave at room temperature if unable to transport immediately.

Order CLO when order is for CLOTEST for H. pylori

**ORDERING MODULE:** MIC

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 1 day

**REFERENCE RANGE:** No growth

**CLINICAL USE:** Detection of Helicobacter pylori

**CPT:** 87081

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**[CLOB] Clobazam (Frisium) Level**

**SPECIMEN REQUIRED:** Refrigerated serum or plasma

**TUBE OR CONTAINER:** Red, Lavender (EDTA) or Gray (Sodium fluoride)

**SPECIAL HANDLING:** Do NOT collect specimen in gel barrier tube

**SPECIMEN VOLUME:** 2 mL

**MINIMUM VOLUME:** 1 mL

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 3-6 days

**OTHER NAMES:** Frisium; Urbanyl

**METHODOLOGY:** High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)

**CLINICAL USE:** Therapeutic drug monitoring

**CPT:** 80154

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**[CLOMP] CLOMIPRAMINE**

**SPECIMEN REQUIRED:** Serum or plasma at room temperature

**TUBE OR CONTAINER:** Red, Dark Green (heparin) or Lavender (EDTA)

**SPECIAL HANDLING:** Do NOT use gel barrier tubes

**SPECIMEN VOLUME:** 1 mL

**MINIMUM VOLUME:** 0.3 mL

**TEST INCLUDES:** Clomipramine and Norclomipramine (metabolite)

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 2-6 days

**REFERENCE RANGE:** Therapeutic: Clomipramine: 70-200 ng/mL Norclomipramine: 150-300 ng/mL

**OTHER NAMES:** Anafranil

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

**CLINICAL USE:** Evaluate toxicity; monitor therapeutic levels

**CPT:** 80299

---

**[CLON] Clonidine Level**

**SPECIMEN REQUIRED:** Serum or plasma at room temperature
**[CLONZP] CLONAZEPAM (KLONOPIN)**

- **SPECIMEN REQUIRED:** Refrigerated serum or plasma
- **TUBE OR CONTAINER:** Red, Dark Green (heparin) or Lavender (EDTA)
- **SPECIAL HANDLING:** Do NOT use gel barrier tubes
- **SPECIMEN VOLUME:** 4 mL
- **MINIMUM VOLUME:** 1.1 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 48 hours
- **REFERENCE RANGE:** Therapeutic: 15-60 ng/mL
  Potentially toxic: >80 ng/mL
- **OTHER NAMES:** Klonopin
- **METHODOLOGY:** Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
- **CLINICAL USE:** Evaluate toxicity; monitor therapeutic levels
- **CPT:** 80154

**[CLOSTAB] Clostridium difficile Antibody**

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 1 ml
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-9 days
- **REFERENCE RANGE:** < 1:2
- **METHODOLOGY:** Neutralization
- **CPT:** 87230

**[CLOTK] Kaolin Activated Coagulation Time**

- **SPECIMEN REQUIRED:** Frozen plasma
- **TUBE OR CONTAINER:** Blue (Citrate)
- **SPECIAL HANDLING:** Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
  Send to lab immediately or centrifuge and freeze plasma
- **SPECIMEN VOLUME:** 1 full tube
- **Testing volume:** 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-6 days
REFERENCE RANGE: 50-130 units
METHODOLOGY: Clot detection
CPT: 85347

[CLOZ] CLOZAPINE (CLOZARIL)

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Dark Green (heparin) or Lavender (EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST INCLUDES: Clozapine and Norclozapine
TEST AVAILABILITY: Daily
REFERENCE RANGE: Therapeutic: average steady-state serum concentrations following 100 mg twice daily:
Peak (2.5 hours after last dose): 102-771 ng/mL
Trough (just before dose): 41-343 ng/mL
OTHER NAMES: Clozaril
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
CLINICAL USE: Evaluate toxicity; monitor therapeutic levels
CPT: 80154

[CLSTL] Stool Chloride

SPECIMEN REQUIRED: Liquid stool
TUBE OR CONTAINER: Plastic container
SPECIAL HANDLING: Stool must be in liquid form for analysis
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: No established range
METHODOLOGY: Indirect Potentiometry
CPT: 82438

[CLTM] UR CHLORIDE TIMED

SPECIMEN REQUIRED: Refrigerated aliquot from a 24-hour urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect timed urine in "P" container (no preservative); specify number of hours
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Age-specific
METHODOLOGY: Indirect potentiometry base balance studies
CPT: 82436
### [CLTN2] CITRULLINEMIA TYPE 2 (SLC25A13)

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>10 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>4 weeks</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Polymerase chain reaction (PCR)</td>
</tr>
<tr>
<td>CPT:</td>
<td>83891; 83894 x 2; 83898 x 13; 83904 x 3; 83909; 83912</td>
</tr>
</tbody>
</table>

### [CLU] Urine Chloride

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Refrigerated random urine</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Plastic urine container</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>8 hours</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>None established</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Indirect potentiometry</td>
</tr>
<tr>
<td>CLINICAL USE:</td>
<td>Evaluate electrolyte composition of urine, acid-base balance studies</td>
</tr>
<tr>
<td>CPT:</td>
<td>82436</td>
</tr>
</tbody>
</table>

### [CMA] CHROMOSOMAL MICROARRAY ANALYSIS

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING:</td>
<td>Send within 24-48 hours of collection</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>10 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>3 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>7-14 days</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>By report</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Array-based comparative genomic hybridization</td>
</tr>
<tr>
<td>CPT:</td>
<td>83890; 83892; 83894; 88386 x 3</td>
</tr>
</tbody>
</table>

### [CMP] COMPREHENSIVE METABOLIC PANEL

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Refrigerated plasma or serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Light Green (heparin) or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>Adult: 2 mL</td>
</tr>
<tr>
<td>Pediatric:</td>
<td>1 mL or 1 full microtainer</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>Adult: 1 mL</td>
</tr>
<tr>
<td>Pediatric Min:</td>
<td>0.8 mL or 3/4 microtainer</td>
</tr>
<tr>
<td>TEST INCLUDES:</td>
<td>Na, K, Cl, CO2, BUN, Creat, Glucose, Ca, TP, Alb, T Bili, Alk Phos, ALT, AST</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>8 hours</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>See individual tests</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>See individual tests</td>
</tr>
<tr>
<td>CPT:</td>
<td>80053</td>
</tr>
</tbody>
</table>
### [CMT] CHARCOT-MARIE TOOTH DISEASE

SPECIMEN REQUIRED: Whole blood at room temperature  
SPECIAL HANDLING: Draw Monday-Thursday only; must arrive in lab by 1:00 pm  
Must be received at performing lab within 48 hours of collection  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 5 mL  
TEST AVAILABILITY: Monday-Thursday  
TURNOROUND TIME: 14-25 days  
REFERENCE RANGE: No sequence variation detected  
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA sequencing  
CLINICAL USE: Detection of sequence variations in the PMP22 gene  
CPT: 83891; 83898 x 4; 83904 x 4; 83909; 83912

### [CMT1AFISH] CHARCOT-MARIE-TOOTH 1A BY FISH

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Dark green (heparin)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Monday-Thursday  
TURNOROUND TIME: 10-14 days  
METHODOLOGY: Fluorescence in situ hybridization (FISH)  
CLINICAL USE: Detect duplications/deletions in patients with a suspected diagnosis of an inherited peripheral neuropathy or in individuals with a positive family history  
CPT: 88230; 88271; 88273

### [CMT2D] CMT2D (GARS) DNA SEQUENCING

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 pm, Monday through Thursday only  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 5 mL  
TEST AVAILABILITY: Monday-Thursday  
TURNOROUND TIME: 2-3 weeks  
REFERENCE RANGE: No sequence variation detected  
OTHER NAMES: GARS gene  
METHODOLOGY: Polymerase chain reaction (PCR)  
CPT: 83891; 83898 x 17; 83904 x 17; 83909; 83912

### [CMTAUTO] CMT AUTOSOMAL DOMINANT

SPECIMEN REQUIRED: Room temperature whole blood  
TUBE OR CONTAINER: Yellow (ACD-A)  
VOLUME: 3 ACD tubes
TURN-AROUND-TIME: 14-21 days
METHODOLOGY: Pulse-field gel electrophoresis (PFGE), and DNA

[CMTDEMYEL] CMT PARTIAL-DEMYELINATING
SPECIMEN REQUIRED: Whole blood @ room temperature; ship same day as drawn
TUBE OR CONTAINER: ACD solution A (Yellow)
VOLUME: 2 tubes
TURN-AROUND-TIME: 21-28 days
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA

[CMTDOM] CMT DOMINANT EVALUATION
SPECIMEN REQUIRED: Whole blood @ room temperature
TUBE OR CONTAINER: ACD solution A (Yellow)
SPECIAL HANDLING: Must arrive @ Athena within 48 hours after blood is drawn.
SPECIMEMN VOLUME: 3 mL
TURN-AROUND-TIME: 21-28 days
METHODOLOGY: Pulse-field-gel electrophoresis (PFGE), and DNA

[CMTX1] CMT TYPE 1X (CONNEXIN 32 DNA)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 pm, Monday-Thursday only
Ship same day as collected
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 3 weeks
REFERENCE RANGE: No sequence variation detected
OTHER NAMES: Charcot-Marie-Tooth disease, Type 1X (CMT1X/CMTX)
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA sequencing
CLINICAL USE: Detects mutations & deletions in Connexin32
CPT: 83891; 83898 x 3; 83900; 83904 x 3; 83909 x 4; 83912; 83914 x 13

[CMVAVR] CMV ANTIVIRAL RESISTANCE
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must be received at performing lab
within 96 hours of collection
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 4 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
METHODOLOGY: Polymerase Chain Reaction (PCR) followed by gene sequencing
CPT: 83891; 83894; 83898 x 5; 83904 x 10; 83912

[CMVCSF] AB CMV PROFILE-CSF
SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: CMV IgG and IgM
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Negative: 0.89 or less
Equivocal: 0.90-1.10 IV
Positive: 1.11 or greater
OTHER NAMES: Cytomegalovirus antibody, CSF
METHODOLOGY: IgG: Chemiluminescent Immunoassay
IgM: Enzyme-linked immunoassay (ELISA)
CPT: 86644 x 2

[CMVGAV] CYTOMEGALOVI(RCMV) IGG AVIDITY
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.25 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-6 days
REFERENCE RANGE: > or = 0.60
METHODOLOGY: Enzyme-linked immunoassay (ELISA)
CPT: 86644 x 2

[CMVIGG] Cytomegalovirus IgG Antibody
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 3-5 days
REFERENCE RANGE: Negative
OTHER NAMES: Cytomegalovirus antibody IgG
METHODOLOGY: Chemiluminescence
CLINICAL USE: Aid in diagnosis of CMV infection
CPT: 86317

[CMVM] Cytomegalovirus IgM Antibody
SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Negative: Equivocal: 0.9-1.0
Positive: > 1.0
OTHER NAMES: Cytomegalovirus antibody IgM
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Aid in the diagnosis of acute primary infection
CPT: 86317

[CMVPCRQNT] Cytomegalovirus DNA Quant (PCR)

SPECIMEN REQUIRED: Whole blood at room temperature
Other specimens: Bone marrow, tissue, BAL
or amniotic fluid at room temperature
Frozen CSF
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
Sterile tube (Bronchial lavage, CSF, amniotic)
Sterile tube w/saline (tissue)
Sodium heparin tube (bone marrow)
SPECIMEN VOLUME: 5 mL (whole blood)
2 mL (bronchial lavage)
2 mL (bone marrow)
1 mL (CSF-frozen)
1 mL (Amniotic fluid)
BAL fluid
MINIMUM VOLUME: 3 mL (whole blood)
1 mL (bronchial lavage)
1 mL (bone marrow)
0.3 mL (CSF-frozen)
1 mL (Amniotic fluid)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
REFERENCE RANGE: Not detected
OTHER NAMES: Cytomegalovirus DNA
METHODOLOGY: Quantitative, Real-time PCR
CPT: 87497

[CO] Carbon Monoxide, Quantitative

SPECIMEN REQUIRED: Whole blood on ice
TUBE OR CONTAINER: Light Green (heparin) or Heparinized syringe
SPECIAL HANDLING: Transport on ice to lab immediately; do NOT open. Perform testing within 2 hours
REASON FOR REJECTION: Specimen at room temp >20 minutes or on ice longer than 2 hours
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 hour
REFERENCE RANGE: Normal: 0.0-2.0%
Life threatening: >15%
OTHER NAMES: Carboxyhemoglobin
METHODOLOGY: Spectrophotometry
CLINICAL USE: Determine extent of CO toxicity in individuals exposed to exhausts or indoor combustion including heating
CPT: 82375

[CO2] Carbon Dioxide Level
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUPE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 0 days-1 month: 17-27 mEq/L
1 month-adult: 22-30 mEq/L
METHODOLOGY: pH rate of change
CLINICAL USE: Evaluate the total carbonate buffering system and acid-base balance
CPT: 82374

[CO2FL] Body Fluid Carbon Dioxide
SPECIMEN REQUIRED: Refrigerated body fluid
TUPE OR CONTAINER: Sterile tube
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: pH rate of change
CPT: 82374

[COB] Cobalt
SPECIMEN REQUIRED: Plasma at room temperature
TUPE OR CONTAINER: Royal Blue (EDTA) or Lavender (EDTA)
SPECIAL HANDLING: Separate plasma immediately after collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Environmental exposure: occupational exposure: BEI (sampling time is end of shift at end of work week): 1.0 ug/L
METHODOLOGY: Inductively coupled plasma-mass spectrometry (ICP-MS)
CLINICAL USE: Monitor industrial exposure to cobalt
<table>
<thead>
<tr>
<th>Test Code</th>
<th>Test Description</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Reference Range</th>
<th>Methodology</th>
<th>Clinical Use</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>[COCCIAB]</td>
<td>Coccidioides Antibody</td>
<td>Refrigerated serum</td>
<td>Red or Gold</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>Daily</td>
<td>7 days</td>
<td>Negative: &lt; 1:1</td>
<td>Double immunodiffusion (DID)</td>
<td>86635</td>
<td></td>
</tr>
<tr>
<td>[COCCIABCF]</td>
<td>Coccidioides Antibody (Comp Fix)</td>
<td>Refrigerated serum</td>
<td>Red or Gold</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>Daily</td>
<td>7 days</td>
<td>Negative</td>
<td>Complement Fixation (CF)</td>
<td>86635</td>
<td></td>
</tr>
<tr>
<td>[COCCIABCSF]</td>
<td>CSF Coccidioides Antibody</td>
<td>Refrigerated CSF</td>
<td>Sterile capped container</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>Daily</td>
<td>3-6 days</td>
<td>&lt; 1:2</td>
<td>Complement Fixation (CF)</td>
<td>86635</td>
<td></td>
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<tr>
<td>[COCCIAGU]</td>
<td>Coccidioides Antigen, Quant</td>
<td>Room temperature urine</td>
<td>Plastic tube or cup (urine)</td>
<td>10 mL</td>
<td>1 mL</td>
<td>Daily</td>
<td>5-7 days</td>
<td>None Detected</td>
<td>Enzyme immunoassay (EIA)</td>
<td>87999</td>
<td></td>
</tr>
</tbody>
</table>
### [COCT] Cocaine Level

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Refrigerated whole blood</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Gray</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>10 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>2-4 days</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>Detectability: 10 ng/mL</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Immunoassay</td>
</tr>
<tr>
<td>CLINICAL USE:</td>
<td>Drugs of abuse testing</td>
</tr>
<tr>
<td>CPT:</td>
<td>80101</td>
</tr>
</tbody>
</table>

### [COL11A2] COL11A2 GENE SEQUENCING

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Whole blood or fibroblasts at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Lavender (EDTA) or T25 flasks</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>10 mL or 4 flasks</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>6 mL or 2 flasks</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>1-2 weeks</td>
</tr>
<tr>
<td>OTHER NAMES:</td>
<td>type III Stickler syndrome, otospondylomega epiphysye dysplasia (OSMED syndrome), Weissenbacher-Zweymuller syndrome, and autosomal dominant nonsyndromic sensorineural 13 deafness via COL11A2 gene sequencing</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT:</td>
<td>83890; 83894 x 70; 83898 x 70; 83904 x 76; 83912</td>
</tr>
</tbody>
</table>

### [COL1A1-2] COL1A1/COL1A2 (OI)

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Whole blood or Cultured fibroblasts at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Lavender (EDTA) or T25 tissue culture flasks</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>5 mL whole blood or 2 flasks</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>3 mL whole blood</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>6 months (University of Washington)</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT:</td>
<td>83891 x 2; 83894; 83896 x 27; 83898 x 10; 83903; 83912</td>
</tr>
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</table>

### [COL2A1] COL2A1 GENE SEQUENCING

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Whole blood or fibroblasts at room temperature</th>
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</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Lavender (EDTA) or T25 flasks</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>10 mL or 4 flasks</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>6 mL or 2 flasks</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>1-2 weeks</td>
</tr>
<tr>
<td>OTHER NAMES:</td>
<td>Achondrogenesis, Chondrodysplasia, early onset familial osteoarthritis, SED congenita, Langer</td>
</tr>
</tbody>
</table>
- Saldino achondrogenesis, Kniest dysplasia, Stickler syndrome type I, and spondyloepimetaphyseal dysplasia Strudwick type via COL2A1 gene sequencing

**METHODOLOGY:** Polymerase Chain Reaction (PCR)  
CPT: 83890; 83894 x 68; 83898 x 68; 83904 x 70; 83912

<table>
<thead>
<tr>
<th>COL4A5</th>
<th>ALPORT SYNDROME (COL4A5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED:</td>
<td>Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Lavender (EDTA)</td>
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<tr>
<td>SPECIMEN VOLUME:</td>
<td>3 mL</td>
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<tr>
<td>MINIMUM VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>TEST INCLUDES:</td>
<td>COL4A5 Sequencing of mutations C1564S (c.4692G&gt;A), L1649R (c.4946T&gt;G), and R1677Q (c.5030G&gt;A)</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>5-12 days</td>
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<tr>
<td>METHODOLOGY:</td>
<td>Polymerase Chain Reaction/Fluorescence Monitoring</td>
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<tr>
<td>CPT:</td>
<td>83891; 83896 x 6; 83898; 83900; 83912</td>
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<tr>
<th>COL5A1</th>
<th>COL5A1 MARKERS</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED:</td>
<td>Cultured fibroblasts at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>T25 tissue culture flasks</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>2 flasks</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>2-4 weeks</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT:</td>
<td>83891 x 2; 83892 x 3; 83894 x 2; 83898 x 5; 83903; 83912</td>
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<table>
<thead>
<tr>
<th>COL6A1</th>
<th>COL6A1 GENE SEQUENCING</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED:</td>
<td>Whole blood or buccal swab at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Lavender (EDTA) or swab</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>2 mL</td>
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<tr>
<td>TEST AVAILABILITY:</td>
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<tr>
<td>TURNAROUND TIME:</td>
<td>2-4 weeks</td>
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<tr>
<td>OTHER NAMES:</td>
<td>Type VI Collagenopathy Testing: Ullrich Congenital Muscle Dys trophy and Bethlem Myopathy</td>
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<tr>
<td>METHODOLOGY:</td>
<td>Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT:</td>
<td>83890; 83891; 83898 x 29; 83904 x 29; 83912</td>
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<tr>
<th>COL6A2</th>
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<tr>
<td>SPECIMEN REQUIRED:</td>
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<tr>
<td>TUBE OR CONTAINER:</td>
<td>Lavender (EDTA) or swab</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>2-4 weeks</td>
</tr>
</tbody>
</table>
OTHER NAMES: Type VI Collagenopathy Testing: Ullrich Congenital Muscular Dystrophy and Bethlem Myopathy

METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83898 x 23; 83904 x 23; 83912

[COLD] Cold Agglutinins
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Do NOT refrigerate prior to separation of serum from cells
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 2-7 days
REFERENCE RANGE: Negative: < or = 1:16
METHODOLOGY: Hemaggutination
CLINICAL USE: Support diagnosis of primary atypical pneumonia, infection with Mycoplasma pneumonia, and hemolytic anemia, gangrene, cirrhosis, Raynaud disease, some viral diseases, and infectious diseases such as staphylococcemia, influenza, and tuberculosis
CPT: 86157

[COLLAGEN] COLLAGEN SCREENING STUDY
SPECIMEN REQUIRED: Cultured fibroblasts at room temperature
TUBE OR CONTAINER: T25 tissue culture flasks
SPECIMEN VOLUME: 2 flasks
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 weeks
METHODOLOGY: Gel electrophoresis
CLINICAL USE: Diagnostic testing for osteogenesis imperfecta
CPT: 84166 x 4; 88240; 88241; 89050; 83912

[COLLLKFM] COLLAGEN-KNOWN MUTATION
SPECIMEN REQUIRED: Whole blood or cultured fibroblasts at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or T25 tissue culture flasks
SPECIMEN VOLUME: 5 mL (blood) or 2 flasks
MINIMUM VOLUME: 3 mL (blood) or 1 flask
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898; 83904 x 2; 83912

[COLTICKAB] COLORADO TICK FEVER AB IGG/IGM
SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST INCLUDES: IgG and IgM antibodies
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: IgG: Negative: < 1:16
IgM: Negative: < 1:20
METHODOLOGY: Immunofluorescence Assay (IFA)
CPT: 86790 x 2

[COMPI] COMPLEX I SUBUNITS
SPECIMEN REQUIRED: Whole blood or fibroblasts at room temperature; Frozen tissue
TUBE OR CONTAINER: Lavender (EDTA); T25 flasks or sterile container
SPECIMEN VOLUME: 14 mL
2 flasks
200 mg-tissue
MINIMUM VOLUME: 2 mL
1 flask
100 mg-tissue
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)

[COMPB] Complement Factor B
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
REFERENCE RANGE: 127.6 - 278.5 mcg/mL
METHODOLOGY: Radioimmunoassay (RIA)
CPT: 86160

[COMPC1R] Complement C1r Component
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
REFERENCE RANGE: 61-162 % of standard
METHODOLOGY: Radial immunodiffusion (RID)
CPT: 86160

[COMPC1S] Complement C1s Component
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
REFERENCE RANGE: 59-297 % of standard
METHODOLOGY: Radial Immunodiffusion (RID)
CPT: 86160

[COMPC2] Complement C2
SPECIMEN REQUIRED: Frozen serum
TUDE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Place tube on ice immediately following collection; Separate and freeze
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: 1.6-4.0 mg/dL
METHODOLOGY: Immunologic quantitation by radial immunodiffusion (RID)
CLINICAL USE: Assess patients with hereditary deficiency of C2 acquired decrease in its level which may be seen due to hypercatabolism in hereditary angio-neurotic edema, or consumption or loss as in vasculitides, glomerulonephritides, immune complex diseases
CPT: 86160

[COMPC3] Complement C3
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUDE OR CONTAINER: Gold or Light Green (Heparin)
SPECIAL HANDLING: Collection of specimen from a fasting patient is recommended
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 days
REFERENCE RANGE: 85-157 mg/dL
OTHER NAMES: C3
METHODOLOGY: Turbidimetric
CLINICAL USE: Detect individuals with inborn deficiency of this factor or those with immunologic disease in whom complement is consumed at an increased rate; these include lupus erythematosus, chronic active hepatitis, certain chronic infections, post-streptococcal and membranoproliferative glomerulonephritis, and others
CPT: 86160

[COMPC3NEPH] C3 Nephritic Factor
SPECIMEN REQUIRED: Frozen serum
TUDE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Semi-Quantitative Immunofixation electrophoresis (IFE)
CPT: 86160

[COMPC4] Complement C4

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Gold or Light Green (Heparin)
SPECIAL HANDLING: Collection of specimen from a fasting patient is recommended
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 days
REFERENCE RANGE: 15-38 mg/dL
OTHER NAMES: C4
METHODOLOGY: Turbidimetric
CLINICAL USE: Detect individuals with inborn deficiency of this factor or those with immunologic disease in whom hypercatabolism of complement causes reduced levels; these diseases include lupus erythematosus, serum sickness, certain glomerulonephritides, chronic active hepatitis, and others
CPT: 86160

[COMPC4BP] Complement C4 Binding Protein

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Na citrate)
SPECIMEN VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 0.5 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-8 days
REFERENCE RANGE: 50-130%
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CLINICAL USE: Confirmation and characterization of protein S deficiency
CPT: 83520

[COMPC4D] Complement C4d Fragment

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Plasma must be separated from cells w/in 45 minutes of venipuncture. If more than one hour is expected to pass between draw time and separation, place tube in wet ice and centrifuge cold.
**[COMPC5] Complement C5**

- **SPECIMEN REQUIRED:** Frozen plasma
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **METHODOLOGY:** Immunologic
- **CPT:** 86160

**[COMPC5A] Complement C5a**

- **SPECIMEN REQUIRED:** Frozen plasma.
- **TUBE OR CONTAINER:** EDTA (lavender) Do NOT use serum for this test
- **SPECIAL HANDLING:** Plasma must be separated from cells w/in 45 minutes of venipuncture. If more than one hour is expected to pass between draw time and separation, place tube in wet ice and centrifuge cold.
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **METHODOLOGY:** Immunologic
- **CPT:** 86160

**[COMPC5B9] Complement C5**

- **SPECIMEN REQUIRED:** Frozen plasma
- **TUBE OR CONTAINER:** Lavender (EDTA) or Dark green (heparin)
- **SPECIAL HANDLING:** Separate and freeze immediately
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **CPT:** 86160

**[COMPC5F] Complement C5**

- **SPECIMEN REQUIRED:** Frozen serum
- **TUBE OR CONTAINER:** Red (no gel)
- **SPECIAL HANDLING:** Do NOT collect in gel barrier tube
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** 13700 - 37900 units/mL
- **CPT:** 86161

**[COMPC6] Complement C6**

- **SPECIMEN REQUIRED:** Frozen plasma
TUBE OR CONTAINER: EDTA (lavender)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Immunologic
CPT: 86160

[COMPC6F] Complement C6

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red (no gel)
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 14363 - 38940 units/mL
CPT: 86161

[COMPC7] Complement C7

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Immunologic
CPT: 86160

[COMPC7F] Complement C7

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red (no gel)
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 12327 - 33836 units/mL
CPT: 86161

[COMPC8] Complement C8

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Separate from cells immediately after clot has formed and transfer to plastic tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 2.7-6.0 mg/dL
METHODOLOGY: Immunologic
CPT: 86160

[COMPC8F] Complement C8

SPECIMEN REQUIRED: Frozen serum
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<thead>
<tr>
<th><strong>[COMPC9F] Complement C9</strong></th>
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<tr>
<td>TUBE OR CONTAINER: Red (no gel)</td>
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<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
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<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
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<tr>
<td>REFERENCE RANGE: 8310 - 42320 units/mL</td>
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<tr>
<td>METHODOLOGY: Hemolytic assay</td>
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<td>CPT: 86161</td>
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<th><strong>[COMPH] Complement Factor H</strong></th>
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<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
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</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
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</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
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</tr>
<tr>
<td>METHODOLOGY:</td>
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<td>CPT: 86160</td>
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<td>SPECIMEN REQUIRED: Frozen plasma</td>
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<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
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<tr>
<td>SPECIMEN VOLUME: 1 ml</td>
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<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
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<td>TEST AVAILABILITY: Daily</td>
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<td>TURNAROUND TIME:</td>
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<tr>
<td>REFERENCE RANGE:</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: C3B/C4B inactivator</td>
<td></td>
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<tr>
<td>METHODOLOGY: Radial Immunodiffusion (RID)</td>
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<tr>
<th><strong>[CON26] CONNEXIN 26 (HEARING LOSS)</strong></th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Room temperature whole blood</td>
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</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
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</tr>
<tr>
<td>TURNAROUND TIME: 3-5 weeks</td>
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<tr>
<td>OTHER NAMES: Autosomal Recessive Deafness; Cx26; Deafness; 35delG; 167delT; Nonsyndromic Recessive Deafness</td>
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</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
<td></td>
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<tr>
<td>CLINICAL USE: Determine whether a hearing defect in a child is</td>
<td></td>
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</tbody>
</table>
hereditary; Evaluation of progressive hearing loss
in adults; Determine the genetic basis for hearing
loss in an affected individual; Evaluate the risk
of having a child with hearing loss
CPT: 83891; 83894; 83898; 83904; 83909 x 3; 83912

**[CON30] CONNEXIN 30 (HEARING LOSS)**

SPECIMEN REQUIRED: Room temperature whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Identify a second mutation in children that carry
a single CX26 mutation; Determine if a hearing
defect in a child is hereditary; Determine the
genetic basis for hearing loss in an affected
individual; Evaluate the risk of having a child
with hearing loss
CPT: 83891; 83894; 83898; 83904; 83909 x 4; 83912

**[COOXP] CO-OXIMETER PROFILE**

SPECIMEN REQUIRED: Whole blood on ice
TUBE OR CONTAINER: Light Green (heparin) or Heparinized syringe
SPECIAL HANDLING: Keep specimen on ice and transport to lab immediately; do NOT open
Test should be performed within 2 hours
REASON FOR REJECTION: Specimen at room temp > 20 minutes or on ice longer than 2 hours
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST INCLUDES: Carbon Monoxide; Oxyhemoglobin; Methemoglobin
and Co-Ox total hemoglobin
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 day
METHODOLOGY: Spectrophotometry
CPT: 85018, 83050, 84999, 82375

**[COP] Copper Level**

SPECIMEN REQUIRED: Room temperature serum or plasma
TUBE OR CONTAINER: Red or Royal Blue (EDTA)
SPECIAL HANDLING: Serum must be separated from cells within 45 minutes of collection and transferred to a plastic transport tube; plasma may be separated immediately and transferred to a plastic transport tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 days
REFERENCE RANGE: Environmental exposure: 70-155 ug/dL
Levels may be somewhat higher in pregnant women and children and in patients receiving estrogen therapy
METHODOLOGY: Inductively coupled plasma-mass spectrometry (ICP-MS)
CLINICAL USE: Along with serum ceruloplasmin and urine copper to test for Wilson disease and more often, in monitoring the nutritional adequacy of parenteral or enteral nutrition
CPT: 82525

[COPRAN]  UR COPPER RANDOM
SPECIMEN REQUIRED: Random urine at room temperature
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1.3 mL
TEST INCLUDES: Copper; creatinine; copper:creatinine ratio;
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-4 days
REFERENCE RANGE: Environmental exposure: 2-80 ug/L
METHODOLOGY: Inductively coupled plasma-mass spectrometry (IPC-MS)
CLINICAL USE: Monitor exposure to copper
CPT: 82525; 82570

[COPTM]  UR COPPER TIMED
SPECIMEN REQUIRED: Aliquot of 24 hour urine at room temperature
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1.5 mL
TEST INCLUDES: Copper; creatinine; copper:creatinine ratio; copper (24-hour)
TEST AVAILABILITY: Daily
REFERENCE RANGE: Environmental exposure: 2-80 ug/L
3-35 ug/24 hours
METHODOLOGY: Inductively coupled plasma-mass spectrometry (IPC-MS)
CLINICAL USE: Monitor exposure to copper
CPT: 82525

[COQ10]  Coenzyme Q10 Level
SPECIMEN REQUIRED: Frozen and light protected plasma
TUBE OR CONTAINER: Green (heparin)
SPECIAL HANDLING: Protect from light in amber tube or wrap in aluminum foil
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
<table>
<thead>
<tr>
<th>Test Code</th>
<th>Test Name</th>
<th>Specimen Required</th>
<th>Specimen Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Methodology</th>
<th>CPT</th>
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</thead>
<tbody>
<tr>
<td>COQ10MUS</td>
<td>Coenzyme Q10 Level</td>
<td>Frozen skeletal muscle</td>
<td>150 mg</td>
<td>Daily</td>
<td>3 weeks</td>
<td>High-performance liquid chromatography (HPLC) with electrochemical detection</td>
<td>82491</td>
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<tr>
<td>COQ10WBC</td>
<td>Coenzyme Q10 Level</td>
<td>Whole blood (leukocytes) at room temperature</td>
<td>5 mL</td>
<td>Daily</td>
<td>14 days</td>
<td>Tandem Mass Spectrometry (MS)</td>
<td>83789</td>
</tr>
<tr>
<td>CORDBGA</td>
<td>CORD BLOOD GAS-ARTERIAL</td>
<td>Whole blood on ice</td>
<td>Adult: 2 mL</td>
<td>Daily</td>
<td>1 hour</td>
<td>Potentiometry</td>
<td>82803</td>
</tr>
<tr>
<td>CORDBGV</td>
<td>CORD BLOOD GAS-VENOUS</td>
<td>Whole blood on ice</td>
<td>Adult: 2 mL</td>
<td>Daily</td>
<td>1 hour</td>
<td>Evaluate O2 and CO2 gas exchange, respiratory function including hypoxia and acid-base status</td>
<td></td>
</tr>
</tbody>
</table>
TEST INCLUDES: pH, pCO2, pO2, HCO3, base excess, measured % saturation
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 hour
METHODOLOGY: Potentiometry
CLINICAL USE: Evaluate O2 and CO2 gas exchange, respiratory function including hypoxia and acid-base status
CPT: 82803

[CORTBG] Transcortin (Cortisol Binding Glob)
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Separate within 1 hour of collection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-10 days
OTHER NAMES: CBG; Corticosteroid Binding Globulin (CBG)
Transcortin
METHODOLOGY: Direct RIA in dilute serum
CPT: 84449

[CORTFR] CORTISOL FREE WITH CBG
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 (this volume does not allow for repeat testing
TEST INCLUDES: Cortisol, Cortisol Binding Globulin, calculated Free Cortisol and percent Free Cortisol
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-10 days
METHODOLOGY: HPLC Tandem Mass Spectrometry, RIA, Calculation of Free Cortisol
CPT: 84449; 82533

[CORTIS] Cortisone Level
SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Gold or Lavender (EDTA)
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
REFERENCE RANGE: Male: 0.5 - 2.5 ug/dL Female: 0.5 - 2.0 ug/dL
METHODOLOGY: Direct Radioimmunoassay
CPT: 83519

[CORTR] Cortisol
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Gold or Light Green (heparin)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: AM: 6-30 ug/dL
PM: 3-16 ug/dL
OTHER NAMES: Compound F; Hydrocortisone
METHODOLOGY: Chemiluminescence
CLINICAL USE: Aid in diagnosis of adrenocortical insufficiency,
Addison's disease, adrenocortical hypersecretion,
Cushing's syndrome
CPT: 82533

[CORTTRH] Corticotropin Release Hormone Stimu

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Patient should not be on any corticosteroid or
ACTH medications, if possible, for at least 48
hours prior to sample collection. Centrifuge
and separate with 45 minutes of collection
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-9 days
CPT: 83519

[CORTST] Corticosterone

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Separate from cells within 1 hour
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
METHODOLOGY: Liquid Chromatography Tandem Mass Spectrometry
(LC/MS/MS)
CPT: 82528

[CORTURF] UR CORTISOL FREE BY HPLC

SPECIMEN REQUIRED: Refrigerated urine (24 hour)
TUBE OR CONTAINER: Plastic container
or "B" container (1 g/L boric acid)
Keep specimen refrigerated during collection;
final pH must be SPECIMEN VOLUME: 100 mL
MINIMUM VOLUME: 10 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Liquid chromatography/tandem mass spectrometry
(LC/MS-MS)
CLINICAL USE: Evaluate adrenal cortical function, especially
hyperfunction; evaluate obese or hypertensive
subjects with glucose intolerance, plethora, round
face, hirsutism, striae, backache, irregular
menses in various combinations, most of whom do
not have Cushing's syndrome
CPT: 82530

[COSTELLO] COSTELLO SYNDROME (HRAS GENE)
SPECIMEN REQUIRED: Whole blood room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 4-5 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890 83900; 83901 x 2; 83904 x 2; 83909; 83912

[COX10] COX10 SEQUENCING
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 weeks
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83894 x 2; 83898 x 5; 83904 x 10; 83912

[COXA] AB COXSACKIE A VIRUS PROFILE
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Response detection to types A2, A4, A7, A9, A10
and A16 serotypes
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
REFERENCE RANGE: < 1:8
METHODOLOGY: Complement Fixation (CF)
CLINICAL USE: Aid in diagnosing Coxsackie virus infection
CPT: 86658 x 6

[COXACSF] AB COXSACKIE A VIRUS CSF
SPECIMEN REQUIRED: Refrigerated or frozen CSF
TUBE OR CONTAINER: Sterile capped container
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Coxsackie A Type 2, 4, 7, 9, 10, and 16
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-7 days
REFERENCE RANGE: < 1:1
METHODOLOGY: Complement Fixation (CF)
CPT: 86658 x 6

**[COXB] AB COXSACKIE B VIRUS PROFILE**
- SPECIMEN REQUIRED: Refrigerated serum
- TUBE OR CONTAINER: Red or Gold
- SPECIAL HANDLING: Identify specimen as acute or convalescent
- SPECIMEN VOLUME: 3 mL
- MINIMUM VOLUME: 1.2 mL
- TEST INCLUDES: Titers for antibodies to Coxsackie virus groups B1 through B6
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2-5 days
- METHODOLOGY: Complement Fixation (CF)
- CLINICAL USE: Aid in diagnosing Coxsackie virus infection
- CPT: 86658 x 6

**[COXB] AB COXSACKIE B VIRUS CSF**
- SPECIMEN REQUIRED: Refrigerated or frozen CSF
- TUBE OR CONTAINER: Sterile capped container
- SPECIMEN VOLUME: 2 mL
- MINIMUM VOLUME: 1 mL
- TEST INCLUDES: Coxsackie B Types 1-6
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 3-7 days
- REFERENCE RANGE: < 1:1
- METHODOLOGY: Complement Fixation
- CPT: 86658 x 6

**[COXBPCR] Coxiella burnetii Interpretation**
- SPECIMEN REQUIRED: Frozen serum or CSF
- TUBE OR CONTAINER: Red or Gold
- SPECIMEN VOLUME: 1 mL
- MINIMUM VOLUME: 0.3 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2-5 days
- REFERENCE RANGE: Not detected
- METHODOLOGY: Polymerase chain reaction (PCR)
- CPT: 87798

**[COXIB] AB COXIELLA BURNETII**
- SPECIMEN REQUIRED: Refrigerated serum
- TUBE OR CONTAINER: Red or Gold
- SPECIMEN VOLUME: 1 mL
- MINIMUM VOLUME: 0.4 mL
- TEST INCLUDES: Phase 1 and 2 IgG, IgM and IgA antibodies
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2-5 days
- REFERENCE RANGE: < 1:16
- METHODOLOGY: Indirect immunofluorescence antibody (IFA)
**[CPEP] C-Peptide**

- **SPECIMEN REQUIRED:** Serum or plasma
- **TUBE OR CONTAINER:** Gold or Light Green (heparin)
- **SPECIAL HANDLING:** Draw at room temp. If not run within 3 hours, separate and freeze serum or plasma.

- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 ml
- **TEST AVAILABILITY:** Monday-Friday
- **TURNAROUND TIME:** 4-7 days
- **REFERENCE RANGE:** 0.9 - 7.1 ng/mL
- **OTHER NAMES:** Connecting Peptide; Insulin C-Peptide; Proinsulin C-Peptide
- **METHODOLOGY:** Chemiluminescence
- **CLINICAL USE:** Principal use is in the evaluation of hypoglycemia
- **CPT:** 84681

**[CPEPUR] Urine C-Peptide**

- **SPECIMEN REQUIRED:** Frozen urine aliquot (24 hour collection)
- **TUBE OR CONTAINER:** Urine transport tube
- **SPECIAL HANDLING:** Collect specimen in a "P" container (no preservative)
- **SPECIMEN VOLUME:** 10 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** 17.2 - 181.0 ug/24 hours
- **METHODOLOGY:** Roche ECLIA
- **CPT:** 84681

**[CPP] CHEST PAIN PROFILE**

- **SPECIMEN REQUIRED:** Refrigerated plasma or serum
- **TUBE OR CONTAINER:** Light Green (heparin) or Gold
- **SPECIMEN VOLUME:** 2.5 mL
- **MINIMUM VOLUME:** 1.5 mL
- **TEST INCLUDES:** Total CK, CKMB and interpretation, relative index and Troponin I
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8 hours
- **REFERENCE RANGE:** See individual tests
- **METHODOLOGY:** See individual tests
- **CLINICAL USE:** Aid in diagnosis of myocardial infarction (MI) and skeletal muscular damage
- **CPT:** 82550, 82553, 84484

**[CPS] CARBAMYL PHOS SYNTHETASE (CPS)**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST AVAILABILITY:** Daily  
**METHODOLOGY:** Polymerase Chain Reaction (PCR)  
**CPT:** 83890; 83894 x 4; 83898 x 4; 83912

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**[CPSA]** Complexed Prostate Specific Antigen  
**SPECIMEN REQUIRED:** Refrigerated serum  
**TUBE OR CONTAINER:** Gold or Red  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:**  
**REFERENCE RANGE:** 0.0-3.6 ng/mL  
**METHODOLOGY:** Immunochemiluminometric assay (ICMA)  
**CLINICAL USE:** Useful for determining residual disease and early recurrence after therapy  
**CPT:** 84152

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**[CPSOTC]** CPS1/OTC ENZYME ACTIVITY

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**[CPT1A]** CARNITINE PALM TRANS (CPT1A)  
**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 1 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 4 weeks  
**METHODOLOGY:** Polymerase Chain Reaction (PCR)  
**CPT:** 83891; 83894; 83898 x 18; 83904 x 36; 83909 x 36; 83912

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**[CPVT]** CATECHOL POLYMORPH VENTRIC TAC  
**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIMEN VOLUME:** 10 mL  
**MINIMUM VOLUME:** 5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 8-10 weeks  
**METHODOLOGY:** Polymerase chain reaction (PCR)  
**CPT:** 83891; 83898 x 41; 83904 x 41; 83909 x 41; 83912

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**[CRCL]** URINE CREATININE CLEARANCE  
**SPECIMEN REQUIRED:** Refrigerated aliquot of 24 hour urine collection AND refrigerated serum  
**TUBE OR CONTAINER:** Plastic urine container (urine) AND Red or Gold (serum) or Lt Green (heparin)  
**SPECIAL HANDLING:** Collect 24-hour urine in "P" container (no preservative); also, collect blood to obtain current serum creatinine value in order to calculate clearance
<table>
<thead>
<tr>
<th>Test</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN VOLUME: 10 mL</td>
<td>MINIMUM VOLUME: 1 mL</td>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME: 8 hours</td>
<td>REFERENCE RANGE: 0-18 years: 70-140 mL/min</td>
<td>&gt; 18 years (Female): 75-115 mL/min</td>
<td>&gt; 18 years (Male): 85-125 mL/min</td>
<td>METHODOLOGY: Jaffe rate</td>
</tr>
<tr>
<td>CLINICAL USE: Renal function test, estimate glomerular filtration rate, follow possible progression of renal disease, adjust medications</td>
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<tr>
<td>CPT: 82575</td>
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</tr>
</tbody>
</table>

**[CREAGUAN] CREATINE/GUANIDINOACETATE**

- **SPECIMEN REQUIRED:** Frozen plasma  
- **TUBE OR CONTAINER:** Lavender (EDTA) or Green (heparin)  
- **SPECIMEN VOLUME:** 1 mL  
- **TEST INCLUDES:** Creatine and Guanidinoacetate  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 6-8 days  
- **REFERENCE RANGE:**  
  - Creatine:  
    - Children: 34 - 130 micromoles/ml plasma  
    - Adults: 14 - 120 micromoles/ml plasma  
  - Guanidinoacetate:  
    - Children: 0.7 - 5.4 micromoles/ml plasma  
    - Adults: 0.7 - 8.7 micromoles/ml plasma  
- **METHODOLOGY:** Isotope dilution tandem mass spectroscopy  
- **CLINICAL USE:** Assess abnormalities in the synthesis of creatine  
- **CPT:** 83789 x 2

**[CREAT] Creatinine**

- **SPECIMEN REQUIRED:** Refrigerated plasma or serum  
- **TUBE OR CONTAINER:** Light Green (heparin) or Gold  
- **SPECIMEN VOLUME:** 1 mL  
- **MINIMUM VOLUME:** 0.5 mL  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 8 hours  
- **REFERENCE RANGE:**  
  - 0-2 years: 0.2-0.4 mg/dL  
  - 2-12 years: 0.2-0.7 mg/dL  
  - 12 years + (Female): 0.7-1.2 mg/dL  
  - 12 years + (Male): 0.8-1.2 mg/dL  
- **METHODOLOGY:** Jaffe rate  
- **CLINICAL USE:** Aid in diagnosis and treatment of renal diseases, in monitoring renal dialysis, and as a calculation basis for measuring other urine analytes  
- **CPT:** 82565

**[CREATINE] Creatine**

- **SPECIMEN REQUIRED:** Frozen serum  
- **TUBE OR CONTAINER:** Red or Gold
<table>
<thead>
<tr>
<th>SPECIMEN VOLUME: 2 mL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINIMUM VOLUME: 0.2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE: Male: 0.2 - 0.7 mg/dL</td>
</tr>
<tr>
<td>Female: 0.3 - 0.9 mg/dL</td>
</tr>
<tr>
<td>METHODOLOGY: Enzymatic (creatine)/spectrophotometry</td>
</tr>
<tr>
<td>CLINICAL USE: Serum creatine levels may be significantly increased in amyotrophic lateral sclerosis, dermatomyositis, myasthenia gravis, starvation, muscular dystrophies, and trauma</td>
</tr>
<tr>
<td>CPT: 82540</td>
</tr>
</tbody>
</table>

**[CREATM] UR CREATININE TIMED**

| SPECIMEN REQUIRED: Refrigerated aliquot from a timed urine |
| TUBE OR CONTAINER: Plastic urine container |
| SPECIAL HANDLING: Collect 24-hour urine in "P" container (no preservative) |
| SPECIMEN VOLUME: 10 mL |
| MINIMUM VOLUME: 1 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 8 hours |
| REFERENCE RANGE: Female: 600.0-1800.0 mg/24 hours |
| Male: 800.0-2000.0 mg/24 hours |
| METHODOLOGY: Jaffe rate |
| CLINICAL USE: Renal function test |
| CPT: 82570 |

**[CREATU] Urine Random Creatinine**

| SPECIMEN REQUIRED: Refrigerated random urine |
| TUBE OR CONTAINER: Plastic urine container |
| SPECIMEN VOLUME: 10 mL |
| MINIMUM VOLUME: 2 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 8 hours |
| REFERENCE RANGE: None established |
| METHODOLOGY: Jaffe rate |
| CLINICAL USE: Renal function test |
| CPT: 82570 |

**[CREFLD] Body Fluid Creatinine**

| SPECIMEN REQUIRED: Refrigerated body fluid |
| TUBE OR CONTAINER: Sterile container |
| SPECIAL HANDLING: Specify source of fluid |
| SPECIMEN VOLUME: 1 mL |
| MINIMUM VOLUME: 0.5 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 8 hours |
| REFERENCE RANGE: None established |
| METHODOLOGY: Jaffe rate |
| CPT: 82570 |
**CREGUANU] UR CREATINE/GUANIDINOACETATE**

- **SPECIMEN REQUIRED:** Frozen urine
- **TUBE OR CONTAINER:** Plastic urine container
- **SPECIMEN VOLUME:** 1 mL
- **TEST INCLUDES:** Creatine and Guanidinoacetate
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 6-8 days
- **REFERENCE RANGE:**
  - Creatine:
    - Children: 20 - 900 micromoles/mole creatinine
    - Adults: 12 - 500 micromoles/mole creatinine
  - Guanidinoacetate:
    - Children: 15 - 150 micromoles/mole creatinine
    - Adults: 10 - 120 micromoles/mole creatinine
- **METHODOLOGY:** Isotope dilution tandem mass spectroscopy
- **CLINICAL USE:** Assess abnormalities in the synthesis of creatine
- **CPT:** 83789 x 2; 82570

**CRETM] UR CREATINE TIMED**

- **SPECIMEN REQUIRED:** Frozen urine aliquot from 24 hour collection
- **TUBE OR CONTAINER:** Plastic urine container
- **SPECIAL HANDLING:** Collect 24-hour urine in "P" container (no preservative)
- **SPECIMEN VOLUME:** 10 mL
- **MINIMUM VOLUME:** 0.2 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:**
  - Male: 0-40 ml/24 hours
  - Female: 0-80 mg/24 hours
- **METHODOLOGY:** Enzymatic (creatinase)/spectrophotometry
- **CLINICAL USE:** Determine creatinuria
- **CPT:** 82540

**CREUTZ] Creuzfeldt-Jakob Disease**

- **SPECIMEN REQUIRED:** Frozen CSF
- **TUBE OR CONTAINER:** Screw-capped, sterile vial
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-5 days
- **REFERENCE RANGE:**
  - < 2.0 ng/mL Normal
  - 2.0 - 3.9 ng/mL Indeterminate
  - > or = 4.0 ng/mL Elevated
- **METHODOLOGY:** Immunochemiluminometric Assay (ICMA)
- **CPT:** 83516

**CROHNSP] CROHN'S PROGNOSTIC**

- **SPECIMEN REQUIRED:** Room temperature serum and whole blood
- **TUBE OR CONTAINER:** Red or Gold and Lavender (EDTA)
- **SPECIMEN VOLUME:** 2 mL (serum)
  - 1 mL (whole blood)
MINIMUM VOLUME: 0.5 mL (serum)
0.5 mL (whole blood)
TEST INCLUDES: CD-specific ASCA IgA & IgG (Anti-saccharomyces cervisiae), CD-specific anti-OmpC IgA (Outer membrane porin from E. coli), CBir1 antibody, Anti-12 ELISA Perinuclear pattern and DNase sensitivity and serogenetic markers
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA); Polymerase Chain Reaction (PCR)
CLINICAL USE: Provides individualized probabilities for developing disease complications after diagnosis in patients with Crohn's disease (CD).
CPT: 83520 x 2; 86021; 86609; 86671 x 2; 88347 x 2; 83896 x 6; 83898 x 3; 83907; 83912

[CROUZ]  CROUZON W/ACANTHOSIS NIGRICANS
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: PCR analysis and DNA sequencing of exon 7,9, and 11 of the FGFR2 gene, exon 10 of the FGFR3 gene, and point mutation testing of the FGFR3 gene (Pro250Arg).
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83892 x 2; 83894 x 3; 83898 x 6; 83904 x 10; 83912

[CRPFLD]  Body Fluid C-Reactive Protein
SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Transfer tube
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
REFERENCE RANGE: 0.0 - 0.8 mg/dL
METHODOLOGY: Immunoturbidimetric
CLINICAL USE: CRP is an acute phase reactant, which can be used as a test for inflammatory diseases, infections, and neoplastic diseases
CPT: 86140

[CRPQ]  C-Reactive Protein High Sensitivity
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Gold or Light Green (heparin)
SPECIAL HANDLING: Testing cannot be performed on lipemic
samples; it is best to collect specimen from a fasting patient
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: As a marker to assess medical events resulting in tissue injury, infections, or inflammation:
0.0 - 8.0 mg/L
As a marker for relative risk of future cardiovascular event in the absence of tissue injury, infections, or inflammation:
Low < 1.0 mg/L
Average 1.0 - 3.0 mg/L
High > 3.0 mg/L
METHODOLOGY: Turbidimetric
CLINICAL USE: CRP is an acute phase reactant, which can be used as a test for inflammatory diseases, infections, and neoplastic diseases
CPT: 86141

**[CRSPANT] Cryptosporidium Antigen**

SPECIMEN REQUIRED: Submit 5 mL raw stool in Para-Pak Formalin (pink top) transport media.
TUBE OR CONTAINER: Para-Pak Formalin (pink top)
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 72 hours
VOLUME OF SPECIMEN: 5 mL
NORMAL TEST VALUES: Negative
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL INFORMATION: Cryptosporidium antigen is more sensitive than O&P exam for the identification of Cryptosporidium.

**[CRTR] CREATINE TRANSPORTER (CRTR)**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 14 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
OTHER NAMES: CT1/SLC6A8 Gene sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83894 x 2; 83898 x 13; 83904 x 26; 83912

**[CRYANT] Cryptococcal Antigen**

SPECIMEN REQUIRED: Refrigerated serum or cerebrospinal fluid
TUBE OR CONTAINER: Red, Gold or sterile container
ORDERING MODULE: MIC
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Negative
METHODOLOGY: Latex agglutination
REFLEX TEST INFORMATION: Positive specimens will be reflexed to a cryptococcal antigen titer at an additional charge
CLINICAL USE: Aid in establishing the presence if Cryptococcus neoformans infection
CPT: 86403

[CRYFL] Body Fluid Crystals
SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Gold or Red; sterile tube or syringe
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Negative
METHODOLOGY: Polarized light
CLINICAL USE: Determine the cause of inflammation
CPT: 89060

[CRYO] Cryoglobulin
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Specimens must be drawn in a pre-warmed syringe and transferred to 15 mL red-top (no gel barrier) tube
Incubate specimen at 37 degrees C for 2 hours while clotting
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 days
REFERENCE RANGE: Negative
METHODOLOGY: Precipitation of cryoglobulin at 4 degrees C
REFLEX TEST INFORMATION: If positive, quantitative cryoglobulin will be reflexed at an additional charge
CLINICAL USE: May be present in macroglobulinemia of Waldenstrom myeloma, chronic lymphocytic leukemia, lupus, chronic active hepatitis, and other viral infections
CPT: 82595

[CRYOF] Cryofibrinogen
SPECIMEN REQUIRED: Room temperature plasma
TUBE OR CONTAINER: Lavender (EDTA); Blue (citrate) or Gray
(Sodium fluoride)
SPECIAL HANDLING: Specimen must be drawn in a prewarmed tube and kept at 37 C. Separate immediately
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: None detected
METHODOLOGY: Precipitation
CLINICAL USE: Detect cold precipitable fibrinogen
CPT: 82585

[CYPAB] Cryptococcus Antibody
SPECIMEN REQUIRED: Refrigerated serum or CSF
TUBE OR CONTAINER: Red, Gold or Sterile container
SPECIMEN VOLUME: 0.6 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: Negative: < 1:2
METHODOLOGY: Cell agglutination
CLINICAL USE: Aid in the diagnosis of cryptococcus
CPT: 86641

[CRYPTU] Urine Cryptococcus Antigen
SPECIMEN REQUIRED: Frozen or refrigerated urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Negative
METHODOLOGY: Latex Agglutination
CPT: 86403

[CRACTM] Cryptosporidium Smear
SPECIMEN REQUIRED: Freshly collected stool specimen
TUBE OR CONTAINER: Para-pak formalin (pink)
ORDERING MODULE: MIC
SPECIMEN VOLUME: 2 grams
MINIMUM VOLUME: 1 gram
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Negative
CLINICAL USE: Establish diagnosis of cryptosporidiosis by demonstration of oocysts
CPT: 87206

[CRYSY] Synovial Fluid Crystals
SPECIMEN REQUIRED: Refrigerated synovial fluid
TUBE OR CONTAINER: Lavender (EDTA), Green (heparin), Red, Gold
SPECIAL HANDLING: Specimens submitted with attached needle will be rejected
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Negative
METHODOLOGY: Polarized light
CLINICAL USE: Determine cause of inflammation
CPT: 89060

[CRTIT] Cryptococcal Antigen Titer

[CS-A] COCKAYNE SYNDROME A
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 10; 83904 x 10; 83912

[CSB] COCKAYNE SYNDROME B
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-8 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 10; 83904 x 20; 83912

[CSFGENT] CSF Gentamycin
SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: CSF tube
SPECIMEN VOLUME: 1 ml
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Turbidimetric inhibition immunoassay
CPT: 80170

[CSFGQ1B] GQ1b Antibodies
SPECIMEN REQUIRED: Frozen CSF
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 ml
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CPT: 83520

[CSFGS]  CSF (CHOC PLATE ONLY)

[CSFMETHX]  CSF Methotrexate Level
SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile CSF tube
SPECIAL HANDLING: Protect from light; Send to lab STAT
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 ml
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 hours
REFERENCE RANGE: None established
METHODOLOGY: Fluorescent polarization immunoassay (FPIA)
CPT: 80299

[CSFTOB]  CSF Tobramycin
SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile CSF tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Turbidimetric inhibition immunoassay
CPT: 80200

[CSFVANC]  CSF Vancomycin
SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile CSF tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 ml
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Turbidimetric inhibition immunoassay
CPT: 80202

[CSM]  CHROMOSOME SNP MICROARRAY
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark Green-preferred (heparin), Lavender (EDTA), Yellow (ACD)
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-14 days
METHODOLOGY: Whole genome SNP-based copy number microarray
**analysis targeting 1.8 million copy number and allele-specific genome sites**

**CLINICAL USE:** Detects chromosomal imbalance that may be present in newborns or children with developmental delay/congenital anomalies/autism; provides detection of uniparental disomy of any chromosome and the degree of consanguinity, as well as the genomic locations of recessive allele risk

CPT: 83891; 83892 x 3; 83894 x 2; 83898 x 7; 88271 x 99; 88291

<table>
<thead>
<tr>
<th><strong>[CTELO]</strong> C-Telopeptide</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Separate serum from cells within 45 minutes of venipuncture</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 1 week - 1 month</td>
</tr>
<tr>
<td>OTHER NAMES: CTX</td>
</tr>
<tr>
<td>CPT: 82523</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[CTRC]</strong> CHYMOTRYPSIN C-RELATED PANCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Ship within 5 days of collection</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 3 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 14-21 days</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83891; 83894 x 8; 83898 x 7; 83904 x 14; 83909 x 14; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[CUIN]{D] Chronic Urticaria Index</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Serum at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIAL HANDLING: If specimen held more than 7 days; store and ship frozen</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-5 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: 1-50</td>
</tr>
<tr>
<td>OTHER NAMES: Autoimmune chronic urticaria; FC Epsilon, Hives Anti-FceR auto antibody, CD203c</td>
</tr>
<tr>
<td>METHODOLOGY: Quantitative enzyme immunoassay</td>
</tr>
<tr>
<td>CPT: 86352</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[CULABS]</strong> Abscess Cult &amp; Gram Stain</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Collect specimen with a sterile syringe and</td>
</tr>
</tbody>
</table>
needle when possible. REMOVE NEEDLE. Express air bubbles from syringe and stopper securely with syringe cap or luer tip cap TUBE OR CONTAINER: Syringe SPECIAL HANDLING: Do not expose specimen to air; Indicate exact source of abscess NOTE: Anaerobic culture should also be ordered on abscess material submitted for culture ORDERING MODULE: MIC TEST INCLUDES: Gram stain and aerobic culture TEST AVAILABILITY: Daily TURNAROUND TIME: 120 hours for final REFERENCE RANGE: No growth METHODOLOGY: Culture CLINICAL USE: Isolate and identify pathogenic organisms CPT: 87205; 87070

[CULABSAA] Abscess A/An Cult & Gram Stain

SPECIMEN REQUIRED: Collect specimen with a sterile syringe and needle when possible. REMOVE NEEDLE. Express air bubbles from syringe and stopper securely with syringe cap or luer tip cap TUBE OR CONTAINER: Syringe SPECIAL HANDLING: Do not expose specimen to air; Indicate exact source of abscess ORDERING MODULE: MIC TEST INCLUDES: Aerobic culture, gram stain, anaerobic culture TEST AVAILABILITY: Daily TURNAROUND TIME: 120 hours for final REFERENCE RANGE: No growth METHODOLOGY: Culture CLINICAL USE: Isolate and identify pathogenic organisms CPT: 87205; 87070; 87075

[CULACA] Acanthamoeba Culture

SPECIMEN REQUIRED: Special fresh acanthamoeba media TUBE OR CONTAINER: Acanthamoeba media SPECIAL HANDLING: Please contact the microbiology lab at 271-4006 for special media Indicate source of specimen ORDERING MODULE: MIC TEST AVAILABILITY: Monday-Friday TURNAROUND TIME: 5 days REFERENCE RANGE: No growth METHODOLOGY: Aerobic culture on selective media CLINICAL USE: Detect bacterial pathogenic organisms CPT: 87081

[CULAEROM] Aeromonas Stool Culture

SPECIMEN REQUIRED: Fresh stool at room temperature
TUBE OR CONTAINER: Para-Pak C&S orange transport media
Hospital: Clean container with a tight lid
SPECIAL HANDLING: In-patient specimens should be submitted in a clean container with a tight lid
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 72 hours
REFERENCE RANGE: No growth
METHODOLOGY: Aerobic culture on selective media
CLINICAL USE: Detect bacterial pathogenic organisms
CPT: 87046

[CULAFB] AFB Culture & Smear

SPECIMEN REQUIRED: Refrigerated specimen
Source:
BLOOD: Aseptically draw 10 mL blood in an isolator tube.
Refer to test CULBLDAFB-Culture, blood isolator AFB

BONE MARROW: 1.5 mL of aspirate in a pediatric isolator tube;
Also submit a biopsy specimen in a sterile capped container
BRONCHIAL WASHING, BRUSHING, OR LAVAGE: 10 mL in a tightly sealed container
CSF: 3 mL in a sterile screw-cap tube
BODY FLUIDS: 10 mL in a tightly sealed sterile tube or syringe with the needle removed
SPUTUM: Minimum of 10 mL of the first morning specimen, produced by a deep cough, in a tightly sealed sterile container. Avoid contamination by saliva by first rinsing mouth with tap water
TISSUE: Specimen in sterile screw-cap container with a small amount of sterile saline to prevent drying
URINE: 50 mL of first morning void in tightly sealed sterile container

SPECIAL HANDLING: Transport without delay to the laboratory;
Do NOT add Cyto Lyt or formalin to any AFB culture specimen
An order of "AFBx3" means specimens collected on three consecutive mornings; Indicate date, time and source on specimens
Swab specimens are NOT acceptable
ORDERING MODULE: MIC
TEST INCLUDES: AFB smear and AFB culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: AFB smear: 24 hours
Final negative culture results: 6-8 weeks
REFERENCE RANGE: No growth
TEST AVAILABILITY: Daily
METHODOLOGY: Automated BACTEC, conventional tube culture and fluorescent smear
CLINICAL USE: Isolate and identify mycobacteria
**[CULANA] Anaerobic Cult & Gram Stain**

SPECIMEN REQUIRED: Specimens are best collected by aspiration or biopsy. Collection by swab only may limit the recovery of anaerobes. Collect the specimen in an anaerobe transport tube or container and transport to the Micro Lab as soon as possible.

Source:
ABCESS/BODY FLUID: Aspirate with sterile needle and syringe. Express all air bubbles from the syringe, remove needle and cap syringe tightly
PERCUTANEOUS TRANSTRACHEAL ASPIRATION OR BIOPSY: Submit in appropriate anaerobic transport container
TISSUE: Place in appropriate anaerobic transport container
URINE, BLADDER/SUPRAPUBIC: Submit in syringe with all air bubbles expressed. Remove needle and cap syringe tightly
WOUND: Cleanse wound with sterile water or saline and sterile guaze to remove excess exudate. Use an anaerobic culturette to SWAB DEEPLY. Re-insert swab into plastic sleeve
SPECIAL HANDLING: To assure anaerobic conditions, carefully follow directions provided on anaerobic transport system.
TEST INCLUDES: If raw specimen is submitted, gram stain is performed
TEST AVAILABILITY: Set up daily
TURNAROUND TIME: 120 hours
CLINICAL INFORMATION: The following specimens are not suitable for anaerobic culture: fecal specimens, throat & nasopharyngeal specimens, sputum and bronchoscopic specimens, vaginal and cervical swabs, voided or catheterized urines.
CPT: 87205; 87075

**[CULBAL] BAL Quant Cult & Gram Stain**

SPECIMEN REQUIRED: Bronchoalveolar lavage specimen

TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Additional fluid, up to 30 ml, may be required if other tests are also ordered
ORDERING MODULE: MIC
SPECIMEN VOLUME: 30 mL
MINIMUM VOLUME: 10 mL
TEST INCLUDES: BAL quantitative culture and gram stain
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070

**[CULBALBLIN] BAL Quant Cult (NBS) & Gram St**

SPECIMEN REQUIRED: Bronchoalveolar lavage specimen
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Additional fluid, up to 30 ml, may be required if other tests are also ordered
ORDERING MODULE: MIC
SPECIMEN VOLUME: 30 mL
MINIMUM VOLUME: 10 mL
TEST INCLUDES: BAL quantitative culture and gram stain
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87070; 87205

[CULBALIMM] BAL Protocol-Immunocompromised

SPECIMEN REQUIRED: Bronchoalveolar lavage specimen
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: For immunocompromised patients ONLY
Notify the Micro lab in advance at 271-4006
If Cytology is required, submit an additional 30 ml of specimen
ORDERING MODULE: MIC
SPECIMEN VOLUME: 25 mL
TEST INCLUDES: Cultures for BAL quantitative, Fungus, AFB, Legionella CMV shell vial and Respiratory virus; Smears for AFB, Pneumocystis DFA, Gram Stain, Calcofluor white prep (for fungi),& Nomarski Prep
TEST AVAILABILITY: Daily
TURNAROUND TIME: See individual tests
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205 x 2; 87070; 87081; 87281; 87210; 87102; 87254; 87252

[CULBART] Bartonella Culture

SPECIMEN REQUIRED: Tissue from lymph node or organ, such as spleen or liver or Bone marrow
TUBE OR CONTAINER: Tissue - Sterile, sealed container
Bone marrow - 1.5 mL Isolator
SPECIAL HANDLING: Refer to CULBLDBAR for collection of Bartonella blood cultures
Send to the Microbiology Lab in a timely manner with ALL of the culture labels
Call Micro at 271-4006 for further information
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 weeks
REFERENCE RANGE: No growth
METHODOLOGY: Culture
**CLINICAL USE:** Isolate and identify Bartonella  
CPT: 87081

<table>
<thead>
<tr>
<th>[CULBLD]</th>
<th>Blood Culture: Routine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Blood culture set at room temperature or 37 degrees C;</td>
<td></td>
</tr>
<tr>
<td>Refer to OUMC Blood Culture guidelines posted on the intranet under &quot;Laboratory&quot;.</td>
<td></td>
</tr>
<tr>
<td>Amount to be drawn based on patient's weight.</td>
<td></td>
</tr>
<tr>
<td>One set = one venipuncture site.</td>
<td></td>
</tr>
<tr>
<td>If collecting more than one set of bottles, draw blood from separate venipuncture site and include the exact time of collection of each set of blood cultures collected</td>
<td></td>
</tr>
<tr>
<td><strong>COLLECTION INSTRUCTIONS:</strong></td>
<td></td>
</tr>
<tr>
<td>- Prepare venipuncture site using a Medi-Flex prep kit (or similar product including iodine or chlorhexidine gluconate for skin disinfection).</td>
<td></td>
</tr>
<tr>
<td>Follow instructions on package.</td>
<td></td>
</tr>
<tr>
<td>- Use a needle and 20 mL sterile syringe to aseptically draw the amount of blood specified in the guideline, based on patient's weight.</td>
<td></td>
</tr>
<tr>
<td>- Remove the needle from the syringe and cleanse the rubber tops of the correct blood culture bottle(s).</td>
<td></td>
</tr>
<tr>
<td>- Transfer blood from syringe to the Bactec bottles by inserting the syringe needle through the rubber tops of the bottles. A vacuum will pull the blood from the syringe into the bottle. Control the flow of blood from the syringe to deliver</td>
<td></td>
</tr>
<tr>
<td>- 7-10mL into the grey bottle</td>
<td></td>
</tr>
<tr>
<td>- 3-7mL into the yellow bottle</td>
<td></td>
</tr>
<tr>
<td>- or, if younger patient, 1.5-3mL into the pink bottle</td>
<td></td>
</tr>
<tr>
<td>- Gently invert bottles to prevent clotting (do not shake).</td>
<td></td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Bactec Grey &amp; Yellow (OR Pink for younger patients)</td>
<td></td>
</tr>
<tr>
<td><strong>SPECIAL HANDLING:</strong> Do NOT refrigerate blood cultures; Specimens should be transported to the lab as soon as possible and within 24 hours of collection</td>
<td></td>
</tr>
<tr>
<td><strong>NOTE:</strong> Bactec Plus Resin bottle effectively removes antimicrobials for patients on therapy</td>
<td></td>
</tr>
<tr>
<td><strong>BUBBLE WRAP EACH BOTTLE IF TRANSPORTING BY TUBE SYSTEM</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ORDERING MODULE:</strong> MIC</td>
<td></td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 15 mL</td>
<td></td>
</tr>
<tr>
<td><strong>TEST INCLUDES:</strong> Aerobic and Anaerobic cultures</td>
<td></td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
<td></td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 5 Days</td>
<td></td>
</tr>
<tr>
<td><strong>REFERENCE RANGE:</strong> No growth</td>
<td></td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Automated, BACTEC FX</td>
<td></td>
</tr>
<tr>
<td><strong>CLINICAL USE:</strong> To isolate and identify pathogenic organisms</td>
<td></td>
</tr>
<tr>
<td>All positive cultures are called to the doctor or</td>
<td></td>
</tr>
</tbody>
</table>
A minimum of two sets of blood cultures is recommended; a maximum of three sets should be drawn within a 24-hour period.

CPT: 87040

**BC Isolator for AFB**

SPECIMEN REQUIRED: Aseptically drawn blood at room temperature
Invert several times to prevent clotting
TUBE OR CONTAINER: Isolator tube
SPECIAL HANDLING: Do not refrigerate or incubate Isolator tube
Deliver to lab for processing within 8 hours
Isolator blood cultures may be ordered for different organisms (bacteria, AFB, and fungus); Draw a separate tube for each specified order type
HOSPITAL COMMENT: Deliver to lab immediately
ORDERING MODULE: MIC
SPECIMEN VOLUME: 10 ml
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: Final negative results are available in 3 weeks. All positive cultures are called to Dr.
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87116

**BC Isolator for Bartonella**

SPECIMEN REQUIRED: Aseptically drawn whole blood at room temperature;
TUBE OR CONTAINER: Isolator tube
SPECIAL HANDLING: Do NOT refrigerate or incubate Isolator;
Deliver to lab for processing within 8 hours;
Isolator blood cultures may be ordered for different organisms (bacteria, AFB, and fungus); Collect separate tube for each order
Order only on immunocompromised patients
SPECIMEN VOLUME: 10 ml
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 weeks
Isolator blood cultures for bacteria are held 21 days for the recovery of Bartonella
REFERENCE RANGE: No growth
All positive cultures are called to physician
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify Bartonella
CPT: 87040

**BC Isolator for Fungus**
**SPECIMEN REQUIRED:** Aseptically drawn whole blood at room temperature;
Invert several times to prevent clotting
**TUBE OR CONTAINER:** Isolator tube
**SPECIAL HANDLING:** Do NOT refrigerate or incubate Isolator;
Deliver to lab for processing within 8 hours;
Isolator blood cultures may be ordered for different organisms (bacteria, AFB, and fungus); Collect separate tube for each order
Order only on immunocompromised patients
**SPECIMEN VOLUME:** 10 ml
**MINIMUM VOLUME:** 5 mL
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 3 weeks
Isolator blood cultures for fungus are held 21 days for the recovery of Yeast (fungus)
**REFERENCE RANGE:** No growth
All positive cultures are called to physician
**METHODOLOGY:** Culture
**CLINICAL USE:** Isolate and identify yeast (fungus)
**CPT:** 87103

**[CULBLDISO] Blood Cultures: Isolator**

SPECIMEN REQUIRED: Aseptically drawn whole blood at room temperature;
TUBE OR CONTAINER: Isolator tube
SPECIAL HANDLING: Do NOT refrigerate or incubate Isolator;
Deliver to lab for processing within 8 hours;
Order only on immunocompromised patients
ORDERING MODULE: MIC
SPECIMEN VOLUME: 10 mL
**TEST INCLUDES:** AFB, Bartonella and fungus culture of blood
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 3 weeks; all positive cultures are called to referring physician
**REFERENCE RANGE:** No growth
**METHODOLOGY:** Culture
**CLINICAL USE:** Isolate and identify pathogenic organisms
**CPT:** 87040

**[CULBLDISOL] Blood Culture: Isolator**

SPECIMEN REQUIRED: Aseptically drawn whole blood at room temperature;
TUBE OR CONTAINER: Isolator tube
SPECIAL HANDLING: Do NOT refrigerate or incubate Isolator;
Deliver to lab for processing within 8 hours;
Isolator blood cultures are ordered to detect fastidious organisms (bacteria, AFB, and fungus);
Order only on immunocompromised patients
SPECIMEN VOLUME: 10 ml
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 weeks
REFERENCE RANGE: No growth
All positive cultures are called to physician
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify fastidious organisms such as Bartonella, dimorphic fungi, and AFB.
CPT: 87040

**[CULBLDOTH] Blood Culture: Other System**

**[CULBLDPED] Blood Culture: Pediatric**

SPECIMEN REQUIRED: Whole blood at room temperature; use aseptic technique for specimen collection
TUBE OR CONTAINER: One Isolator 1.5 tube is one set
SPECIAL HANDLING: Transport within 8 hours of collection
Do NOT refrigerate
ORDERING MODULE: MIC
SPECIMEN VOLUME: optimal 1.5 mL; refer to newly published pediatric guidelines based on patient weight
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 days
REFERENCE RANGE: No growth
METHODOLOGY: Automated, BACTEC
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87040

**[CULBLDTRX] Blood Culture: Transfusion Rx**

**[CULBM] Bone Marrow Cult & Gram Stain**

SPECIMEN REQUIRED: Room temperature aspirate and biopsy specimen
TUBE OR CONTAINER: Pedi isolator (aspirate; biopsy (sterile container)
SPECIAL HANDLING: For reference, submit slide made directly from aspirate with the aspirate and biopsy
If Brucella is suspected, please order CULBRU
ORDERING MODULE: MIC
SPECIMEN VOLUME: 1.5 mL
TEST INCLUDES: Bone marrow culture and gram stain
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87081

**[CULBRO] Bronchial Cult & Gram Stain**

SPECIMEN REQUIRED: Bronchial washings, brushings, or lavage
<table>
<thead>
<tr>
<th>Test Description</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Special Handling</th>
<th>Turnaround Time</th>
<th>Methodology</th>
<th>CPT Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronchial Culture and Gram Stain</td>
<td>Blood culture or bone marrow. Tissue, synovial fluid, CSF, or urine</td>
<td>Bactec bottle (aerobic)</td>
<td>Notify microbiology laboratory (271-4006) prior to submission of specimen if possible.</td>
<td>28 days</td>
<td>Automated BACTEC if fluid</td>
<td>87205; 87081</td>
</tr>
<tr>
<td>Burn Culture</td>
<td>Swab</td>
<td>Culture swab</td>
<td></td>
<td>2 days</td>
<td>Culture</td>
<td>87070</td>
</tr>
<tr>
<td>Campylobacter Stool Culture</td>
<td>Fresh stool in Para-Pak C&amp;S (orange top transport media. Do not refrigerate.</td>
<td>Para-Pak C&amp;S orange</td>
<td>a clean container with a tight lid is the preferred container for hospital in-patients.</td>
<td>48 hours</td>
<td>Culture</td>
<td></td>
</tr>
<tr>
<td>Cystic Fibrosis Resp Cult/Gram</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**[CULBRU] Brucella Cult & Gram Stain**

- **Specimen Required:** Blood culture or bone marrow. Tissue, synovial fluid, CSF, or urine is also acceptable.
- **Tube or Container:** Bactec bottle (aerobic)
- **Special Handling:** Notify microbiology laboratory (271-4006) prior to submission of specimen if possible.
- **Turnaround Time:** 28 days
- **Methodology:** Automated BACTEC if fluid
- **CPT Codes:** 87205; 87081

**[CULBURN] Burn Culture**

- **Specimen Required:** Swab
- **Tube or Container:** Culture swab
- **Ordering Module:** MIC
- **Test Availability:** Daily
- **Turnaround Time:** 2 days
- **Reference Range:** No growth
- **Methodology:** Culture
- **Clinical Use:** Isolate and identify pathogenic organisms
- **CPT:** 87070

**[CULCAM] Campylobacter Stool Culture**

- **Specimen Required:** submit fresh stool in Para-Pak C&S (orange top transport media. Do not refrigerate.
- **Hospital Comment:** a clean container with a tight lid is the preferred container for hospital in-patients.
- **Tube or Container:** Para-Pak C&S orange
- **Test Availability:** Daily
- **Turnaround Time:** 48 hours

**[CULCFRESP] Cystic Fibrosis Resp Cult/Gram**
SPECIMEN REQUIRED: Sputum or swab
COLLECTION:
1. Have patient rinse and gargle with water prior to sputum collection; Collect a deeply coughed sputum in a sterile screw cap container or
2. Collect a deep throat swab in a culture swab
TUBE OR CONTAINER: Sterile container or culture swab
SPECIAL HANDLING: CF patients require a specialized set of culture media and workup for identification of pathogens common to their population
ORDERING MODULE: MIC
TEST INCLUDES: Culture and gram stain
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070

[CULCSF] CSF Cult & Gram Stain
SPECIMEN REQUIRED: Cerebrospinal fluid (CSF) at room temperature
TUBE OR CONTAINER: Sterile tube
SPECIAL HANDLING: Do NOT refrigerate
Deliver to lab immediately
ORDERING MODULE: MIC
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Gram stain and culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CPT: 87205; 87070

[CULCVP] CVP Catheter Tip Culture
SPECIMEN REQUIRED: Central line catheter tip
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Foley catheter specimens are not acceptable and will be rejected; Other non-vascular catheters may be submitted as a "Culture, Device"
Indicate source (body site or type of catheter)
ORDERING MODULE: MIC
SPECIMEN VOLUME: Last two inches of catheter tip
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: No growth
METHODOLOGY: Semiquantitative roll-tip method is performed
CLINICAL USE: Isolate and identify pathogenic organisms
### Device Culture

**SPECIMEN REQUIRED:**

Non-vascular catheters: Submit two inches of non-vascular catheter tip in a sterile container.

Note: Culture of different parts of a device require different containers for each portion to be cultured.

(Foley catheter specimens are NOT acceptable & will be rejected. Central line catheters may be submitted as a "Culture,Cath Tip" CULCVP)

Other devices: Submit only the portion of the device that needs to be cultured. A screw-cap sterile container is generally an acceptable container.

**TUBE OR CONTAINER: Sterile container**

(Swabs are inappropriate collection devices for this test.)

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 72 hours

**METHODOLOGY:** Culture

**CLINICAL INFORMATION:** Indicate source (type of device part or catheter) on requisition.

**REFERENCE RANGE:** No growth after 3 days

### Dialysate Culture Protocol

**SPECIMEN REQUIRED:** Body fluid

**TUBE OR CONTAINER:** Isolator AND Red

**SPECIAL HANDLING:** Collect body fluid with sterile needle and syringe. Aseptically deliver into a 10 mL isolator tube. Submit remaining 10 mL body fluid in a red-stopper 10 mL vacutainer tube.

**ORDERING MODULE:** MIC

**SPECIMEN VOLUME:** 20 mL

**MINIMUM VOLUME:** 10 mL

**TEST INCLUDES:** Gram stain, aerobic culture, KOH prep, and fungal culture

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 5 days for final (including fungal culture)

**REFERENCE RANGE:** No growth

**METHODOLOGY:** Culture

**CLINICAL USE:** Isolate and identify pathogenic organisms

CPT: 87070; 87205; 87102; 87220

### Drainage Cult & Gram Stain

**SPECIMEN REQUIRED:** Refrigerated drainage fluid or swab

**TUBE OR CONTAINER:** Sterile syringe or Culture Swab Plus

**SPECIAL HANDLING:** State source of specimen

Remove needle, express air bubbles, cap syringe tightly

**ORDERING MODULE:** MIC
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Gram stain and aerobic culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070

[CULDRAAA] Drainage Cult A/An & Gram Stn
SPECIMEN REQUIRED: Refrigerated drainage fluid or swab
TUBE OR CONTAINER: Sterile syringe or Culture Swab Plus
SPECIAL HANDLING: State source of specimen
Remove needle, express air bubbles, cap syringe tightly
Deliver to lab immediately
ORDERING MODULE: MIC
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Gram stain, aerobic and anaerobic culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070; 87075

[CULEAR] Ear Cult & Gram Stain
SPECIMEN REQUIRED: Swab from internal or external ear
EXTERNAL EAR: Collect with Culture Swab Plus
INTERNAL EAR: Cleanse external ear with alcohol, collect drainage from inner ear with NP swab
TUBE OR CONTAINER: Culture Swab Plus
SPECIAL HANDLING: State source and laterality
Distinguish external and internal sources
ORDERING MODULE: MIC
TEST INCLUDES: Gram stain and culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070

[CULEC157] E.coli O:157 Culture
SPECIMEN REQUIRED: Submit fresh stool specimen in stool C&S transport container (Para-Pak orange top).
TUBE OR CONTAINER: Para-Pak C&S
[CULENV] Environmental Culture

SPECIMEN REQUIRED:
Source:
FLUIDS: 10 mL fluid; submit in sterile screw-cap container
SURFACES: Swab area with Culture Swab Plus
WATER: Submit 10 mL water in sterile screw-cap container
Food cultures are not performed at OU MEDICAL CENTER LABORATORY.

HOSPITAL COMMENT: Environmental cultures must be approved by the Infection Prevention Department before the lab will perform test

TUBE OR CONTAINER: Culture Swab Plus or sterile container

SPECIAL HANDLING: When surface swabs are submitted, specify the potential pathogen under investigation. Specimens received that do not identify a specific pathogen will not be accepted.

TEST AVAILABILITY: Daily
TURNAROUND TIME: 48 hours

CLINICAL INFORMATION: For sterilizer check, order "Sterilizer Function Check, CULSTER"
The Environmental Culture is intended to identify specific pathogens in the local facility under Epidemiological investigation. This test is not appropriate as a general screen for sterility of an object or surface.

[CULEYE] Eye Cult & Gram Stain

SPECIMEN REQUIRED: Swab or plated specimen

COLLECTION OF SPECIMEN:
CONJUNCTIVA OR LIDS: Collect with culturette or with Dacron wire swab, if inoculating directly onto plated media (chocolate and blood agar plate)
CORNEAL SCRAPINGS: Inoculate directly onto plated media (chocolate, blood agar plate, and thio broth)
INTERNAL EYE (VITREOUS/AQUEOUS): Inoculate directly onto plated media (chocolate, blood agar plate and thio broth) and slides. If eye washings are collected, submit cassette container.

TUBE OR CONTAINER: Specified media

SPECIAL HANDLING: Specify source and laterality; Deliver to lab immediately; Inclusion of patient clinical history and differential diagnostic considerations is very helpful

ORDERING MODULE: MIC
TEST INCLUDES: Culture and gram stain
TEST AVAILABILITY: Daily

TURNAROUND TIME: 3 days to 2 weeks (depending on exact specimen type)
REFERENCE RANGE: No growth

METHODOLOGY: Culture
<table>
<thead>
<tr>
<th><strong>[CULFLU]</strong> Body Fluid Cult &amp; Gram Stain</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Body fluid collected aseptically</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Sterile syringe</td>
</tr>
<tr>
<td><strong>SPECIAL HANDLING:</strong> State source of specimen; If source is peritoneal dialysate fluid (PD fluid), please see Culture Body Fluid (Dialysate)-CULDIAL, for collection instructions. Remove needle, express air bubbles, cap syringe tightly</td>
</tr>
<tr>
<td><strong>ORDERING MODULE:</strong> MIC</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 10 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 3 mL</td>
</tr>
<tr>
<td><strong>TEST INCLUDES:</strong> Gram stain and culture</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 5 days</td>
</tr>
<tr>
<td><strong>REFERENCE RANGE:</strong> No growth</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Culture</td>
</tr>
<tr>
<td><strong>CLINICAL USE:</strong> Isolate and identify pathogenic organisms</td>
</tr>
<tr>
<td><strong>CPT:</strong> 87205; 87070</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[CULFLUA]</strong> Body Fluid A/An Cult &amp; Gram St</th>
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<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Body fluid collected aseptically</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Sterile syringe or Culture Swab Plus</td>
</tr>
<tr>
<td><strong>SPECIAL HANDLING:</strong> State source of specimen Remove needle, express air bubbles, cap syringe tightly Do NOT submit swabs or plated material</td>
</tr>
<tr>
<td><strong>ORDERING MODULE:</strong> MIC</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 10 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 3 mL</td>
</tr>
<tr>
<td><strong>TEST INCLUDES:</strong> Gram stain, aerobic and anaerobic culture</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
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<td><strong>TURNAROUND TIME:</strong> 5 days</td>
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<tr>
<td><strong>METHODOLOGY:</strong> Culture</td>
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<td><strong>CLINICAL USE:</strong> Isolate and identify pathogenic organisms</td>
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<td><strong>CPT:</strong> 87205; 87070; 87075</td>
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<table>
<thead>
<tr>
<th><strong>[CULFUN]</strong> Fungus Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Refrigerated specimen Source: BODY FLUIDS: Submit 5 mL or more in a sterile, tightly capped container BRONCHIAL WASHING, BRUSHING, OR LAVAGE: Submit in tightly sealed sterile container; do not add CytoLyt</td>
</tr>
<tr>
<td><strong>SPUTUM:</strong> Have the patient rinse mouth with tap water just</td>
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</tbody>
</table>
prior to collection. Submit 5 mL (or more) deeply coughed sputum in a sterile, tightly sealed container.
TISSUE: Submit specimen in a tightly sealed sterile container. Add a small amount of sterile saline to prevent the tissue from drying. Do not add CytoLyt or formalin.
URINE: Submit 50 mL catheterized specimen in a tightly sealed sterile container
TUBE OR CONTAINER: Tightly sealed sterile container
SPECIAL HANDLING: Indicate specimen source and laterality
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Establish the diagnosis of fungal infections
CPT: 87102

[CULFUNSK] Fungus Culture Skin/Nail/Hair

SPECIMEN REQUIRED: Skin or nail scrapings
Collection: Cleanse area with 70% alcohol
SKIN: With a sterile blade, scrape the skin at the border of the active lesion and normal tissue
NAILS: Use a sterile blade and take deep scrapings of the nail
TUBE OR CONTAINER: Sterile container or Mycosel plate
SPECIAL HANDLING: Indicate specimen source and laterality
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Establish diagnosis of fungal infection
CPT: 87101

[CULGC] GC Culture

SPECIMEN REQUIRED: Swab
TUBE OR CONTAINER: Culture swab
SPECIAL HANDLING: Indicate specimen source
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify N. gonorrhoeae; establish the diagnosis of gonorrhea
CPT: 87081

[CULGEN] Genital Cult & Gram Stain

SPECIMEN REQUIRED: Culture Swab Plus at room temperature
TUBE OR CONTAINER: Culture Swab Plus
SPECIAL HANDLING: Indicate source; Do NOT refrigerate; Vagina are unacceptable for anaerobic cultures; Deliver to lab immediately; If specimen is vaginal for Group B Strep only, order CULSTRB; if for vaginal source, order CULVAG

ORDERING MODULE: MIC
TEST INCLUDES: Gram stain, aerobic and anaerobic culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070

[CULGENAA] Genital A/AN Cult & Gram Stain

SPECIMEN REQUIRED: Culture Swab Plus at room temperature
TUBE OR CONTAINER: Culture Swab Plus
SPECIAL HANDLING: Indicate source; Do NOT refrigerate; Vaginal are unacceptable for anaerobic cultures; Deliver to lab immediately

ORDERING MODULE: MIC
TEST INCLUDES: Gram stain, aerobic and anaerobic culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070; 87075

[CULHPC] HPC Culture

[CULJOI] Joint Fluid Cult & Gram Stain

SPECIMEN REQUIRED: Joint fluid at room temperature
COLLECTION: Collect joint fluid with sterile needle and syringe; remove needle, express air bubbles, cap syringe tightly
TUBE OR CONTAINER: Sterile syringe
SPECIAL HANDLING: Indicate specimen source and laterality; Do not submit swabs. Specimens received with needle attached will not be accepted
Deliver to lab immediately
ORDERING MODULE: MIC
SPECIMEN VOLUME: 10 mL
TEST INCLUDES: Gram stain and culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
### Joint Fluid A/An Cult & Gram Stn

**SPECIMEN REQUIRED:** Joint fluid at room temperature
**COLLECTION:** Collect joint fluid with sterile needle and syringe; remove needle, express air bubbles, cap syringe tightly
**TUBE OR CONTAINER:** Sterile syringe
**SPECIAL HANDLING:** Indicate specimen source and laterality; Do not submit swabs. Specimens received with needle attached will not be accepted
**Deliver to lab immediately**
**ORDERING MODULE:** MIC
**SPECIMEN VOLUME:** 10 mL
**TEST INCLUDES:** Gram stain, aerobic, and anaerobic culture
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 5 days
**REFERENCE RANGE:** No growth
**METHODOLOGY:** Culture
**CLINICAL USE:** Isolate and identify pathogenic organisms
**CPT:** 87205; 87070; 87075

### Legionella Culture

**SPECIMEN REQUIRED:** Refrigerated respiratory specimen or lung tissue
**TUBE OR CONTAINER:** Tightly sealed sterile container
**SPECIAL HANDLING:** Do NOT add CytoLyt or formalin; if cytology is ordered in addition to culture, submit separate specimen marked "for cytology"
**Indicate specimen source**
**ORDERING MODULE:** MIC
**SPECIMEN VOLUME:** 10 mL (respiratory specimen)
1 gram (lung tissue)
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 14 days
**REFERENCE RANGE:** No growth
**METHODOLOGY:** Culture
**CLINICAL USE:** Isolate and identify Legionella species
**CPT:** 87081

### Leptospira Culture

**SPECIMEN REQUIRED:** Blood or CSF during first week of illness only; urine, after first week
**TUBE OR CONTAINER:** Sterile container (CSF or Urine); heparinized tube for blood (or oxalate or citrate) for blood
**SPECIAL HANDLING:** Deliver to the lab immediately; do NOT refrigerate
**ORDERING MODULE:** MIC
**TEST INCLUDES:** Culture for Leptospira
TEST AVAILABILITY: Referral to Focus Diagnostics, Mon - Fri
TURNAROUND TIME: 4 weeks for final culture result
REFERENCE RANGE: No Leptospira isolated
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify Leptospirosis
CPT: 87081

[CULLEPTO] Leptospira Cult & Stain

CPT: 87081; 87206

[CULMYC] Mycoplasma Culture

SPECIMEN REQUIRED: Refrigerated respiratory, joint fluid, or CSF
TUBE OR CONTAINER: Multi-microbe media (M-4)
SPECIAL HANDLING: Indicate specimen source; Order UREAPL for Ureaplasma on non-respiratory specimens;
Inclusion of patient clinical history and differential diagnostic considerations is very helpful
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify Mycoplasma species
CPT: 87109

[CULNAS] Nasal Culture

SPECIMEN REQUIRED: Refrigerated swab of internal nares
TUBE OR CONTAINER: Culture Swab Plus
SPECIAL HANDLING: Indicate suspected pathogen(s). Indicate specimen laterality
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Nasal cultures provide little clinical information regarding any infectious process. They generally reveal possible carriage of various organisms, pathogens or non-pathogens
CPT: 87070

[CULNASOP] Nasopharynx Cult & Gram Stain

SPECIMEN REQUIRED: Refrigerated swab from nasopharynx
COLLECTION: Collect with NP swab and place in Culture Swab Plus tube. Do not collect with regular culturette swab as the culture will be contaminated with bacteria from the nares.
TUBE OR CONTAINER: Culture Swab Plus
SPECIAL HANDLING: Indicate suspected pathogens(s)
ORDERING MODULE: MIC
TEST INCLUDES: Gram stain and culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070

[CULPSB] Protected Brush Cult & Gram St
SPECIMEN REQUIRED: Protected specimen brush (PSB) submitted in
1 ml sterile saline
TUBE OR CONTAINER: Sterile Saline tube
SPECIAL HANDLING: Contact Micro lab for collection container
ORDERING MODULE: MIC
TEST INCLUDES: PSB quantitative culture and gram stain
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CPT: 87070; 87205

[CULQTIS] Quant Tissue Cult & Gram Stain
SPECIMEN REQUIRED: Tissue
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Indicate source and laterality of specimen
ORDERING MODULE: MIC
TEST INCLUDES: Gram stain and culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CPT: 87071; 87205; 87176

[CULSIN] Sinus Cult & Gram Stain
SPECIMEN REQUIRED: Refrigerated swab
COLLECTION: Collect specimen with NP wire swab, avoiding
contact with internal nares. Place the swab in the tube of a
Culture Swab Plus.
TUBE OR CONTAINER: Culture Swab Plus
SPECIAL HANDLING: Indicate source and specimen laterality
ORDERING MODULE: MIC
TEST INCLUDES: Gram stain and culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days for final
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070
**[CULSINA]**  Sinus A/An Cult & Gram Stain

SPECIMEN REQUIRED: Refrigerated nasal fluid
COLLECTION: Collect specimen with sterile needle and syringe; Remove needle; Express air bubbles and cap tightly
TUBE OR CONTAINER: Syringe
SPECIAL HANDLING: Indicate specimen laterality
Do NOT submit swabs
ORDERING MODULE: MIC
TEST INCLUDES: Gram stain, aerobic and anaerobic culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 days for final
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070; 87075

**[CULSPU]**  Sputum Cult & Gram Stain

SPECIMEN REQUIRED: Sputum
EXPECTORATED SPUTUM:
1. Have the patient rinse and gargle with water prior to specimen collection. Instruct the patient not to expectorate saliva or post-nasal discharge. Early morning, freshly expectorated sputum is preferred
2. Collect specimen resulting from a deep cough in a sterile screw-capped container
INDUCED SPUTUM (performed by respiratory therapy personnel)
1. Using an ultrasonic nebulizer, have the patient inhale approximately 20 to 30 ml of 3 to 10% 0.85% NaCl.
2. Collect induced sputum in sterile screw-capped cup
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Indicate if sputum is induced or not induced. If specimen is from tracheal aspirate, please order CULTRA (Culture, trach sputum)
Specimens with >10 squamous epithelial cells/LPF are considered heavily contaminated with saliva and are unsatisfactory for culture.
Recollection will be requested
ORDERING MODULE: MIC
TEST INCLUDES: Sputum culture and gram stain
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070

**[CULSTER]**  Sterilizer Function Check

SPECIMEN REQUIRED: Submit sterilizer check vial. For each new log, submit two un-sterilized, unbroken vials for negative and positive controls. Refer to specific manufacturer's
instructions in use at your facility.
SPECIAL HANDLING; Submit to laboratory within 36 hours of collection
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-7 days

<table>
<thead>
<tr>
<th>[CULSTO] Stool Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Fresh stool at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Para-Pak C&amp;S orange transport media</td>
</tr>
<tr>
<td>Hospital: Clean container with a tight lid</td>
</tr>
<tr>
<td>SPECIAL HANDLING: In-patient specimens should be submitted in a clean container with a tight lid</td>
</tr>
<tr>
<td>ORDERING MODULE: MIC</td>
</tr>
<tr>
<td>TEST INCLUDES: Isolation and identification of Salmonella, Shigella, Campylobacter and E. coli 0157, and EIA for Shiga-toxin producing E. coli</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 3 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: No pathogens on culture; negative for Shiga toxin production</td>
</tr>
<tr>
<td>METHODOLOGY: Aerobic culture on selective media</td>
</tr>
<tr>
<td>EIA for Shiga toxin</td>
</tr>
<tr>
<td>CLINICAL USE: Detect bacterial pathogenic organisms</td>
</tr>
<tr>
<td>CPT: 87045; 87046; 87427</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[CULSTRA] Cult for Strep A Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Swab of tonsillar area, posterior pharynx, and area of inflammation with swab. Avoid contact with tongue and cheek. Swab specimens of the perianal area may also be submitted for this type of culture.</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: BBL Culture Swab (with liquid Stuart's)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: This test is a culture screen for group A Strep only. Sensitivity testing is not routinely performed. Rapid direct test NOT included; see &quot;Strep A Direct test (STRAANT)&quot;</td>
</tr>
<tr>
<td>ORDERING MODULE: MIC</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: No growth or Normal flora present</td>
</tr>
<tr>
<td>METHODOLOGY: Culture</td>
</tr>
<tr>
<td>CLINICAL USE: Isolate and identify pathogenic organisms Culture will be observed for Group A strep and other known agents of pharyngitis.</td>
</tr>
<tr>
<td>CPT: 87081</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>[CULSTRB] Strep B Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Swab</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Culture Swab Plus</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Indicate source of specimen; This test is a</td>
</tr>
</tbody>
</table>
screen for colonization by Group B strep only; Sensitivities are not routinely performed; however, if patient is Pen allergic, susceptibility will be performed.

ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify Streptococcus group B
CPT: 87081

[CULTH] Throat Culture

SPECIMEN REQUIRED: Swab of tonsillar area, posterior pharynx, and area of inflammation with swab
Avoid contact with tongue and cheek
TUBE OR CONTAINER: BBL Culture Swab (with liquid Stuart's)
SPECIAL HANDLING: If order is for BETA STREP only, order use CULSTRA or STRAANT (screen only)
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
Culture will be observed for any bacterial upper respiratory pathogens
CPT: 87070

[CULTIS] Tissue (Surg) Cult & Gram Stn

SPECIMEN REQUIRED: Refrigerated tissue in a small amount of non-bacteriostatic sterile saline
TUBE OR CONTAINER: Sterile screw-top container
SPECIAL HANDLING: Indicate specimen source and laterality; Deliver to lab immediately
Do NOT add formalin or CytoLyt; submit specimen for pathology in a separate container
ORDERING MODULE: MIC
TEST INCLUDES: Gram stain and culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070; 87176

[CULTISAA] Tissue (Surg) A/An Cult & Gram

SPECIMEN REQUIRED: Refrigerated piece of tissue
TUBE OR CONTAINER: Anaerobic transport container
SPECIAL HANDLING: Indicate specimen source and laterality
HOSPITAL COMMENT: Deliver to lab immediately
Do NOT add formalin or CytoLyt. Record time of collection on container
ORDERING MODULE: MIC
TEST INCLUDES: Gram stain, aerobic, and anaerobic culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070; 87075

[CULTISANA]  Tissue Anaerobic Culture

[CULTISSW]  Tissue Swab Cult & Gram Stain

SPECIMEN REQUIRED: Specimen on Culture Swab Plus
TUBE OR CONTAINER: Culture Swab Plus
SPECIAL HANDLING: Indicate specimen source and laterality
Preferred specimen is biopsy material; order
CULTIS, Culture Surgical Tissue
Swabs are considered poor specimens
ORDERING MODULE: MIC
TEST INCLUDES: Gram stain and culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070

[CULTISSWAA]  Tissue Swab A/An Cult & Gram

SPECIMEN REQUIRED: Aerobic and anaerobic swabs
TUBE OR CONTAINER: Culture swab
SPECIAL HANDLING: Indicate specimen source and laterality
Preferred specimen is biopsy material; order
CULTISAA, Culture Tissue (Aerobe/Anaerobe);
Swabs are considered poor specimens
Deliver to lab immediately
ORDERING MODULE: MIC
TEST INCLUDES: Gram stain, aerobic, and anaerobic culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070; 87075

[CULTRA]  Trach Asp Cult & Gram Stain

SPECIMEN REQUIRED: Refrigerated aspirated specimen
TUBE OR CONTAINER: Trach trap tightly sealed
ORDERING MODULE: MIC
TEST INCLUDES: Sputum culture and gram stain
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070

[CULTUL]  Tularemia Culture

SPECIMEN REQUIRED: Blood, Tissue (often lymph node) or throat swab
TUBE OR CONTAINER: Isolator tube (blood); Sterile container (tissue); Culturette device (throat)
SPECIAL HANDLING: Order CULTUL if order is for Tularemia Culture
This is in addition to other routine cultures
Notify the Micro Lab in advance at 271-4006
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 weeks
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify Tularemia
CPT: 87081

[CULUR]  Urine Culture

SPECIMEN REQUIRED: Refrigerated urine
COLLECTION INSTRUCTIONS:
CLEAN CATCH: Use a urine collection kit and follow the instructions on patient preparation to avoid contaminating specimen with skin/vaginal flora. Collect a tube. Indicate type of urine specimen (i.e., clean catch, catheter, etc.).
CATHETER SPECIMENS:
I/O catheter: Collect a mid-stream specimen from the open end of the catheter into a sterile container. Transfer a minimum of 3 mL collected urine into a B-D urine transport tube.
Foley catheter: Disinfect catheter port with alcohol swab and use a sterile needle and syringe to collect 5-10 mL of urine. Inject a minimum of 3 mL collected urine into a B-D urine transport tube.
BLADDER, SUPRAPUBIC, OR KIDNEY: Aseptically collect specimen with sterile needle and syringe; transfer a minimum of 3 mL to a B-D urine transport tube.
HOSPITAL COMMENT: B-D urine transport tube is not needed if specimen is immediately placed on ice and delivered to lab
SPECIAL HANDLING: Never collect urine from the catheter drainage tube or collection bag. Foley specimens growing multiple species are generally the result of poor collection technique. Recollection will be requested.
Urine frequently supports the proliferation of bacteria, which may multiply at the same rate as in nutrient broth. Therefore, a urine delayed in transit and left at room temp for extended period of time may give erroneous results.

Urine must be processed in the Lab within 2 hours of collection if not refrigerated.

ORDERING MODULE: MIC
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87088

[CULVAG]  Vaginal Cult & Gram Stain

SPECIMEN REQUIRED: Swab of vaginal canal
COLLECTION: Remove excess secretions with sterile gauze before collection. Use a Culture Swab Plus to swab mucosa high in the vaginal canal. Vaginal secretions are inappropriate for anaerobic culture and will be rejected.

TUBE OR CONTAINER: Culture Swab Plus
SPECIAL HANDLING: If specimen is for group B Strep only, order CULSTRB, Culture, Strep B. If culture for GC is indicated, order GCDNA and submit in Amplicor transport tube

ORDERING MODULE: MIC
TEST INCLUDES: Gram stain and culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070

[CULVIB]  Vibrio Stool Culture

SPECIMEN REQUIRED: Fresh stool at room temperature
TUBE OR CONTAINER: Para-Pak C&S orange transport media
Hospital: Clean container with a tight lid
SPECIAL HANDLING: Inclusion of patient clinical history and/or differential diagnostic considerations is very helpful

ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify Vibrio species
CPT: 87046

[VIRIMM] VIRAL CULTURE IMMUNOSUPPRESSED

[VRE] VRE Screen Culture
SPECIMEN REQUIRED: Fresh stool, rectal swab, or vaginal swab
TUBE OR CONTAINER: Sterile, screw-cap container or CultureSwab

ORDERING MODULE: MIC
SPECIMEN VOLUME: Pea-size portion of fresh stool
TEST INCLUDES: Culture screen for vancomycin resistant strains of Enterococcus species
TEST AVAILABILITY: Daily
TURNAROUND TIME: 48 hours
REFERENCE RANGE: Negative for VRE
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify vancomycin resistant organisms in order to identify carriers and institute precautions to avoid spread of nosocomially acquired infections
CPT: 87081

[WOUN] Wound Cult & Gram Stain
SPECIMEN REQUIRED: Refrigerated swab from wound
COLLECTION: Clean surface of wound with sterile water and sterile gauze to remove excess surface exudates. Swab deeply with a Culture Swab Plus
TUBE OR CONTAINER: Culture Swab Plus
SPECIAL HANDLING: Indicate specimen source and laterality
ORDERING MODULE: MIC
TEST INCLUDES: Gram stain and culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify pathogenic organisms
CPT: 87205; 87070

[WOUNA] Wound Cult A/An & Gram Stain
SPECIMEN REQUIRED: Refrigerated swab from wound
COLLECTION: Clean surface of wound with sterile water and sterile gauze to remove excess surface exudates. Swab deeply with a Culture Swab Plus
TUBE OR CONTAINER: Culture Swab Plus
SPECIAL HANDLING: Indicate specimen source and laterality
ORDERING MODULE: MIC
TEST INCLUDES: Gram stain and aerobic and anaerobic culture
TEST AVAILABILITY: Daily
[CULYER]  Yersinia Stool Culture

SPECIMEN REQUIRED: Fresh stool at room temperature
TUBE OR CONTAINER: Para-Pak C&S orange transport media
Hospital: Clean container with a tight lid
SPECIAL HANDLING: Inclusion of patient clinical history and/or
differential diagnostic considerations is very helpful
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify Yersinia species
CPT: 87046

[CUSTMUT]  CUSTOM MUTATION ANALYSIS

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Contact laboratory on individual case
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
METHODOLOGY: Polymerase chain reaction (PCR)
CLINICAL USE: Testing for any gene in families with previously
identified mutations associated with genetic conditions
CPT: 83891; 83894; 83896; 83898 x 2; 83912

[CV2AB]  CV2 ANTIBODY

SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Ship same day as collected (can be refrigerated and shipped next day, but serum only stable for 3 days)

SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 7-14 days
REFERENCE RANGE: Negative
METHODOLOGY: Western blot
CPT: 84182
### Cyanide

- **SPECIMEN REQUIRED:** Refrigerated whole blood
- **TUBE OR CONTAINER:** Gray (Fluoride oxalate)
- **SPECIAL HANDLING:** Submit original full, unopened tube
- **SPECIMEN VOLUME:** 4 mL
- **MINIMUM VOLUME:** 1.4 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-7 days
- **METHODOLOGY:** Spectrophotometry
- **CLINICAL USE:** Monitor exposure to cyanide
- **CPT:** 82600

### Cyclic AMP

- **SPECIMEN REQUIRED:** Frozen plasma
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIAL HANDLING:** Separate and freeze as soon as possible
- **SPECIMEN VOLUME:** 0.5 mL
- **MINIMUM VOLUME:** 0.2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-9 days
- **REFERENCE RANGE:** 12-22 pmol/mL
- **METHODOLOGY:** Radioimmunoassay
- **CLINICAL USE:** Useful in the clinical assessment of parathyroid function
- **CPT:** 82030

### Cyclic AMP Urine

- **SPECIMEN REQUIRED:** Frozen urine (random)
- **TUBE OR CONTAINER:** Urine container
- **SPECIMEN VOLUME:** 10 mL
- **MINIMUM VOLUME:** 1 mL (this volume does not allow for repeat testing)
- **TEST INCLUDES:** Urine cyclic AMP; Urine creatinine; ratio
- **TEST AVAILABILITY:** Daily
- **METHODOLOGY:** Radioimmunoassay (RIA)
- **CLINICAL USE:** Differential diagnosis of hyperparathyroidism
- **CPT:** 82030; 82570

### Cyclosporine Level

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST AVAILABILITY:** Monday-Friday
- **TURNAROUND TIME:** 1-3 days
- **REFERENCE RANGE:** 50-500 ng/mL
- **OTHER NAMES:** Neoral, CSA
- **METHODOLOGY:** Chemiluminescent microparticle immunoassay (CMIA)
- **CLINICAL USE:** Monitor levels in management of immuno-supression for organ transplant recipients
**[CYCLO2HR] Cyclosporine 2 Hour Post Dose Level**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIAL HANDLING:** Draw two hours after dose.
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST AVAILABILITY:** DAILY
- **TURNAROUND TIME:** 4 HOURS
- **REFERENCE RANGE:** Not established
- **OTHER NAMES:** Neoral, CSA
- **METHODOLOGY:** Chemiluminescent microparticle immunoassay (CMIA)
- **CLINICAL USE:** Monitor levels in management of immuno-suppression for organ transplant recipients
- **CPT:** 80158

**[CYFRA] Cytokeratin Antibody**

- **SPECIMEN REQUIRED:** Refrigerated or frozen serum
- **TUBE OR CONTAINER:** Gold or Red
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-10 days
- **REFERENCE RANGE:** 0.0 - 2.3 ng/mL
- **OTHER NAMES:** Soluble Cytokeratin 19 Fragment; CYFRA 21-1
- **METHODOLOGY:** Enzyme-Linked Immunosorbent Assay (ELISA)
- **CPT:** 86316

**[CYFRAFLD] Cytokeratin Antibody**

- **SPECIMEN REQUIRED:** Refrigerated or frozen body fluid
- **TUBE OR CONTAINER:** Sterile tube
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-3 days
- **REFERENCE RANGE:** None established
- **METHODOLOGY:** Electrochemiluminescent Assay
- **CPT:** 86316

**[CYP1B1] CYTOCHROME P450 1B1 (CYP1B1)**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 6 weeks
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83891 x 5; 83892 x 2; 83894 x 5 83898 x 10; 83904 x 10; 83912
**[CYP2C19] CLOPIDOGREL CYP2C19 GENOTYPING**

- **SPECIMEN REQUIRED:** Whole blood or buccal swab at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA), Yellow (ACD) or Buccal swab
- **SPECIMEN VOLUME:** 7 mL whole blood
- **Buccal swab kit**
- **MINIMUM VOLUME:** 3 mL whole blood
- **2 buccal swabs**
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4-6 days
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83891; 83892; 83900; 83901 x 4; 83914 x 8; 83912

**[CYSTAB] Cysticercosis Antibody**

- **SPECIMEN REQUIRED:** Frozen serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-5 days
- **METHODOLOGY:** Enzyme immunoassay (EIA)
- **CPT:** 86682

**[CYSTABCSF] CSF Cysticercosis Antibody**

- **SPECIMEN REQUIRED:** Frozen CSF
- **TUBE OR CONTAINER:** Sterile container
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-6 days
- **REFERENCE RANGE:** Negative: 0.34 O.D. or less
- **Equivocal:** 0.35-0.50 O.D.
- **Positive:** 0.51 O.D. or greater
- **METHODOLOGY:** Enzyme-linked immunosorbent assay (ELISA)
- **REFLEX TEST INFORMATION:**
  - **CLINICAL USE:** Detection of intrathecally-produced organism-specific antibodies in CSF indicates central nervous system infection
- **CPT:** 86682

**[CYSTC] Cystatin C**

- **SPECIMEN REQUIRED:** Frozen serum or plasma
- **TUBE OR CONTAINER:** Red or Dark Green (heparin)
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.2 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** 0.53 - 0.95 mg/L
- **METHODOLOGY:** Immunologic
- **CLINICAL USE:** A good marker of renal function
**Cystine**

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Green (heparin)  
**SPECIAL HANDLING:** Separate and freeze within 1 hour of collection  
**SPECIMEN VOLUME:** 4 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Daily  
**METHODOLOGY:** High-pressure liquid chromatography (HPLC)  
**CPT:** 82131

**UR CYSTINE PROFILE**

**SPECIMEN REQUIRED:** Frozen aliquot of 24 urine collection  
**TUBE OR CONTAINER:** Plastic urine container  
**SPECIAL HANDLING:** 24 hour collection of urine in "D" container (6 N HCL); final pH must be < 3  
**SPECIMEN VOLUME:** 25 mL  
**MINIMUM VOLUME:** 2.5 mL  
**TEST AVAILABILITY:** Daily  
**REFERENCE RANGE:** 10-100 mg/24 hours  
**METHODOLOGY:** Spectrophotometry  
**CLINICAL USE:** Detect cystinuria and other diseases related to sulfur-containing amino acids; work up nephrolithiasis  
**CPT:** 82131

**Urine Cystine Screen**

**SPECIMEN REQUIRED:** Frozen urine (random)  
**TUBE OR CONTAINER:** Urine container  
**SPECIMEN VOLUME:** 10 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3-6 days  
**METHODOLOGY:** High-pressure liquid chromatography (HPLC)  
**CLINICAL USE:** Evaluate amino acid metabolism  
**CPT:** 82131

**WBC Intracellular Cystine**

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Yellow (ACD)  
**SPECIAL HANDLING:** Specimen must arrive in laboratory by 1:30 pm Monday through Thursday only (must arrive at Baylor w/in 36 hrs of collection)  
**SPECIMEN VOLUME:** 10 mL  
**MINIMUM VOLUME:** 5 mL  
**TEST AVAILABILITY:** Monday-Thursday  
**TURNAROUND TIME:** 2-9 days
| REFERENCE RANGE: < 0.2 nmoles half cystine/mg protein |
| CLINICAL USE: Aid in the diagnosis and management of cystinosis |
| CPT: 82131 |

| CYTB | CYTOCHROME B SEQUENCING |
| SPECIMEN REQUIRED: Whole blood, tissue or fibroblasts at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA), sterile container, or T-25 flasks |
| SPECIMEN VOLUME: 14 mL or 2 T-25 flasks |
| MINIMUM VOLUME: 2 mL or 1 T-25 flasks |
| TURNAROUND TIME: 2 weeks |
| METHODOLOGY: Polymerase Chain Reaction (PCR) |
| CPT: 83891; 83898 x 2; 83904 x 5; 83912 |

| CYTC | CYTOCHROME c OXIDASE (COX) |
| SPECIMEN REQUIRED: Whole blood, tissue or fibroblasts at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA), sterile container, or T-25 flasks |
| SPECIMEN VOLUME: 5 mL or 2 T-25 flasks |
| MINIMUM VOLUME: 2 mL or 1 T-25 flasks |
| TURNAROUND TIME: 4 weeks |
| METHODOLOGY: Polymerase Chain Reaction (PCR) |
| CPT: 83891; 83894; 83898 x 7; 83904 x 14; 83909; 83912 |

| DAP | DAPSONE AND METABOLITE |
| SPECIMEN REQUIRED: Room temperature serum or plasma |
| TUBE OR CONTAINER: Red, Gray(sodium flouride) or Lavender(EDTA) |
| SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube |
| SPECIMEN VOLUME: 3 mL |
| MINIMUM VOLUME: 1.2 mL |
| TEST INCLUDES: Dapsone, Monoacetyldapsone and Monoacetyldapsone to Dapsone Ratio |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 3-9 days |
| OTHER NAMES: Avloslflon; Monoacetyldapsone and Monoacetyldapsone |
| METHODOLOGY: High Performance Liquid Chromatography (HPLC) |
| CLINICAL USE: Therapeutic drug monitoring or Acetylation Phenotyping |
| CPT: 82492 |

<p>| DATNEG | DAT NEGATIVE HEMOLYTIC ANEMIA |
| SPECIMEN REQUIRED: Refrigerated whole blood |
| TUBE OR CONTAINER: Lavender (EDTA) &amp; Red (no gel) |
| SPECIMEN VOLUME: 20 mL (Red) |
| 5 mL (Lavender) |
| MINIMUM VOLUME: 15 mL (Red) |
| 3 mL (Lavender) |
| TEST AVAILABILITY: Daily |</p>
<table>
<thead>
<tr>
<th>Test Name</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Other Names</th>
<th>Methodology</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIAMOND-BLACKFAN ANEMIA</td>
<td>Whole blood at room temperature</td>
<td>Lavender (EDTA)</td>
<td>5 mL</td>
<td>1 mL</td>
<td>Daily</td>
<td>2-3 days</td>
<td>RPS19 Gene Analysis; Aase-Smith Syndrome II; Pure hereditary red cell aplasia</td>
<td>Bi-directional sequencing</td>
<td>83891 x 8; 83892 x 2; 83894 x 8; 83898 x 8; 83904 x 8; 83912</td>
</tr>
<tr>
<td>DOPAMINE B-HYDROXYLASE DEFIC</td>
<td>Whole blood at room temperature</td>
<td>Lavender (EDTA)</td>
<td>10 mL</td>
<td>2 mL</td>
<td>Daily</td>
<td>6-8 weeks</td>
<td>Dopamine Beta-Hydroxylase Deficiency (DBH)</td>
<td>Polymerase chain reaction (PCR)</td>
<td>83891; 83894 x 3; 83898 x 5; 83904 x 3; 83912</td>
</tr>
<tr>
<td>DILATED CARDIOMYOPATHY-B (DCM)</td>
<td>Whole blood at room temperature</td>
<td>Lavender (EDTA)</td>
<td>7 mL</td>
<td>3 mL</td>
<td>Monday-Thursday only</td>
<td>4 weeks</td>
<td></td>
<td>Polymerase Chain Reaction (PCR)</td>
<td>83891; 83894; 83898 x 49; 83904 x 49; 83909; 83912</td>
</tr>
<tr>
<td>DCX (XLIS) SEQUENCING</td>
<td>Whole blood at room temperature;</td>
<td>Lavender (EDTA)</td>
<td>5 mL</td>
<td>2 mL</td>
<td>Daily</td>
<td>2-4 weeks</td>
<td>Classic Lissencephaly; X-linked lissencephaly</td>
<td>Bi-directional sequence analysis</td>
<td>83891 x 8; 83892 x 2; 83894 x 8; 83898 x 8; 83904 x 8; 83912</td>
</tr>
</tbody>
</table>
### [DDQNT] D-Dimer

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Blue (Citrate)  
**SPECIAL HANDLING:** Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anticoagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma

**SPECIMEN VOLUME:** 1 full tube  
**Testing volume:** 2 mL of PLASMA  
**MINIMUM VOLUME:** 1 full tube  
**Testing volume:** 1 mL of PLASMA  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 1-4 hours  
**REFERENCE RANGE:** 150-229 ng/mL (DDU)  
**METHODOLOGY:** Turbidimetric Immunoassay  
**CLINICAL USE:** Detection of deep vein thrombosis (DVT); evaluate acute myocardial infarction, unstable angina, and disseminated intravascular coagulation (DIC). With this method, the cut-off level recommended for the exclusion of pulmonary embolism (PE) or deep vein thrombosis (DVT) is 500ng/mL (FEU).  
**CPT:** 85379

### [DENGAB] Dengue Fever AB IgG/IGM

**SPECIMEN REQUIRED:** Refrigerated or frozen serum  
**TUBE OR CONTAINER:** Red or Gold  
**SPECIAL HANDLING:** Please label specimens acute or convalescent  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.3 mL  
**TEST INCLUDES:** Dengue fever virus antibody IgG and IgM  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-10 days  
**REFERENCE RANGE:** 1.64 or less: Negative  
**METHODOLOGY:** Enzyme-linked Immunosorbent Assay (ELISA)  
**CPT:** 86790 x 2

### [DEOX11T] Deoxycorticosterone

**SPECIMEN REQUIRED:** Frozen serum (preferred) or plasma  
**TUBE OR CONTAINER:** Red, Gold, Lavender (EDTA) or Green (heparin)  
**SPECIAL HANDLING:** Separate within 1 hour of collection  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 0.5 mL (this volume does not allow for repeat testing)  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 4-6 days
[DES] Desipramine (Norpramine) Level

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Lavender (EDTA) or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Therapeutic: 150-250 ng/mL
Potentially toxic: >500 ng/mL
OTHER NAMES: Norpramin; Pertofrane
METHODOLOGY: Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)
CLINICAL USE: Monitor therapeutic drug level
CPT: 80160

[DESMINSEQ] DESMIN SEQUENCING

SPECIMEN REQUIRED: Whole blood at room temperature or frozen tissue (preferred); can be performed on formalin-fixed or paraffin embedded
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83898 x 7; 83904 x 7; 83912

[DESMOG] DESMOGLEIN 1 & 3

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Separate within 2 hours of collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Desmoglein 1: < 14.0 U - Negative
Desmoglein 3: < 9.0 U - Negative
METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA)
CLINICAL USE: Aid in the diagnosis of pemphigus or monitor treatment response in patients with a confirmed diagnosis of pemphigus
CPT: 83516 x 2

[DEX] Dexamethasone Level

SPECIMEN REQUIRED: Frozen serum (preferred) or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)
SPECIAL HANDLING: Separate from cells within 1 hour
**DECANAL MEX**

- SPECIMEN VOLUME: 3 mL
- MINIMUM VOLUME: 1 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 4-10 days
- OTHER NAMES: Decadron
- METHODOLOGY: Mass Spectrometry (MS)
- CLINICAL USE: Therapeutic drug monitor
- CPT: 80299

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**DEOXYGUANOSINE KINASE SEQUENCE**

- SPECIMEN REQUIRED: Whole blood at room temperature
- TUBE OR CONTAINER: Lavender (EDTA)
- SPECIMEN VOLUME: 6 mL
- MINIMUM VOLUME: 2 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 3 weeks
- REFERENCE RANGE: No mutation detected
- METHODOLOGY: Polymerase chain reaction (PCR)
- CPT: 83891; 83894 x 2; 83898 x 5; 83904 x 10; 83912

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**DEHYDROEPIANDROSTERONE (DHEA)**

- SPECIMEN REQUIRED: Refrigerated serum
- TUBE OR CONTAINER: Red or Gold
- SPECIMEN VOLUME: 1 mL
- MINIMUM VOLUME: 0.5 mL (this volume does not allow for repeat testing)
- PEDIATRIC TEST INFO: Order PEDDHEA for pediatric testing to be performed by Esoterix
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2 days
- REFERENCE RANGE: Age specific
- OTHER NAMES: DHEA; Unconjugated DHEA
- METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
- CLINICAL USE: Evaluate adrenal carcinomas which frequently secrete large amounts of DHEA
- CPT: 82626

---

**DEHYDROEPIANDROSTERONE SULFATE (DHEAS)**

- SPECIMEN REQUIRED: Refrigerated serum
- TUBE OR CONTAINER: Red or Gold
- SPECIMEN VOLUME: 1 mL
- MINIMUM VOLUME: 0.4 mL (this volume does not allow for repeat testing)
- PEDIATRIC TEST INFO: Order PEDDHEAS for pediatric testing to be performed by Esoterix
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2-3 days
- REFERENCE RANGE: Age specific
- OTHER NAMES: DHEA-S; DHEA-SO4; DHEA Sulfate
METHODOLOGY: Electrochemiluminescence Immunoassay (ECLIA)

CLINICAL USE: Work up women with infertility, amenorrhea, or hirsutism, to identify the source of excessive androgen; aid in the evaluation of androgen excess (hirsutism and/or virilization)

CPT: 82627

[DHEAU] Urine Dehydroepiandrosterone (DHEA)

SPECIMEN REQUIRED: Frozen urine aliquot (24-hour or random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Radioimmunoassay (RIA) or GC/MS
CPT: 82626

[DHPR] Dihydropteridine Reductase Deficiency

SPECIMEN REQUIRED: PKU card or filter paper
TUBE OR CONTAINER: PKU card or Filter paper with blood spot
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 weeks
REFERENCE RANGE: 0.8 - 3.9 nmol/min/mg Hgb
CPT: 82657

[DHT] Dihydrotestosterone

SPECIMEN REQUIRED: Frozen serum (preferred) or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)
SPECIAL HANDLING: Serum must be separated within 1 hour of collection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-8 days
REFERENCE RANGE: Age specific
OTHER NAMES: Androstaner-3-one; 17-(Beta); DHT; Hydroxy-5 Alpha
METHODOLOGY: Radioimmunoassay (RIA) after solvent extraction
CPT: 82651

[DIAZ] DIAZEPAM (VALIUM)

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Dark Green (heparin) or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.4 mL
TEST INCLUDES: Diazepam and its metabolite-Nordiazepam
TEST AVAILABILITY: Daily
REFERENCE RANGE: Therapeutic: Diazepam+Nordiazepam: 0.1-2.5 g/mL
Potentially toxic: >5.0 g/mL
OTHER NAMES: Valium
METHODOLOGY: High-pressure liquid chromatography (HPLC)
CLINICAL USE: Monitor therapeutic levels and evaluate toxicity
CPT: 80154

[DIB] Dibucaine Number

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIAL HANDLING: Do not collect within 24 hrs of administration of muscle relaxant; Separate from cells and transfer to plastic tube indicating on tube "serum" or "plasma".
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
REFERENCE RANGE: Normal: 70% to 90% inhibition
Heterozygotes: 30% to 70% inhibition
Homozygotes: 0% to 30% inhibition
METHODOLOGY: Cholinesterase by spectrophotometry (Ellman) with dibucaine inhibition
CLINICAL USE: Assess the presence of homozygous or heterozygous "atypical" cholinesterase variant, in patients who have low result of serum or plasma cholinesterase assay, and may be at risk of apnea when given succinylcholine muscle relaxant
CPT: 82638

[DIC] COAGULATION PROFILE (DIC)

SPECIMEN REQUIRED: Plasma
TUBE OR CONTAINER: Blue (Citrate) AND FSP tube (obtain from lab)
SPECIAL HANDLING: Draw 2 FULL citrate tubes and 1 FULL FSP tube; tubes must be FULL to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting; centrifuge immediately and freeze plasma
SPECIMEN VOLUME: 3 full tubes
Testing volume: 5 mL of PLASMA
MINIMUM VOLUME: 2 full tubes
Testing volume: 3 mL of PLASMA
TEST INCLUDES: PT with INR, PTT, Fibrinogen and FSP
TEST AVAILABILITY: Daily
TURNAROUND TIME: < 2 hours
REFERENCE RANGE: See individual test
OTHER NAMES: Disseminated Intravascular Coagulation (DIC) Profile
METHODOLOGY: See individual test
CPT: 85362; 85384; 85610; 85730

[DICHLORO] DICHLOROMETHANE (METHYL CHLOR)

SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: EDTA (lavender)
**SPECIAL HANDLING:** Do NOT centrifuge  
**SPECIMEN VOLUME:** 4 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST INCLUDES:** Dichloromethane and Carboxyhemoglobin  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 6-10 days  
**METHODOLOGY:** Gas Chromatography (GC) and Spectrophotometry  
**CPT:** 82375; 84600

### [DIFF] MANUAL DIFFERENTIAL

**[DIG]** Digoxin Level  
**SPECIMEN REQUIRED:** Refrigerated plasma or serum  
**TUBE OR CONTAINER:** Light Green (heparin) or Gold  
**SPECIAL HANDLING:** Specimen must be drawn 6-8 hours after the administration of the last dose (levels drawn earlier than 6 hours after a dose will be artificially elevated)  
This assay is NOT recommended for monitoring of patients undergoing Immune FAb (DIGIBIND) treatment and should be rejected  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 ml  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIMES:** 8 hours  
**REFERENCE RANGE:** O days - 2 years: 2.0 - 4.0 ng/mL  
> 2 years: 0.8 - 2.1 ng/mL  
**OTHER NAMES:** Lanoxin; Digitalis  
**METHODOLOGY:** Turbidimetric inhibition assay  
**CLINICAL USE:** Diagnose and prevent toxicity, prevent underdosage monitor therapeutic level; prevention and therapy of cardiac arrhythmias  
**CPT:** 80162

### [DIGITX] Digitoxin Level  
**SPECIMEN REQUIRED:** Refrigerated or frozen serum or plasma  
**TUBE OR CONTAINER:** Red, Lavender (EDTA) or Gray(Sodium Fluoride)  
**SPECIAL HANDLING:** Do NOT collect in gel barrier tube  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.8 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3-6 days  
**METHODOLOGY:** Immunoassay  
**CLINICAL USE:** Therapeutic drug monitoring  
**CPT:** 80299

### [DIPH] Diphenhydramine (Benadryl) Level  
**SPECIMEN REQUIRED:** Refrigerated serum or plasma  
**TUBE OR CONTAINER:** Red or Dark Green  
**SPECIMEN VOLUME:** 3 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
REFERENCE RANGE: 30 - 50 ng/mL
METHODOLOGY: Gas Chromatography/Nitrogen Phosphorus Detection (GC-NPD)
CPT: 80299

**[DIPTHAB] Diptheria Antitoxoid**
- SPECIMEN REQUIRED: Refrigerated serum
- TUBE OR CONTAINER: Red or Gold
- SPECIMEN VOLUME: 0.5 mL
- MINIMUM VOLUME: 0.3 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2-7 days
- REFERENCE RANGE: Nonprotective: Protective: >=0.1 IU/mL
- METHODOLOGY: Enzyme immunoassay (EIA)
- CLINICAL USE: Assess immunity against diptheria by determining levels of circulating antibodies to diptheria toxin or to measure immune response
- CPT: 86317

**[DISAC] DISACCHARIDASE ANALYSIS**
- SPECIMEN REQUIRED: Frozen biopsy
- TUBE OR CONTAINER: Tissue wrapped in foil
- SPECIAL HANDLING: Freeze within 2 hours of collection; maintain specimen on dry ice in -70 freezer until time of shipment
- SPECIMEN VOLUME: 5 mg
- MINIMUM VOLUME: 2 mg
- TEST INCLUDES: Lactase, Sucrase, Maltase and Palatinase
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2-5 days
- METHODOLOGY: Spectrophotometry
- CPT: 84311 x 4

**[DISOP] Disopyramide (Norpace) Level**
- SPECIMEN REQUIRED: Refrigerated serum or plasma
- TUBE OR CONTAINER: Red, Dark Green (heparin) or Lavender (EDTA)
- SPECIAL HANDLING: Do NOT collect in gel barrier tube
- SPECIMEN VOLUME: 1 mL
- MINIMUM VOLUME: 0.3 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2 days
- REFERENCE RANGE: Therapeutic: 2.0-5.0 ug/dL
  Potentially toxic: >5.0 ug/mL
- OTHER NAMES: Norpace
- METHODOLOGY: Immunoassay
- CLINICAL USE: Evaluate toxicity; monitor therapeutic levels
- CPT: 80299
### [DIURETIC] THIAZIDE DIURETIC PANEL

<table>
<thead>
<tr>
<th>Specimen Required: Refrigerated urine (random)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container: Plastic urine container</td>
</tr>
<tr>
<td>Specimen Volume: 2 mL</td>
</tr>
<tr>
<td>Minimum Volume: 0.5 mL</td>
</tr>
<tr>
<td>Test Includes: Benzthiazide; Chlorothiazide;</td>
</tr>
<tr>
<td>Chlorthalidone; Furosemide; Hydrochlorothiazide; Hydroflumethiazide; Methyclothiazide; Metolazone and Trichlormethiazide</td>
</tr>
<tr>
<td>Test Availability: Daily</td>
</tr>
<tr>
<td>Turnaround Time: 5-10 days</td>
</tr>
<tr>
<td>Methodology: High Performance Liquid Chromatography (HPLC)</td>
</tr>
<tr>
<td>Clinical Use: Therapeutic drug monitoring</td>
</tr>
<tr>
<td>CPT: 82492</td>
</tr>
</tbody>
</table>

### [DL] Donath Landsteiner Antibody

<table>
<thead>
<tr>
<th>Specimen Required: Freshly drawn serum, refrigerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container: Red</td>
</tr>
<tr>
<td>Specimen Volume: 7 mL</td>
</tr>
<tr>
<td>Minimum Volume: 1.5 mL</td>
</tr>
<tr>
<td>Test Availability: Daily</td>
</tr>
<tr>
<td>Turnaround Time: 2-4 days</td>
</tr>
<tr>
<td>Reference Range:</td>
</tr>
<tr>
<td>Methodology: Hemolysis</td>
</tr>
<tr>
<td>CPT: 86941</td>
</tr>
</tbody>
</table>

### [DMD] Duchenne Muscular Dystrophy

<table>
<thead>
<tr>
<th>Specimen Required: Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container: Lavender (EDTA)</td>
</tr>
<tr>
<td>Specimen Volume: 12 mL</td>
</tr>
<tr>
<td>Minimum Volume: 6 mL</td>
</tr>
<tr>
<td>Test Availability: Daily</td>
</tr>
<tr>
<td>Turnaround Time: 3-4 weeks</td>
</tr>
<tr>
<td>Reference Range: No mutation detected</td>
</tr>
<tr>
<td>Methodology: Polymerase chain reaction (PCR)</td>
</tr>
<tr>
<td>Clinical Use: Identify a mutation in the dystrophin gene Xp21.1</td>
</tr>
<tr>
<td>CPT: 83890; 83896 x 79; 83909; 83912 (Deletion)</td>
</tr>
<tr>
<td>83890; 83894; 83898 x 79; 83904 x 79; 83912 (Sequencing)</td>
</tr>
</tbody>
</table>

### [DMSO] Dimethylsulfoxide

<table>
<thead>
<tr>
<th>Specimen Required: Refrigerated serum or plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container: Red, Lavender (EDTA) or Dark Green (Heparin)</td>
</tr>
<tr>
<td>Specimen Volume: 5 mL</td>
</tr>
<tr>
<td>Minimum Volume: 2 mL</td>
</tr>
<tr>
<td>Test Availability: Daily</td>
</tr>
<tr>
<td>Turnaround Time: 7-10 days</td>
</tr>
<tr>
<td>Methodology: Gas Chromatography (GC)</td>
</tr>
<tr>
<td>CPT: 82491</td>
</tr>
<tr>
<td><strong>[DNADAB]</strong> Anti-Double Strand DNA Antibody</td>
</tr>
<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Room temperature serum</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative: &lt; 5</td>
</tr>
<tr>
<td>Equivocal: 5 - 9</td>
</tr>
<tr>
<td>Positive: &gt; 9</td>
</tr>
<tr>
<td>OTHER NAMES: Anti-N-DNA; Antinative DNA</td>
</tr>
<tr>
<td>METHODOLOGY: Multiplex bead flow cytometry</td>
</tr>
<tr>
<td>CLINICAL USE: Specific assay for confirming diagnosis of systemic lupus erythematosus (SLE)</td>
</tr>
<tr>
<td>CPT: 86225</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[DNADSOMRF]</strong> Anti-Double Strand DNA Antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 7-10 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative: &lt; 10</td>
</tr>
<tr>
<td>METHODOLOGY: Crithidia</td>
</tr>
<tr>
<td>CLINICAL USE: Specific assay for confirming the diagnosis of systemic lupus erythematosus (SLE)</td>
</tr>
<tr>
<td>CPT: 86225</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[DNAH5]</strong> PRIM CILIARY DYSKINESIA-DNAH5</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-4 weeks</td>
</tr>
<tr>
<td>OTHER NAMES: Primary Ciliary Dyskinesia (PCD) via DNAH5 gene sequencing</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase chain reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83890; 83891; 83894; 83898 x 6; 83904 x 6; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[DNAI1]</strong> PRIM CILIARY DYSKINESIA-DNAI1</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-4 weeks</td>
</tr>
<tr>
<td>OTHER NAMES: Primary Ciliary Dyskinesia (PCD) via DNAI1 gene sequencing</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase chain reaction (PCR)</td>
</tr>
</tbody>
</table>
### Anti-Single Strand DNA Antibody

- **SPECIMEN REQUIRED:** Serum at room temperature
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 0.5 mL
- **MINIMUM VOLUME:** 0.2 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** Negative: < 20 units/mL
- **OTHER NAMES:** Anti-ssDNA; IgG Antibodies to Single-stranded DNA
- **METHODOLOGY:** Enzyme immunoassay (EIA)
- **CPT:** 86226

### HYPER IGE (DOCK8-DUP/DEL)

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 6-8 weeks
- **OTHER NAMES:** Autosomal recessive Hyper-Ige recurrent Infection Syndrome via duplication/deletion of DOCK8 gene
- **METHODOLOGY:** Polymerase chain reaction (PCR)
- **CPT:** 83891 x 2; 88386; 83912

### LIMB GIRDLE MYASTHENIA (DOK7)

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-3 weeks
- **OTHER NAMES:** Limb Girdle Myasthenia Syndrome via DOK7 gene sequencing
- **METHODOLOGY:** Polymerase chain reaction (PCR)
- **CPT:** 83890; 83891; 83894; 83898 x 8; 83904 x 8; 83912

### DOXEPIN/NORDOXEPIN

- **SPECIMEN REQUIRED:** Refrigerated serum or plasma
- **TUBE OR CONTAINER:** Red, Dark Green (heparin) or Lavender (EDTA)
- **SPECIAL HANDLING:** Do NOT collect in gel barrier tube
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.3 mL
- **TEST INCLUDES:** Doxepin and its metabolite Nordoxepin
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2 days
- **REFERENCE RANGE:** Therapeutic: 150-250 ng/mL
  Potentially toxic: >500 ng/mL
- **OTHER NAMES:** Adapin; Sinequan
- **METHODOLOGY:** Liquid chromatography/tandem mass spectrometry
(LC/MS-MS)  
CLINICAL USE: Evaluate toxicity; monitor therapeutic levels  
CPT: 80166

**[DPD] DEOXYPYRIDINOLINE CROSSLINK**

SPECIMEN REQUIRED: Refrigerated urine  
TUBE OR CONTAINER: Urine container  
SPECIAL HANDLING: Protect specimen from light (wrap in foil)  
Freeze if transit time is greater than 72 hours  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 1 mL  
TEST INCLUDES: Deoxypyridinoline; urine creatinine; DPD/creatinine ratio  
TEST AVAILABILITY: Daily  
REFERENCE RANGE: Pediatrics: prepubertal (Tanner Stage I): pubertal (Tanner Stage II-IV): Adults: 2.3-7.4 nmol Dpd/mmol creatinine  
METHODOLOGY: Immunochemiluminometric assay (ICMA)  
CLINICAL USE: Tool to assess bone resorption rates in healthy individuals and in patients with enhanced risk of developing metabolic bone disease  
CPT: 82523; 82570

**[DPDDNA] DIHYDROPYRIMIDINE DEHYDROG**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA), Yellow (ACD) or Buccal swab  
SPECIAL HANDLING: Specimen can be stored refrigerated for up to a week (ship at room temperature)  
SPECIMEN VOLUME: 7 mL  
2 buccal swabs  
MINIMUM VOLUME: 3 mL  
1 buccal swab  
TEST AVAILABILITY: Daily  
METHODOLOGY: Polymerase chain reaction (PCR); restriction enzyme digestion; gel electrophoresis  
CPT: 83891; 83892; 83894; 83898; 83912

**[DRD] DOPA RESPONSIVE DYT-GCH1 GENE**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-5 weeks  
OTHER NAMES: GTP Cyclohydrolase I Deficiency; Dopa- Responsive Dystonia  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83890; 83891; 83894; 83898 x 6; 83904 x 6; 83912
### [DRPLA] DENTATORUBRAL-PALLIDOLUYSIAN

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>5 mL</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>1 mL</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time:</td>
<td>2-3 weeks</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Fluorescent PCR</td>
</tr>
<tr>
<td>CPT:</td>
<td>83890; 83898 x 4; 83903 x 4; 83912</td>
</tr>
</tbody>
</table>

### [DRUG5] DRUG SCREEN BLOOD (5 DRUGS)

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Gray (Sodium Fluoride)</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>12 mL</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>4 mL</td>
</tr>
<tr>
<td>Test Includes:</td>
<td>Amphetamines (amphetamine, methamphetamine); cannabinoids (THC, THCA); cocaine (cocaine, benzoylecgonine); opiates (codeine, morphine); phencyclidine (PCP)</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time:</td>
<td>2-3 days</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Initial testing by immunoassay with gas chromatography/mass spectrometry (GC/MS)</td>
</tr>
<tr>
<td>Reflex Test Information:</td>
<td>If positive, confirmation is performed at an additional charge</td>
</tr>
<tr>
<td>CPT:</td>
<td>80101 x 5</td>
</tr>
</tbody>
</table>

### [DRUGCOMPU] URINE DRUG SCRN-COMPREHENSIVE

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Refrigerate urine (random)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Plastic urine container</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>30 mL</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>20 mL</td>
</tr>
<tr>
<td>Test Includes:</td>
<td>Preliminary screening by Immunoassay and chemical spot tests for specific drugs and drug groups. Analysis by Thin Layer Chromatography and Gas Chromatography/Mass Spectrometry (GC/MS) to detect overdose quantities of many drugs and related substances.</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time:</td>
<td>24 hours</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Turbidimetric, Thin Layer Chromatography (TCL), Gas Chromatograph-Mass Spectrometry (GCMS), Spot</td>
</tr>
<tr>
<td>Clinical Use:</td>
<td>Medical screen only</td>
</tr>
<tr>
<td>CPT:</td>
<td>80101 x 9, 80102</td>
</tr>
</tbody>
</table>

### [DRUGDEPAB] DRUG-DEPENDENT PLATELET AB

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Refrigerated or frozen serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Red</td>
</tr>
<tr>
<td>Special Handling:</td>
<td>List each drug that is being tested</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>5 mL</td>
</tr>
</tbody>
</table>
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 4-5 days
REFERENCE RANGE: No drug-dependent platelet antibodies detected
METHODOLOGY: Flow cytometry
CLINICAL USE: Evaluation of patients who develop thrombocytopenia after exposure to certain drugs
CPT: 86022 x 4

**[DRUGDLO] URINE DRUG SCREEN FOR DLO**

SPECIMEN REQUIRED: Refrigerate urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 30 mL
MINIMUM VOLUME: 20 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
METHODOLOGY: Turbidimetric, Thin Layer Chromatography (TCL), Gas Chromatograph-Mass Spectrometry (GCMS), Spot
CLINICAL USE: Medical screen only
CPT: 80102

**[DRUGGAS] GASTRIC DRUG SCREEN**

SPECIMEN REQUIRED: Refrigerated gastric contents
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: Entire gastric contents
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
METHODOLOGY: Gas Chromatography-Mass Spectrometry (GC-MS) and Thin Layer Chromatography (TLC) analysis
CLINICAL USE: Screen for drugs of abuse
CPT: 80101 x 2; 80102

**[DRUGLIM] URINE LIMITED DRUG SCREEN**

SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST INCLUDES: Cocaine metabolites, Opiates, Benzodiazepine metabolites, Amine Group, Cannabinoids, Barbiturate group, Salicylate, Acetaminophen, and Ethyl Alcohol
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
METHODOLOGY: Turbidimetric and Spot
CLINICAL USE: Screen for drugs of abuse
CPT: 80101 x 9

**[DRUGMECONIUM] DRUG SCREEN MECONIUM**

SPECIMEN REQUIRED: Meconium
TUBE OR CONTAINER: Stool container
SPECIMEN VOLUME: 3 grams
MINIMUM VOLUME: 2 grams
TEST INCLUDES: Amphetamine, cocaine, Cannabinoids, Opiates, and Phencyclidine
TEST AVAILABILITY: Daily
REFERENCE RANGE: None detected
METHODOLOGY: Immunoassay, Gas chromatography/Mass Spectrometry (GC/MS)
CLINICAL USE: Screen for drugs of abuse
CPT: 80101 x 5, 80103

[DRUGOB] OB DRUG SCREEN

SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 15 mL
TEST INCLUDES: Screen for Cocaine metabolites, Opiates, Benzodiazepine metabolites, Amine Group, Cannabinoids, Phencyclidine and Barbituate Group
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
METHODOLOGY: Turbidimetric
REFLEX TEST INFORMATION: If cocaine, amine group or PCP is positive, confirmation will be performed at an additional charge
CLINICAL USE: Screen for drugs of abuse
CPT: 80101 x 7

[DRUGSCR] DRUG SCREEN EMTC URINE

SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST INCLUDES: Screen for Cocaine metabolites, Opiates, Benzodiazepine metabolites, Amine Group, Cannabinoids, and Barbituate Group
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
METHODOLOGY: Turbidimetric
CLINICAL USE: Screen for drugs of abuse
CPT: 80101 x 6

[DRUGSCRNH] HAIR DRUG SCREEN

SPECIMEN REQUIRED: Hair
TUBE OR CONTAINER: Special collection kit
SPECIAL HANDLING: Contact laboratory for special collection kit
SPECIMEN VOLUME: 100 mg
TEST INCLUDES: Screen for Amphetamines, cocaine, Marijuana, Opiates, and Phencyclidine
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-4 days
REFERENCE RANGE: Negative
METHODOLOGY: Immunoassay Enzyme-Linked immuno-sorbent assay (ELISA)
CPT: 80105 x 5

[DRUGSEQNT] DRUG BLD (ALC,TRICYC,ACET,SAL)

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold or Light green (heparin)
SPECIAL HANDLING: Prepare draw site with betadine, not alcohol; collect specimen in SST tube and do NOT open after centrifuging
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Tricyclic screen, Alcohol (Ethanol), Acetaminophen (Tylenol), Salicylate (Aspirin)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: See individual test
METHODOLOGY: Immunoassay
CLINICAL USE: Medical purposes only; not appropriate for DOT or employment-related drug screening
CPT: 80101; 82055; 82003; 80196

[DRUGSUDS] SERUM & URINE DRUG SCREEN

SPECIMEN REQUIRED: Serum AND urine
TUBE OR CONTAINER: Red AND Urine Container
SPECIAL HANDLING: Serum must be collected in a non-gel tube
SPECIMEN VOLUME: 3 mL each
MINIMUM VOLUME: 2 mL each
TEST INCLUDES: Quantitative Serum Drug Screen (Tricyclics, Ethanol, Acetaminophen & Salicylate); EMTC urine drug screen (Cocaine, Opiates, Amines, Benzodiazepine, Cannabinoids & Barbiturate Group
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
METHODOLOGY: Immunoassay
CPT: 82055, 82003, 80196, 80101 x 7

[DRUGU] URINE DRUG SCREEN

SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST INCLUDES: Amine group, Barbiturate group, Benzodiazepine, (qualitative), Cannabinoid (THC), Phenycyclidine, Cocaine metabolite, Opiates (qualitative)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
METHODOLOGY: Turbidimetric
CLINICAL USE: Medical purposes only; not appropriate for DOT or employment-related drug screening
CPT: 80101 x 7

[DRUGUNK] Drug Screen Unknown Substance

SPECIMEN REQUIRED: Unknown substance
TUBE OR CONTAINER: Plastic container
TEST INCLUDES: Tricyclic screen, Alcohol (Ethanol), Acetaminophen(Tylenol), Salicylate (Aspirin)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
METHODOLOGY: Immunoassay
CLINICAL USE: Screen for drugs of abuse
CPT: 80102

[DRUGWB] Drug Screen-Serum

SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIAL HANDLING: Urine is the preferred specimen for all drug screening; Serum drug screens generally cannot be screened for as many analytes/metabolites
Urine drug screening recommended. Use this order only if urine not available.
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST INCLUDES: Salicylate (aspirin); Acetaminophen (Tylenol); Alcohol (ethanol); Confirmation of other drugs
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 48 hours
CPT: 80196; 82003; 82055; 80102

[DSETOH] Urine Ethyl Alcohol Screen

[DSPCP] Urine Phencyclidine Screen

[DTD] Diastrophic Dysplasia

SPECIMEN REQUIRED: Whole blood or fibroblasts at room temperature
TUBE OR CONTAINER: Lavender (EDTA); T-25 flasks
SPECIMEN VOLUME: 6 mL
MINIMUM VOLUME: 4 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83894 x 8; 83898 x 8; 83904 x 12; 83912

[DWARF] Dwarfism Panel

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10-14 days
REFERENCE RANGE: No mutation detected
METHODOLOGY: PCR amplification followed by DNA sequencing or mutation specific restriction enzyme digestion
CLINICAL USE: To confirm the nature of the dwarfism in an affected individual. To evaluate fetuses with unusually small stature by ultrasound for the possibility of spontaneous ACH or HCH. Prenatal diagnosis for at risk individuals
CPT: 83890, 83892 x 2, 83894 x 2, 83898 x 5, 83904 x 3, 83912

[DYPH] Dyphylline Level
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Dark green (heparin) or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.4 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
OTHER NAMES: Lufyllin; Neothylline; Dilor
METHODOLOGY: High performance liquid chromatography (HPLC)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80198

[DYS1] DYSTONIA 1
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8-10 days
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83894; 83898 x 4; 83912

[DYT8] DYSTONIA 8 VIA PNKD GENE
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898; 83904; 83912

[EBVAB] AB EPSTEIN BARR VIRUS PROFILE
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: EBV-AB to early antigen, nuclear antigen, viral capsid (IgG & IgM)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-7 days
REFERENCE RANGE: Negative: METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CLINICAL USE: Differentiation of acute from chronic or reactivated infection of EBV
CPT: 86663, 86664, 86665 x 2

[EBVCAB] AB EPSTEIN BARR VIRAL CAPSID
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Viral capsid IgG and IgM antibodies
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-7 days
REFERENCE RANGE: Negative: METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CLINICAL USE: Aid in diagnosis of acute EBV infection (infectious mono)
CPT: 86665 x 2

[EBVDNAQNT] Epstein-Barr DNA Quant copies/mL
SPECIMEN REQUIRED: Whole blood at room temperature
Other specimens: Bone marrow, tissue, BAL or amniotic fluid at room temperature
Frozen CSF
TUBE OR CONTAINER: Lavender (EDTA)
Sterile tube (Bronchial lavage & CSF)
Sterile tube w/saline (tissue)
Sodium heparin tube (bone marrow)
SPECIMEN VOLUME: 3 mL whole blood, 2 mL (bronchial lavage), 2 mL (bone marrow), 1 mL(CSF-frozen), BAL fluid (room temp)
MINIMUM VOLUME: 3 mL whole blood, 1 mL (bronchial lavage), 1 mL (bone marrow), 0.3 mL(CSF-frozen), BAL fluid (room temp)
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2 days
REFERENCE RANGE: Not detected
OTHER NAMES: Epstein-Barr DNA
METHODOLOGY: Quantitative, Real-time PCR
CPT: 87799
### Epstein-Barr Early Antigen IgG Ab

| SPECIMEN REQUIRED: Refrigerated CSF |
| TUBE OR CONTAINER: Sterile CSF container |
| SPECIMEN VOLUME: 0.5 mL |
| MINIMUM VOLUME: 0.2 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 2-4 days |
| REFERENCE RANGE: 0.90 IV or less: Negative |
| 0.91-0.99 IV: Equivocal |
| 1.00 IV or greater: Positive |
| OTHER NAMES: Epstein-Barr early antigen antibody, CSF |
| METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA) |
| CPT: 86663 |

### Epstein-Barr Virus Tissue

| SPECIMEN REQUIRED: Formalin-fixed, paraffin-embedded (FFPE) tissue biopsy at room temperature or Unstained slides and H&E |
| TUBE OR CONTAINER: Paraffin block or fresh tissue in a sterile container in 10% neutral-buffered formalin |
| SPECIMEN VOLUME: 5 slides & 1 H&E |
| TEST AVAILABILITY: Daily |
| REFERENCE RANGE: Not detected |
| METHODOLOGY: In situ hybridization |
| CLINICAL USE: Detect EBV DNA sequences in tissue sections; adjunct to histopathology |
| CPT: 88365 |

### Epstein-Barr Nuclear Assoc Ag IgG

| SPECIMEN REQUIRED: Refrigerated CSF |
| TUBE OR CONTAINER: Sterile CSF container |
| SPECIMEN VOLUME: 0.5 mL |
| MINIMUM VOLUME: 0.2 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 2-3 days |
| REFERENCE RANGE: Negative: 0.90 or less |
| Equivocal: 0.91-0.99 |
| Positive: 1.00 or greater |
| METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA) |
| CPT: 86664 |

### EBV VIRAL CAPSID IGG/IGM CSF

| SPECIMEN REQUIRED: Refrigerated CSF |
| TUBE OR CONTAINER: Sterile CSF container |
| SPECIMEN VOLUME: 1 mL |
| MINIMUM VOLUME: 0.3 mL |
| TEST INCLUDES: IgG and IgM |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 2-5 days |
| REFERENCE RANGE: IgG: < 1:64 |
IgM: < 1:1
METHODOLOGY: Immunofluorescent antibody (IFA)
CPT: 86665 x 2

[ECHIAB] Echinococcus Antibody
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Enzyme immunoassay (EIA)
CPT: 86682

[ECHOAB] AB ECHOVIRUS
SPECIMEN REQUIRED: Refrigerated or frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Echovirus types 4, 7, 9, 11, & 30
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
REFERENCE RANGE: < 1:8
METHODOLOGY: Complement Fixation (CF)
CPT: 86658 x 5

[ECHOCSF] ECHOVIRUS AB CSF
SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile capped tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Echovirus types 4, 7, 9, 11, & 30
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-7 days
REFERENCE RANGE: < 1:1
METHODOLOGY: Complement Fixation (CF)
CPT: 86658 x 5

[ECP] Eosinophil Cationic Protein
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Completely fill tube then invert gently 5
time; allow blood to clot at room temperature
for 60 minutes before centrifuging; separate
and freeze
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-10 days
REFERENCE RANGE: 0 - 24 ng/mL
CPT: 83520
<table>
<thead>
<tr>
<th>Test Code</th>
<th>Test Name</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Reference Range</th>
<th>Other Names</th>
<th>Methodology</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>[EDAR]</td>
<td>ECTODERMAL DYSPL (EDAR GENE)</td>
<td>Whole blood at room temperature</td>
<td>Lavender (EDTA) or Buccal swab</td>
<td>5 mL</td>
<td>1 mL</td>
<td>Daily</td>
<td>6-8 weeks</td>
<td>No mutation detected</td>
<td>Hypohidrotic Ectodermal Dysplasia (HED)</td>
<td>Polymerase Chain Reaction (PCR)</td>
<td>83891 x 12; 83892 x 2; 83894 x 12; 83898 x 12; 83904 x 22; 83912</td>
</tr>
<tr>
<td>[EDMD]</td>
<td>EMERY-DREIFUSS MUSCUL DYST DNA</td>
<td>Whole blood at room temperature</td>
<td>Lavender (EDTA)</td>
<td>14 mL (2 tubes)</td>
<td>3 mL</td>
<td>Daily</td>
<td>N/A</td>
<td>No mutation detected</td>
<td>Detect mutations in the LMNA gene</td>
<td>Fluorescent DNA sequencing</td>
<td>83890; 83898 x 11; 83904 x 11; 83912</td>
</tr>
<tr>
<td>[EDS4]</td>
<td>EDS TYPE 4 (COL3A1)</td>
<td>Whole blood or fibroblasts at room</td>
<td>Lavender (EDTA) or flasks</td>
<td>10 mL</td>
<td>6 mL</td>
<td>Daily</td>
<td>N/A</td>
<td>N/A</td>
<td>EDS Type 6; PLOD1 gene test</td>
<td>Polymerase Chain Reaction (PCR)</td>
<td>83890; 83898 x 25; 83904 x 32; 83912</td>
</tr>
<tr>
<td>[EDS6]</td>
<td>EHLERS DANLOS (EDS) TYPE 6</td>
<td>Whole blood or fibroblasts at room</td>
<td>Lavender (EDTA) or flasks</td>
<td>10 mL</td>
<td>6 mL</td>
<td>Daily</td>
<td>N/A</td>
<td>EDS Type 6; PLOD1 gene test</td>
<td></td>
<td>Polymerase Chain Reaction (PCR)</td>
<td>83890; 83894 x 38; 83898 x 38; 83904 x 45; 83912</td>
</tr>
<tr>
<td>[EDS6UR]</td>
<td>EHLERS-DANLOS SYND TYPE VI</td>
<td>Frozen urine (First-morning void)</td>
<td>Urine transport container</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
<td>83890; 83894 x 38; 83898 x 38; 83904 x 45; 83912</td>
</tr>
</tbody>
</table>
**[EDSI-II]  EDS TYPE I/II (COL5A1/A2)**

SPECIMEN REQUIRED: Whole blood or fibroblasts at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or flasks
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase Chain Reaction (PCR)

**[EFAV]  HIV Efavirenz Resistance**

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Do NOT collect specimen in gel tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1.5 mL
TEST AVAILABILITY: Daily
OTHER NAMES: Sustiva
METHODOLOGY: High-Pressure Liquid Chromatography (HPLC)
CPT: 80299

**[EFNB1]  CRANIOFRONTONASAL SYNDROME (EFNB1)**

SPECIMEN REQUIRED: Whole blood room temperature or buccal swab
TUBE OR CONTAINER: Lavender (EDTA) or swab
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6 weeks
METHODOLOGY: Bi-directional sequence analysis
CPT: 83891 x 5; 83892 x 2; 83894 x 10; 83898 x 10; 83904 x 10; 83912

**[EGFR]  EPIDERMAL GROWTH FACT RECEPTOR**

SPECIMEN REQUIRED: Formalin-fixed, paraffin-embedded tissue block or 15 unstained slides at room temperature
TUBE OR CONTAINER: Tissue block or slides
SPECIAL HANDLING: Protect paraffin block from excessive. Ship in cooled container during summer months
TEST AVAILABILITY: Daily
TURNAROUND TIME: 12-16 days
METHODOLOGY: Polymerase chain reaction (PCR); Fragment analysis
CPT: 83892; 83896 x 2; 83898; 83907; 83909; 83912
### [EHISAB] Entamoeba histolytica Antibody

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 0.5 mL
- **MINIMUM VOLUME:** 0.2 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** Ratio: Negative: Equivocal: 0.9-1.1 OD  
  Positive: >1.1 OD
- **OTHER NAMES:** E. histolytica, Amebic Antibodies; Amebiasis Antibodies  
- **METHODOLOGY:** Enzyme immunoassay (EIA)  
- **CPT:** 86753

### [EHIST] Entamoeba histolytica Antigen

- **SPECIMEN REQUIRED:** Frozen stool
- **TUBE OR CONTAINER:** Leak-proof plastic container
- **SPECIMEN VOLUME:** 10 grams
- **MINIMUM VOLUME:** 1 gram
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-4 days
- **REFERENCE RANGE:** Not detected
- **METHODOLOGY:** Enzyme immunoassay (EIA)
- **CLINICAL USE:** Confirmation of an intestinal amebiasis
- **CPT:** 87337

### [EHRAB] AB EHRLICHIAN

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.4 mL
- **TEST INCLUDES:** Antibody to E. chaffeensis IgG and IgM
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-5 days
- **REFERENCE RANGE:** Negative: < 1:40
- **METHODOLOGY:** Indirect Fluorescent antibody (IFA)
- **CLINICAL USE:** Identify presence of antibody to E. chaffeensis
- **CPT:** 86317 x 2

### [EHRlichPCR] AB EHRLICHIAN BY PCR

- **SPECIMEN REQUIRED:** Whole blood or bone marrow at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-7 days
- **OTHER NAMES:** Human Monocytic Ehrlichia (HME) by PCR
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CLINICAL USE:** Detect and differentiate DNA from human granulocytic anaplasmosis (HGA), formerly known as
human granulocytic ehrlichiosis (HGE) and human monocytic ehrlichiosis (HME) agents
CPT: 87798 x 2

**[ELA2] ELA2 MUTATION**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th>Whole blood at room temperature; buccal swab</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td>Lavender (EDTA); Buccal swab</td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td>5 mL (blood)</td>
</tr>
<tr>
<td>MINIMUM VOLUME</td>
<td>3 mL (blood)</td>
</tr>
<tr>
<td>TEST AVAILABILITY</td>
<td>Monday-Thursday</td>
</tr>
<tr>
<td>TURNAROUND TIME</td>
<td>6-8 weeks</td>
</tr>
<tr>
<td>REFERENCE RANGE</td>
<td>No mutation detected</td>
</tr>
<tr>
<td>METHODOLOGY</td>
<td>Bi-directional sequencing</td>
</tr>
<tr>
<td>CLINICAL USE</td>
<td>Confirmation of clinical diagnosis</td>
</tr>
<tr>
<td>CPT</td>
<td>83891 x 10; 83892 x 2; 83894 x 10; 83898 x 10; 83904 x 10;</td>
</tr>
</tbody>
</table>

**[ELECSF] CSF ELECTROPHORESIS**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th>Refrigerated CSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td>Sterile container; (CSF tube)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td>2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME</td>
<td>0.9 mL</td>
</tr>
<tr>
<td>TEST INCLUDES</td>
<td>Total protein CSF; determination of proteins seen in the electrophoresis; densitometric scan</td>
</tr>
<tr>
<td>TEST AVAILABILITY</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME</td>
<td>2-3 days</td>
</tr>
<tr>
<td>REFERENCE RANGE</td>
<td>Prealbumin: 2.2% to 7.1%</td>
</tr>
<tr>
<td></td>
<td>Albumin: 56.8% to 76.4%</td>
</tr>
<tr>
<td></td>
<td>Alpha1 globulin: 1.1% to 6.6%</td>
</tr>
<tr>
<td></td>
<td>Alpha2 globulin: 3.0% to 12.6%</td>
</tr>
<tr>
<td></td>
<td>Beta globulin: 7.3% to 17.9%</td>
</tr>
<tr>
<td></td>
<td>Gamma globulin: 3.0% to 13.0%</td>
</tr>
<tr>
<td></td>
<td>Total protein: 13-40 mg/dL</td>
</tr>
<tr>
<td>METHODOLOGY</td>
<td>Electrophoresis on agarose media</td>
</tr>
<tr>
<td>CLINICAL USE</td>
<td>Quantitate CSF protein fractions; aid in diagnosis of inflammatory &amp; demyelinating disease of CNS</td>
</tr>
<tr>
<td>CPT</td>
<td>84166</td>
</tr>
</tbody>
</table>

**[ELEHGB] HGB ELECTROPHORESIS**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th>Refrigerated whole blood</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME</td>
<td>0.5 mL (pediatric)</td>
</tr>
<tr>
<td>TEST INCLUDES</td>
<td>Identification and relative percentages of hemoglobins A, A2, E, D, F, S, and C; and hemoglobin phenotype</td>
</tr>
<tr>
<td>TEST AVAILABILITY</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>TURNAROUND TIME</td>
<td>3 days</td>
</tr>
<tr>
<td>METHODOLOGY</td>
<td>Electrophoresis by cellulose acetate</td>
</tr>
<tr>
<td>CLINICAL USE</td>
<td>Useful in the diagnosis of hemoglobinopathies</td>
</tr>
</tbody>
</table>
(A, F, S, and C), evaluate hemolytic anemias; evaluate transfusion therapy in patients with hemoglobinopathies
CPT: 83020

**[ELEPROTUT] UR PROT ELECTROPHORESIS 24 HR**

SPECIMEN REQUIRED: Refrigerated urine (24 hour)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect urine in "P" container (24-hour container with no preservative)
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 5 mL
TEST INCLUDES: Evaluation of protein electrophoretic bands; protein electrophoresis, urine; quantitation of M-spike if present
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Normal pattern
METHODOLOGY: Electrophoresis on agarose media
CLINICAL USE: Evaluate myeloma, macroglobulinemia, lymphoma, amyloidosis; differentiate between normal renal function, glomerular proteinuria, and tubular proteinuria
CPT: 84166

**[ELEPROTW] PROTEIN ELECTRO W/INTERPRET**

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Quantitation of total protein, albumin, A1G, A2G, beta globulin, gamma globulin, m-spike if present pathologist interpretation
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Normal pattern
METHODOLOGY: Electrophoresis on agarose media
CLINICAL USE: Aid in detection of monoclonal gammopathies
CPT: 84165

**[ELEPROTWO] PROTEIN ELECTROPHORESIS**

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Quantitation of total protein, albumin, A1G, A2G, beta globulin, gamma globulin, m-spike if present
If pathologist consult is desired order SPE w/consult
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Normal pattern
OTHER NAMES: Electrophoresis, Serum; PE; Serum Protein
Electrophoresis; SPE
METHODOLOGY: Electrophoresis on agarose media
CLINICAL USE: Aid in detection of monoclonal gammopathies
CPT: 84165

**[ENAAB] AB EXTRACTABLE NUCLEAR AG**

SPECIMEN REQUIRED: Room temperature serum or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Anti ENA-Smith fraction, Anti RNP
Anti Sjogren's A(SSA) & Anti Sjogren's B(SSB)
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative: 0-99 U/mL
Equivocal: 100-120 U/mL
Positive: >120 U/mL
OTHER NAMES: Anti-ENA; ENA
METHODOLOGY: Flow Cytometry
CLINICAL USE: Detect antibodies associated with SLE, mixed connective tissue disease and Sjogren's syndrome
CPT: 86235 x 4

**[ENCABG] AB ENCEPHALITIS IGG**

SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: IgG antibodies to California encephalitis, St. Louis encephalitis; Eastern & Western equine encephalitis
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative
OTHER NAMES: Arboviral Encephalitis Antibodies IgG
METHODOLOGY: Indirect fluorescent antibody (IFA)
CPT: 86651, 86652, 86653, 86654

**[ENCABM] AB ENCEPHALITIS IGM**

SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: IgM antibodies to California encephalitis, St. Louis encephalitis; Eastern & Western equine encephalitis
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative
OTHER NAMES: Arboviral Encephalitis Antibodies IgM
**METHODOLOGY: Indirect fluorescent antibody (IFA)**
CPT: 86651, 86652, 86653, 86654

**[ENCCSFABG] AB ENCEPHALITIS CSF IGG**
- SPECIMEN REQUIRED: Refrigerated CSF
- TUBE OR CONTAINER: Sterile screw-cap tube
- SPECIMEN VOLUME: 1 mL
- MINIMUM VOLUME: 0.4 mL
- TEST INCLUDES: Eastern & Western Equine Encephalitis IgM Ab; St. Louis Encephalitis IgM Ab; Calif-La Crosse Enceph IgM Ab
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2-7 days
- REFERENCE RANGE: < 1:2
- OTHER NAMES: Arboviral Encephalitis Antibodies IgG
- METHODOLOGY: Immunofluorescence assay (IFA)
- CLINICAL USE: Aid in the diagnosis of arboviral infection
- CPT: 86651; 86652; 86653; 86654

**[ENCCSFABM] AB ENCEPHALITIS CSF IGM**
- SPECIMEN REQUIRED: Refrigerated CSF
- TUBE OR CONTAINER: Sterile screw-cap tube
- SPECIMEN VOLUME: 1 mL
- MINIMUM VOLUME: 0.4 mL
- TEST INCLUDES: Eastern & Western Equine Encephalitis IgG Ab; St. Louis Encephalitis IgG Ab; Calif-La Crosse Enceph IgG Ab
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2-7 days
- REFERENCE RANGE: < 1:2
- OTHER NAMES: Arboviral Encephalitis Antibodies IgM
- METHODOLOGY: Immunofluorescence assay (IFA)
- CLINICAL USE: Aid in the diagnosis of suspected arboviral encephalitis
- CPT: 86651; 86652; 86653; 86654

**[ENDAB] Endomysial IgA Antibody**
- SPECIMEN REQUIRED: Refrigerated serum
- TUBE OR CONTAINER: Red or Gold
- SPECIMEN VOLUME: 1 mL
- MINIMUM VOLUME: 0.4 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2-4 days
- REFERENCE RANGE: Negative: < 1:10
- METHODOLOGY: Indirect fluorescent antibody (IFA)
- CLINICAL USE: Aid in the diagnosis of gluten-sensitive enteropathies including celiac disease and dermatitis herpetiformis; monitor patient compliance to a gluten free diet
- CPT: 86256
**[ENDOAB] ENDOCRINE AUTOANTIBODY PANEL**

SPECIMEN REQUIRED: Refrigerated or room temperature serum  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 1 mL  
TEST INCLUDES: Adrenocortical, Gastric Parietal Cell, Islet  
Cell, Steroidal (ovarian, placental, testicular),  
Thyroglobulin, and Thyroid Microsomal  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-10 days  
REFERENCE RANGE: Negative  
METHODOLOGY: Indirect immunofluorescence, Hemagglutination  
CPT: 88347 x 6; 88376; 86800

**[ENOLCSF] CSF Neuron Specific Enolase**

SPECIMEN REQUIRED: Frozen CSF  
TUBE OR CONTAINER: Plastic sterile container  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-9 days  
REFERENCE RANGE: 1.0 - 7.0 ug/L  
METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA)  
CLINICAL USE: Elevated serum concentrations of NSE are detected  
in patients with medullary carcinoma of the  
thyroid, pancreatic islet cell tumor, pheochromocytoma, carcinoid, neuroblastoma and small-cell  
lung carcinoma (SCLC)  
CPT: 83616

**[ENTERAB] Anti-Enterocyte Antibody**

SPECIMEN REQUIRED: Frozen serum  
TUBE OR CONTAINER: Gold or Red  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-4 weeks  
METHODOLOGY:  
CPT: 88346

**[ENTPCR] Enterovirus RNA Qualitative (PCR)**

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.3 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-3 days  
REFERENCE RANGE: Not detected  
METHODOLOGY: Reverse Transcription/Polymerase Chain Reaction
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Reference Range</th>
<th>Methodology</th>
<th>Clinical Use</th>
<th>CPTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ENTTYP] Enterovirus Typing</td>
<td>Refrigerated whole blood</td>
<td>Lavender (EDTA)</td>
<td>Daily</td>
<td>4-6 days</td>
<td>None</td>
<td>HPLC</td>
<td>Investigate enterovirus infections, enterovirus replication, virus typing</td>
<td>87498</td>
</tr>
<tr>
<td>[ENZACT] Pro-Predict Enzact</td>
<td>Refrigerated whole blood</td>
<td>Lavender (EDTA)</td>
<td>Daily</td>
<td>4-6 days</td>
<td>None</td>
<td>HPLC</td>
<td>Investigate enterovirus infections, enterovirus replication, virus typing</td>
<td>82491, 82657</td>
</tr>
<tr>
<td>[EOSBL] Bronchoalveolar Lavage Eosinophils</td>
<td>Random urine</td>
<td>Sterile container or slides</td>
<td>Monday-Friday</td>
<td>1-3 days</td>
<td>None</td>
<td>Microscopic</td>
<td>Investigate allergic, asthmatic disorders, and parasitic infestations</td>
<td>87205</td>
</tr>
<tr>
<td>[EOSMRU] Urine Eosinophil Smear</td>
<td>Nasal secretions or two unfixed smears</td>
<td>Sterile container or slides</td>
<td>Monday-Friday</td>
<td>1-3 days</td>
<td>None</td>
<td>Microscopic</td>
<td>Investigate allergic, asthmatic disorders, and parasitic infestations</td>
<td>87205</td>
</tr>
<tr>
<td>[EOSNA] Eosinophil Nasal Smear</td>
<td>Nasal secretions or two unfixed smears</td>
<td>Sterile container or slides</td>
<td>Monday-Friday</td>
<td>1-3 days</td>
<td>None</td>
<td>Microscopic</td>
<td>Investigate allergic, asthmatic disorders, and parasitic infestations</td>
<td>87205</td>
</tr>
<tr>
<td>[EPM1] EPM1 DNA Test</td>
<td>Whole blood at room temperature</td>
<td>Lavender (EDTA)</td>
<td>Monday-Thursday</td>
<td>1-3 days</td>
<td>None</td>
<td>Microscopic</td>
<td>Investigate allergic, asthmatic disorders, and parasitic infestations</td>
<td>89190</td>
</tr>
</tbody>
</table>
TURNAROUND TIME: 28 days
REFERENCE RANGE: No expansion detected
METHODOLOGY: Southern blot
CLINICAL USE: Detects dodecamer repeat expansions in the cystatin B gene
CPT: 83891; 83892; 83894; 83896; 83897; 83912

|ERY| Erythropoietin

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Age specific
OTHER NAMES: EPO; Hematopoietin
METHODOLOGY: Immunochemiluminometric assay (ICMA)
CLINICAL USE: Investigate obscure anemias and the anemia of end stage renal disease
CPT: 82668

|ESTER| Esterase Stain

|ESTFR| FREE ESTRADIOL

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Gold or Red
SPECIAL HANDLING: Separate within 45 minutes of collection
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES:
TEST AVAILABILITY: Daily
TURNAROUND TIME:
REFERENCE RANGE:
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS/MS)
CPT: 82670 x 2

|ESTRA| Estradiol (E2) Level

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.6 mL
PEDIATRIC TEST INFO: Order PEDESTRA for pediatric testing.
TEST AVAILABILITY: Daily
OTHER NAMES: E2; Estradiol-17 Beta
METHODOLOGY: Chemiluminescence
CLINICAL USE: Assess hypothalamic and pituitary function; assess ovarian failure and follicular maturation. In males, E2 measurements may be helpful in the assessment of unexplained gynecomastia
CPT: 82670
# [ESTRI] Estriol Level

SPECIMEN REQUIRED: Refrigerated serum  
TUBE OR CONTAINER: Red or Gold  
SPECIAL HANDLING: State weeks of gestation  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat testing)  
TEST AVAILABILITY: Daily  
REFERENCE RANGE: Dependent on week of gestation  
OTHER NAMES: E3, Serum; Pregnancy, Estriol; Unconjugated Estriol  
METHODOLOGY: Immunochemiluminometric assay (ICMA)  
CLINICAL USE: Evaluate fetal distress and placental function in the management of patients facing complications  
CPT: 82677

# [ESTRN] Estrone (E1)

SPECIMEN REQUIRED: Frozen serum (preferred) or plasma  
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)  
SPECIAL HANDLING: Patient must avoid having radioisotope scan prior to collection of specimen;  
Nonpregnant females only  
Separate within 1 hour of collection  
SPECIMEN VOLUME: 3 mL  
MINIMUM VOLUME: 1 mL (this volume does not allow for repeat testing)  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 5-8 days  
REFERENCE RANGE: Age and gender specific  
METHODOLOGY: Liquid Chromatography tandem mass spectrometry (LC/MS/MS)  
CLINICAL USE: Evaluate postmenopausal vaginal bleeding due to peripheral conversion of androgenic steroids  
CPT: 82679

# [ESTRO] Estrogen

SPECIMEN REQUIRED: Refrigerated serum or plasma  
TUBE OR CONTAINER: Red, Gold or Green (heparin)  
SPECIAL HANDLING: Patient must avoid having radioisotope scan prior to collection of specimen  
SPECIMEN VOLUME: 2.8 mL  
MINIMUM VOLUME: 1.1 mL (this volume does not allow for repeat testing)  
PEDIATRIC TEST INFO: Order PEDESTRO for pediatric testing to be performed by Esoterix  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2 days  
REFERENCE RANGE: Age and gender specific  
METHODOLOGY: Radioimmunoassay (RIA)  
CLINICAL USE: Evaluate for ovarian estrogen producing tumor in
premenarcheal and post-menopausal female; evaluate estrogen excess in males; Estrogen analysis may be helpful in establishing time of ovulation and optimal time for conception CPT: 82672

**[ESTTM] UR ESTROGEN TIMED**

- **SPECIMEN REQUIRED:** Frozen urine (24 hour)
- **TUBE OR CONTAINER:** 24-hour "B" container (10 grams boric acid)
- Keep urine refrigerated during collection if preservative is not used
- **SPECIAL HANDLING:** Keep urine refrigerated during collection if preservative is not used
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2.5 mL
- **TEST AVAILABILITY:** Daily
- **METHODOLOGY:** Enzyme digestion, Radioimmunoassay (RIA)

CPT: 82672

**[ETC] ELECTRON TRANSPORT CHAIN**

- **SPECIMEN REQUIRED:** Skin fibroblasts at room temperature
- **TUBE OR CONTAINER:** T25 flasks
- **SPECIMEN VOLUME:** 2 confluent flasks
- **TEST AVAILABILITY:** Daily
- **METHODOLOGY:** Spectrophotometric enzyme assays

CPT: 84999; 88233

**[ETH] Ethambutol Level**

- **SPECIMEN REQUIRED:** Frozen serum or plasma
- **TUBE OR CONTAINER:** Red or Green (heparin)
- **SPECIAL HANDLING:** Do NOT collect specimen in gel barrier tube
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-9 days
- **OTHER NAMES:** Myambutol
- **METHODOLOGY:** Gas Chromatography/Mass Spectrometry (GC/MS)
- **CLINICAL USE:** Therapeutic drug monitoring

CPT: 80299

**[ETHC] Ethchlorvynol (Placidyl) Level**

- **SPECIMEN REQUIRED:** Refrigerated serum or plasma
- **TUBE OR CONTAINER:** Red, Lavender (EDTA) or Dark green (heparin)
- **SPECIAL HANDLING:** Do NOT collect specimen in gel barrier tube
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 0.6 mL
- **TEST AVAILABILITY:** Daily
- **OTHER NAMES:** Placidyl
- **METHODOLOGY:** Colorimetric
- **CLINICAL USE:** Therapeutic drug monitoring
**[ETHGLY] Ethylene Glycol**

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: None detected < 10 mg/dL
OTHER NAMES: Anti-freeze
METHODOLOGY: Gas chromatography
CLINICAL USE: Detect and quantitate ingestion of ethylene glycol
CPT: 82690

**[ETHOSP] ETHOSUXIMIDE (ZARONTIN) PROF**

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Dark green (heparin) or Lavender(EDTA)
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Therapeutic: 40 - 100 ug/mL
Potentially toxic: > 100 ug/mL
OTHER NAMES: Zarontin
METHODOLOGY: Immunoassay
CLINICAL USE: Evaluate toxicity; monitor therapeutic levels
CPT: 80168

**[ETHOT] Ethotoin Level**

SPECIMEN REQUIRED: Refrigerated serum or Plasma at
TUBE OR CONTAINER: Dark Green (heparin) or Red
SPECIAL HANDLING: Separate serum/plasma from cells within 45 minutes of collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.7 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
REFERENCE RANGE: 8.0 - 20.0 ug/ml
OTHER NAMES: Peganone
METHODOLOGY: Gas Chromatography/Flame Ionization Detection (GC-FID)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

**[ETSAVAN] E-TEST MIC, S.AUREUS VANCO**

**[EUGLYS] EUGLOBULIN CLOT LYSION PROFILE**

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-8 days
REFERENCE RANGE: 180 - 533 minutes
METHODOLOGY: Turbidometric
CLINICAL USE: Global non-specific screen of the fibrinolytic system
CPT: 85360

[EVER] Everolimus Level
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING:
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-6 days
REFERENCE RANGE:
OTHER NAMES: Zortress, Certican, Afinitor
METHODOLOGY: High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)
CLINICAL USE: Monitor immunosuppressive therapy following organ transplant
CPT: 80299

[EWSDNA] EWINGS SARCOMA RT-PCR
SPECIMEN REQUIRED: Frozen tissue or formalin fixed tissue at room temperature
TUBE OR CONTAINER: Sterile container
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-7 days
REFERENCE RANGE: No mutation detected
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83892; 83894; 83898; 83912

[F13VAL34] FACTOR 13 Val34 LEU MUTATION
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
**FAC 8 GENE INVERSION CARRIER**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)
- **SPECIAL HANDLING:** Specimen must arrive in laboratory by 1:30 p.m., Monday - Thursday only
- **SPECIMEN VOLUME:** 10 mL (2 tubes)
- **MINIMUM VOLUME:** 6 mL
- **TEST AVAILABILITY:** Monday-Thursday
- **TURNAROUND TIME:** 4 weeks
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83890 x 2; 83894 x 6; 83901 x 6; 83912

**FAC 8 KNOWN MUTATION-CARRIER**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)
- **SPECIMEN VOLUME:** 10 mL (2 tubes)
- **MINIMUM VOLUME:** 6 mL
- **TEST AVAILABILITY:** Monday-Thursday
- **TURNAROUND TIME:** 4 weeks
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83890; 83894; 83898; 83904; 83912

**FAC 8 COMP MUTATION ANALYSIS**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)
- **SPECIAL HANDLING:** Specimen must arrive in laboratory by 1:30 p.m., Monday - Thursday only
- **SPECIMEN VOLUME:** 10 mL (2 tubes)
- **MINIMUM VOLUME:** 6 mL
- **TEST AVAILABILITY:** Monday-Thursday
- **TURNAROUND TIME:** 8 weeks
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83890; 83894; 83898 x 30; 83904 x 35; 83912

**FACTOR 8 INHIBITOR PANEL**

- **SPECIMEN REQUIRED:** Frozen plasma
- **TUBE OR CONTAINER:** Blue (Citrate)
- **SPECIAL HANDLING:** Draw 3 FULL citrate tubes; tube must be filled to the fill line to ensure proper anticoagulant to blood ratio; Invert gently 3-4 times to prevent clotting
- **Send to lab immediately or centrifuge and freeze plasma**
- **Bethesda titer is not indicated and is cancelled if the factor activity is >40%.**
SPECIMEN VOLUME: 6 mL (3 tubes aliquotted with 2 mL each)
MINIMUM VOLUME: 3 mL (3 tubes aliquotted with 1 mL each)
TEST INCLUDES: APTT, APTT 1:1 NP, APTT 1:1 saline, APTT 1:1 NP
60 min. incubation, APTT 1:1 NP control 60 min.
incubation, Factor VIII Activity, Factor VIII
Bethesda Titer)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: FVIII Inhibitor: < 0.8 Bethesda units
METHODOLOGY: Clot
CPT: 85730; 85732 x 3; 85240; 85335

[F8INV1] FAC 8 INTRON 1 INV PROBAND
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30
p.m., Monday - Thursday only
SPECIMEN VOLUME: 10 mL (2 tubes)
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 4 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83894; 83900; 83901 x 2; 83912

[F8PBIa] FAC 8 INTRON INVERSION, PROBAND
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30
p.m., Monday - Thursday only
SPECIMEN VOLUME: 10 mL (2 tubes)
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 4 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83894; 83900; 83901 x 2; 83912

[F9PBSQ] FAC 9 FULL MUTATION PROBAND
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30
p.m., Monday - Thursday only
SPECIMEN VOLUME: 10 mL (2 tubes)
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 4 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83894; 83900; 83901 x 2; 83912

[FAC10] Coagulation Factor X
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled
to the fill line to ensure proper anti-
coagulant to blood ratio; Invert gently 3-4
times to prevent clotting
Send to lab immediately or centrifuge and
freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 1-3 days
REFERENCE RANGE: 70-120%
METHODOLOGY: Clot
CLINICAL USE: Document specific factor deficiency
CPT: 85260

[FAC11] Coagulation Factor XI

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled
to the fill line to ensure proper anti-
coagulant to blood ratio; Invert gently 3-4
times to prevent clotting
Send to lab immediately or centrifuge and
freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 1-3 days
REFERENCE RANGE: 50-150%
METHODOLOGY: Clot
CLINICAL USE: Document specific factor deficiency
CPT: 85270

[FAC11INH] Coagulation Factor XI Inhibitor

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled
to the fill line to ensure proper anti-
coagulant to blood ratio; Invert gently 3-4
times to prevent clotting
Send to lab immediately or centrifuge and
freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
<table>
<thead>
<tr>
<th>Test</th>
<th>SPECIMEN REQUIRED</th>
<th>TUBE OR CONTAINER</th>
<th>SPECIAL HANDLING</th>
<th>MINIMUM VOLUME</th>
<th>Testing volume</th>
<th>TEST AVAILABILITY</th>
<th>TURNAROUND TIME</th>
<th>REFERENCE RANGE</th>
<th>METHODOLOGY</th>
<th>CLINICAL USE</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coagulation Factor XII</td>
<td>Frozen plasma</td>
<td>Blue (Citrate)</td>
<td>Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting</td>
<td>1 full tube</td>
<td>2 mL of PLASMA</td>
<td>Monday-Friday</td>
<td>1-3 days</td>
<td>50-150%</td>
<td>Clot</td>
<td>Document specific factor deficiency</td>
<td>85280</td>
</tr>
<tr>
<td>Coagulation Factor XIII</td>
<td>Frozen plasma</td>
<td>Blue (Citrate)</td>
<td>Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting</td>
<td>1 full tube</td>
<td>2 mL of PLASMA</td>
<td>Monday-Friday</td>
<td>1-5 days</td>
<td>Negative</td>
<td>Clot</td>
<td>Document specific factor deficiency</td>
<td>85291</td>
</tr>
<tr>
<td>Coagulation Factor II</td>
<td>Frozen plasma</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**CPT Codes**:
- Coagulation Factor XII: 85335
- Coagulation Factor XIII: 85280
- Coagulation Factor II: 85291

**Additional Information**:
- Testing volume: 1 mL of PLASMA or 2 mL of PLASMA
- Minimum volume: 1 full tube
- Turnaround time:
  - Coagulation Factor XII: 1-7 days
  - Coagulation Factor XIII: 1-5 days
  - Coagulation Factor II: Not specified
- Reference ranges:
  - Coagulation Factor XII: 50-150%
  - Coagulation Factor XIII: Negative
  - Coagulation Factor II: Not specified
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled
to the fill line to ensure proper anti-
coagulant to blood ratio; Invert gently 3-4
times to prevent clotting
Send to lab immediately or centrifuge and
freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 1-3 days
REFERENCE RANGE: 70-130%
METHODOLOGY: Clot
CLINICAL USE: Document specific factor deficiency
CPT: 85210

[FAC2INH] Coagulation Factor II Inhibitor

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled
to the fill line to ensure proper anti-
coagulant to blood ratio; Invert gently 3-4
times to prevent clotting
Send to lab immediately or centrifuge and
freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-7 days
REFERENCE RANGE: 0.0-0.6 BU
CPT: 85335

[FAC5] Coagulation Factor V

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled
to the fill line to ensure proper anti-
coagulant to blood ratio; Invert gently 3-4
times to prevent clotting
Send to lab immediately or centrifuge and
freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Monday-Friday
<table>
<thead>
<tr>
<th><strong>[FAC5HR2]</strong>  FACTOR V HR2 HAPLOTYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Refrigerate if &gt; 1 day delay</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Friday</td>
</tr>
<tr>
<td>TURNAROUND TIME: 5-7 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Normal</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83890; 83892; 83894; 83898</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[FAC5INH]</strong>  Coagulation Factor V Inhibitor</th>
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</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Frozen plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Blue (Citrate)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting</td>
</tr>
<tr>
<td>Send to lab immediately or centrifuge and freeze plasma</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 full tube</td>
</tr>
<tr>
<td>Testing volume: 2 mL of PLASMA</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 full tube</td>
</tr>
<tr>
<td>Testing volume: 1 mL of PLASMA</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 1-7 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.0-0.6 BU</td>
</tr>
<tr>
<td>CPT: 85335</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[FAC5MUT]</strong>  FACTOR V MUTATION (LEIDEN)</th>
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</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Refrigerate if &gt; 1 day delay</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Friday</td>
</tr>
<tr>
<td>TURNAROUND TIME: 5-7 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Normal</td>
</tr>
<tr>
<td>OTHER NAMES: Factor V Leiden DNA; Leiden factor</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR) followed by</td>
</tr>
</tbody>
</table>
restriction enzyme digestion and gel electrophoresis
CLINICAL USE: Detects Leiden mutation in factor V gene, causing increased risk of thrombosis
CPT: 83890, 83896 x 2, 83898, 83903, 83912

[FAC7] Coagulation Factor VII

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anticoagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 1-3 days
REFERENCE RANGE: 70-120%
METHODOLOGY: Clot
CLINICAL USE: Document specific factor deficiency
CPT: 85230

[FAC8] Coagulation Factor VIII

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anticoagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: 50-150%
METHODOLOGY: Clot detection
CLINICAL USE: Document specific factor deficiency
CPT: 85240

[FAC8INH] Coagulation Factor VIII Inhibitor

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled
to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-7 days
REFERENCE RANGE: 0.0-0.6 BU
CPT: 85335

[FAC8P] Coagulation Factor VIII

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
Identify specimen as "PEAK"
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: 70-120%
METHODOLOGY: Clot detection
CLINICAL USE: Document specific factor deficiency
CPT: 85240

[FAC8T] Coagulation Factor VIII

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
Identify specimen as "TROUGH"
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
**[FAC9] Coagulation Factor IX**

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Blue (Citrate)  
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma  
SPECIMEN VOLUME: 1 full tube  
Testing volume: 2 mL of PLASMA  
MINIMUM VOLUME: 1 full tube  
Testing volume: 1 mL of PLASMA  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 24 hours  
REFERENCE RANGE: 50-150%  
METHODOLOGY: Clot detection  
CLINICAL USE: Document specific factor deficiency  
CPT: 85250

**[FAC9INH] Coagulation Factor IX Inhibitor**

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Blue (Citrate)  
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma  
SPECIMEN VOLUME: 1 full tube  
Testing volume: 2 mL of PLASMA  
MINIMUM VOLUME: 1 full tube  
Testing volume: 1 mL of PLASMA  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 1-7 days  
REFERENCE RANGE: 0.0 - 0.81%  
CPT: 85335

**[FACIDNA] COMPLEMENT FACTOR I DNA**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 4 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 12; 83904 x 12; 83912

[FACIIIPOLYM]  PT 20210 (FAC II POLYMORPHISM)

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING: Refrigerate if > 1 day delay
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 5-7 days
OTHER NAMES: Prothrombin DNA; PT20210; Prothrombin Gene Mutation; Factor II Polymorphism
METHODOLOGY: Polymerase Chain Reaction (PCR) and Restriction enzyme digestion
CLINICAL USE: Detects mutation in factor II gene, causing increased risk of thrombosis
CPT: 83890, 83896 x 2, 83898, 83903, 83912

[FACXIII]  Coagulation Factor VIII Activity

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-9 days
REFERENCE RANGE: 60-150%
METHODOLOGY: Chromogenic
CLINICAL USE: Document specific factor deficiency
CPT: 85290

[FALS]  FAM AMYTROPIC LATERAL SCLEROS

SPECIMEN REQUIRED: Room temperature whole blood
TUBE OR CONTAINER: EDTA (lavender)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR) amplification of exons 1-5 of the SOD gene and DNA sequencing
CPT: 83890; 83894; 83898 x 5; 83904 x 12; 83912

[FAMDY]  FAMILIAL DYSAUTONOMIA
<table>
<thead>
<tr>
<th>[FAPDD]</th>
<th>FAP DUPLICATION/DELETION</th>
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</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
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<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 14 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 6 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 3 weeks</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
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<tr>
<td>CPT: 83891; 83900; 83901 x 10; 83909; 83914 x 10; 83912</td>
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<table>
<thead>
<tr>
<th>[FAPFAM]</th>
<th>FAP EACH ADDT'L FAMILY MEMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
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<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 14 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 6 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-6 weeks</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: No mutation detected</td>
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<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
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<td>CPT: 83891; 83898; 83903; 83904 x 2; 83912</td>
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<tr>
<th>[FAPLINK]</th>
<th>FAMILIAL ADENOMATOUS POLYPOSIS</th>
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<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
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<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
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<tr>
<td>MINIMUM VOLUME: 1 mL</td>
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</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 15-20 days</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: To identify individuals at risk for colon cancer</td>
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<td>CPT: 83890; 83898 x 3; 83903 x 3; 83912</td>
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<table>
<thead>
<tr>
<th>[FAPMUT]</th>
<th>FAP MUTATION SCREEN</th>
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<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
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</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 14 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 6 mL</td>
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</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 6 weeks</td>
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<tr>
<td>OTHER NAMES: APC Sequencing</td>
<td></td>
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<tr>
<td>METHODOLOGY: Polymerase chain reaction (PCR)</td>
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<table>
<thead>
<tr>
<th>[FAT72STL]</th>
<th>STOOL FAT 72HR</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated 72 hour stool collection</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Special container (please contact lab to obtain special container)</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Not recommended on a collection for less than 72 hours</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: Entire collection</td>
<td></td>
</tr>
</tbody>
</table>
TEST INCLUDES: Stool weight and fat content (in g/24 hours)
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: Adults: < 7.0 g/24 hours
Pediatric (0-6 years): < 2.0 g/24 hours
OTHER NAMES: Fecal Lipids; Quantitative Fecal Fat; Stool Fat
METHODOLOGY: Extraction/spectophotometry
CLINICAL USE: Useful in diagnosis of cystic fibrosis, chronic pancreatitis, neoplasia, or stone obstruction;
Also useful in regional enteritis, tuberculosis enteritis, celiac disease, Sprue, and the atrophy of malnutrition
CPT: 82710

[FATACID] FATTY ACID ESSENTIAL (C12-C22)

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Gold or Red
SPECIAL HANDLING: Patient must be fasting (12-14 hours) and must not consume any alcohol for 24 hours before specimen is drawn
SPECIMEN VOLUME: 1 ml
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-8 days
METHODOLOGY: Gas Chromatography-Mass Spectrometry (GC-MS)
Stable Isotope Dilution Analysis
CPT: 82544

[FATSTLQL] STOOL FAT QUALITATIVE

SPECIMEN REQUIRED: Refrigerated fresh stool (random)
TUBE OR CONTAINER: Screw-capped plastic container
SPECIMEN VOLUME: 3 grams
MINIMUM VOLUME: 0.5 gram
TEST INCLUDES: Neutral and total fats
TEST AVAILABILITY: Daily
REFERENCE RANGE: Total fats (neutral fats, soaps, and fatty acids): normal (Neutral fats: normal (OTHER NAMES: Fatty Acid, Stool; Fecal Fat Stain; Neutral Fat, Stool; Qualitative Fat; Sudan IV Stain, Stool
METHODOLOGY: Microscopic examination, following staining with Sudan IV
CLINICAL USE: Detect the presence of fecal fatty acids and neutral fat
CPT: 82705

[FATACOMP] FATTY ACID COMPREHENSIVE C8-26

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Patient must be fasting (12-14 hours) and must not consume any alcohol for 24 hours
before specimen is drawn  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 4-7 days  
METHODOLOGY: Gas Chromatography-Mass Spectrometry (GC-MS)  
Stable Isotope Dilution Analysis  
CPT: 82544

<table>
<thead>
<tr>
<th>FBN2</th>
<th>FBN2 GENE (CCA-BEALS SYNDROME)</th>
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</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-4 weeks</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Congenital Contractural Arachnodactyly (Beals Syndrome) via FBN2 Gene Sequencing</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Polyermase Chain Reaction (PCR)</td>
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</tr>
<tr>
<td>CPT: 83890; 83891; 83894; 83895 x 67; 83904 x 67; 83912</td>
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<thead>
<tr>
<th>FD</th>
<th>FAMILIAL DYSAUTONOMIA (FD)</th>
</tr>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood room temperature</td>
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<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
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<tr>
<td>SPECIMEN VOLUME: 14 mL</td>
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</tr>
<tr>
<td>MINIMUM VOLUME: 3 mL</td>
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</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 3 weeks</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: IKBKAP gene sequencing</td>
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</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Confirmation of clinical diagnosis</td>
<td></td>
</tr>
<tr>
<td>CPT: 83891; 83898; 83914 x 2; 83912</td>
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</table>

<table>
<thead>
<tr>
<th>FDH</th>
<th>FOCAL DERMAL HYPOPLASIA(PORCN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Room temperature whole blood</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 14 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 6 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 4 weeks</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
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<tr>
<td>CPT: 83891; 83894; 83898 x 11; 83904 x 22; 83909 x 22; 83912</td>
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<table>
<thead>
<tr>
<th>FEB</th>
<th>FEBRILE AGGLUTININS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES:</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Friday</td>
<td></td>
</tr>
</tbody>
</table>
**[FELB] Felbamate Level**

- **SPECIMEN REQUIRED:** Refrigerated serum or plasma
- **TUBE OR CONTAINER:** Red, Dark green (heparin) or Lavender (EDTA)
- **SPECIAL HANDLING:** Do NOT collect in gel barrier tube
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 0.6 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-3 days
- **REFERENCE RANGE:** Therapeutic: 25-104 ug/mL
- **OTHER NAMES:** Felbatol
- **METHODOLOGY:** High-Pressure liquid chromatography (HPLC)
- **CLINICAL USE:** Evaluate toxicity and monitor therapeutic level
- **CPT:** 80299

**[FER] Ferritin**

- **SPECIMEN REQUIRED:** Refrigerated plasma or serum
- **TUBE OR CONTAINER:** Light Green (heparin) or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 1-3 days
- **REFERENCE RANGE:** Males: 10-240 ng/mL
  Females: 10-105 ng/mL
- **METHODOLOGY:** Chemiluminescence
- **CLINICAL USE:** Useful in the differential diagnosis of hypochromic, microcytic anemias
- **CPT:** 82728

**[FETIBC] IRON W/TOTAL IRON BINDING CAP**

- **SPECIMEN REQUIRED:** Refrigerated plasma or serum
- **TUBE OR CONTAINER:** Light Green or Gold
- **SPECIMEN VOLUME:** 3 mL
- **MINIMUM VOLUME:** 1.5 mL
- **TEST INCLUDES:** Total Iron, Total Iron Binding Capacity, Transferrin and %Iron saturation
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8 hours
- **REFERENCE RANGE:** TIBC: 250 - 400 ug/dL
  See individual tests for iron & transferrin
- **METHODOLOGY:** Timed endpoint
- **CLINICAL USE:** Differential diagnosis of anemia
- **CPT:** 83540; 84466

**[FETMAT] FETAL MATURITY PROFILE/FLM**
SPECIMEN REQUIRED: Amniotic fluid
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Must be received in the laboratory by 11:00 a.m for same day results; Specimens received after 12:00 p.m. will ONLY report FLM results; LS/PG result will be report the next work day
Protect specimen from light
SPECIMEN VOLUME: 8 mL
MINIMUM VOLUME: 5 mL
TEST INCLUDES: Fetal lung maturity (FLM); Phosphatidylglycerol (PG); Lecithin/Sphingomyelin ratio (LS)
TEST AVAILABILITY: LS/PG: Monday-Friday only
FLM: Daily
TURNAROUND TIME: 1-3 days
REFERENCE RANGE: See individual test
METHODOLOGY: Chromatography
CLINICAL USE: Attempt to prevent respiratory distress syndrome from low surfactant in early delivery, by evaluation of fetal pulmonary maturation
CPT: 83661; 83663; 84081

[FFA] Free Fatty Acids
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Collect specimen following a 12 hour fast;
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: 0.1-0.6 mEq/L
OTHER NAMES: NEFA; Nonesterified Free Fatty Acids
METHODOLOGY: Spectrophotometric
CLINICAL USE: Helpful in the diagnosis and management of certain diseases and disorders of metabolism and in the evaluation of prospective causes of hyperlipoproteinemia
CPT: 82725

[FFN] Fetal Fibronectin
SPECIMEN REQUIRED: Refrigerated swab in transport tube
TUBE OR CONTAINER: Sterile swab provided by laboratory
SPECIAL HANDLING: Must be tested within 8 hours of collection
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 hours
REFERENCE RANGE: Negative
METHODOLOGY: Solid-phase immunosorbent
CLINICAL USE: Predictive of high risk preterm delivery
CPT: 82731

[FGD1] AARSKOG-SCOTT SYNDROME (FGD1)
### SPECIMEN REQUIRED
Whole blood at room temperature

### TUBE OR CONTAINER
Lavender (EDTA) or Yellow (ACD)

### SPECIMEN VOLUME
5 mL

### MINIMUM VOLUME
1 mL

### TEST AVAILABILITY
Daily

### TURNAROUND TIME
4 weeks

### OTHER NAMES
Faciogenital Dysplasia, Faciodigitogenital Syndrome, Faciogenital Dysplasia with Attention Deficit-Hyperactivity Disorder, FGD1 Gene Sequencing

### METHODOLOGY
Polymerase chain reaction (PCR)

### CPT
83891; 83894; 83898 x 18; 83904 x 36; 83909 X 36; 83912

<table>
<thead>
<tr>
<th>[FGFR] CRANIOSYNOSTOSIS/FGFR</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: FGFR 1, 2 and 3</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 3 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: PCR amplification and DNA sequencing of exon 7 and 9 (IIIA and IIIC) of the FGFR2 gene, and point mutation testing of the FGFR1 and FGFR3 genes</td>
</tr>
<tr>
<td>CPT: 83890; 83892 x 6; 83894 x 3; 83898 x 6; 83904 x 6; 83912</td>
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<table>
<thead>
<tr>
<th>[FGFR2SEQ] CRANIOSYNOSTOSIS/FGFR2 GENE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
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<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
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<tr>
<td>MINIMUM VOLUME: 2 mL</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
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<tr>
<td>TURNAROUND TIME: 4-6 weeks</td>
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<td>METHODOLOGY: PCR amplification and DNA sequencing of exon 7 and 9 (IIIA and IIIC) of the FGFR2 gene</td>
</tr>
<tr>
<td>CPT: 83890; 83892 x 2; 83894 x 23; 83904 x 48; 83909; 83912</td>
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</table>

<table>
<thead>
<tr>
<th>[FHAB] Complement Factor H</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 3 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 1 month</td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative</td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme Linked Immuno-Sorbent Assay (ELISA)</td>
</tr>
<tr>
<td>CPT: 83516</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>[FHM] FAMILIAL HEMIPLEGIC MIGRAINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum</td>
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<tr>
<td>TUBE OR CONTAINER: Red</td>
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<tr>
<td>SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube</td>
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<tr>
<td>SPECIMEN VOLUME: 3 mL</td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative</td>
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<tr>
<td>METHODOLOGY: Enzyme Linked Immuno-Sorbent Assay (ELISA)</td>
</tr>
<tr>
<td>CPT: 83516</td>
</tr>
</tbody>
</table>
SPECIMEN REQUIRED: Whole blood at room temperature

TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 4-6 weeks
REFERENCE RANGE: No sequence variation detected

METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA sequencing
CPT: 83891; 83898 x 54; 83904 x 54; 83909 x 54; 83912 (FHM1)

[FIB] Fibrinogen

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube MUST be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
Patient should not receive heparin within 1 hour of collection
PT, PTT & Fibrinogen may be performed on one full tube
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-4 hours
REFERENCE RANGE: 150-450 mg/dL
OTHER NAMES: Clottable Fibrinogen; Factor I Activity
METHODOLOGY: Clot detection
CLINICAL USE: Identify congenital afibrinogenemia, disseminated intravascular coagulation, and fibrinolytic activity
CPT: 85384

[FIBAG] Fibrinogen Antigen

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 0.5 mL of PLASMA
TEST AVAILABILITY: Daily
REFERENCE RANGE: 180-350 mg/dL
METHODOLOGY: Immunonephelometry
CLINICAL USE: Diagnosis of homozygous and heterozygous fibrinogen deficiency as well as dysfibrinogenemia
Used in the diagnosis of disseminated intravascular coagulation
CPT: 85385

[FIBROS] FIBROSPECT
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-7 days
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA); Nephelometry
CPT: 80299; 83520; 83883

[FIG4] CMT TYPE 4J VIA FIG4 GENE
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 pm, Monday-Thursday only
Ship same day as collected
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday - Thursday
TURNAROUND TIME: 2-3 weeks
REFERENCE RANGE: No sequence variation detected
OTHER NAMES: Charcot-Marie-Tooth Disease, Type 4J
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA sequencing
CLINICAL USE: Detects sequence variations in the FIG4 gene
CPT: 83891; 83898 x 23; 83904 x 23; 83909 x 23; 83912

[FILARIAIGG] Filaria IgG Antibody
SPECIMEN REQUIRED: Refrigerated or frozen serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 1 ml
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-9 days
REFERENCE RANGE: 0.8 IV or less: Negative
0.9-1.0 IV: Equivocal
1.1 IV or greater: Positive
METHODOLOGY: Enzyme-linked Immunosorbent Assay (ELISA)
CPT: 86682
### [FKTN] FUKUTIN (FKTN) GENE SEQUENCING

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-5 weeks
- **METHODOLOGY:** Polymerase chain reaction (PCR)
- **CPT:** 83890; 83891; 83894; 83898 x 8; 83904 x 8; 83912

### [FLDBG] FLUID BLOOD GAS

- **SPECIMEN REQUIRED:** Body fluid in syringe on ice
- **TUBE OR CONTAINER:** Heparinized syringe on ice
- **SPECIAL HANDLING:** Remove needle from syringe; cap tightly; must be tested within two hours of collection
- **Specify source of fluid**
- **REJECTION:** Reject if not received on ice or within one hour of collection.
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST INCLUDES:** pH and pCO2
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8 hours
- **REFERENCE RANGE:** None established
- **METHODOLOGY:** Electrochemical
- **CPT:** 83986

### [FLDBIL] Body Fluid Total Bilirubin

- **SPECIMEN REQUIRED:** Refrigerated body fluid
- **TUBE OR CONTAINER:** Light Green (heparin) or Gold
- **SPECIAL HANDLING:** Specify source of fluid and protect from light
- **SPECIMEN VOLUME:** Adult: 1.0 mL
  Pediatric: 0.6 mL
- **MINIMUM VOLUME:** Adult: 0.5 mL
  Pediatric: 0.5 mL or 1/2 microtainer
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8 hours
- **REFERENCE RANGE:** None established
- **METHODOLOGY:** Timed-endpoint Diazo
- **CPT:** 82247

### [FLDCD4CD8] HELPER/SUPPRESSOR FLD PROFILE

- **SPECIMEN REQUIRED:**
- **TUBE OR CONTAINER:**
- **SPECIAL HANDLING:**
- **SPECIMEN VOLUME:**
- **MINIMUM VOLUME:**
- **PEDIATRIC TEST INFO:**
- **TEST INCLUDES:** CD4 and CD8
- **TEST AVAILABILITY:**
**[FLDSPE] BODY FLD PROT ELECTROPHORESIS**

- **SPECIMEN REQUIRED:** Refrigerated body fluid
- **TUBE OR CONTAINER:** Sterile container
- **SPECIAL HANDLING:** State source of fluid and age of patient
- **SPECIMEN VOLUME:** 6 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST INCLUDES:** Determination of proteins seen in the electrophoresis; total protein
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-5 days
- **REFERENCE RANGE:** None established
- **METHODOLOGY:** Electrophoresis on agarose media
- **CPT:** 84166

**[FLECP] FLECAINIDE (TAMBOCOR) PROFILE**

- **SPECIMEN REQUIRED:** Refrigerated serum or plasma
- **TUBE OR CONTAINER:** Red, Dark green (heparin) or Lavender (EDTA)
- **SPECIAL HANDLING:** Do NOT collect in gel barrier tube
- **SPECIMEN VOLUME:** 3 mL
- **MINIMUM VOLUME:** 1.1 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** 0.2 - 1.0 ug/mL (therapeutic)
- **OTHER NAMES:** Tambocor
- **METHODOLOGY:** Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
- **CLINICAL USE:** Monitor therapeutic drug level
- **CPT:** 80299

**[FLM] Amniotic Fluid Fetal Lung Maturity**

- **SPECIMEN REQUIRED:** Amniotic fluid
- **TUBE OR CONTAINER:** Sterile container
- **SPECIAL HANDLING:** Protect specimen from exposure to light
- **SPECIMEN VOLUME:** 3 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 24 hours
- **REFERENCE RANGE:** Mature: 55 mg/G or greater
  Inconclusive: 40-54 mg/G(evaluate with caution)
  Immature: METHODOLOGY: Chromatography
- **CLINICAL USE:** Attempt to prevent respiratory distress syndrome from low surfactant in early delivery, by evaluation of fetal pulmonary maturation
- **CPT:** 83663
**[FLT3] FLT3 INTERNAL TANDEM DUP**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 5-7 days
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83890; 83892; 83900; 83909; 83912

**[FLT4-1] FLT4 GENE SEQUENCING TIER 1**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4-6 weeks
- **OTHER NAMES:** Milroy Disease; Lymphedema Type 1
- **METHODOLOGY:** DNA Sequencing
- **CPT:** 83890; 83891; 83894; 83898 x 8; 83904 x 8; 83912

**[FLT4-2] FLT4 GENE SEQUENCING TIER 2**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4-6 weeks
- **OTHER NAMES:** Milroy Disease; Lymphedema Type 1
- **METHODOLOGY:** DNA Sequencing
- **CPT:** 83890; 83891; 83894; 83898 x 22; 83904 x 22; 83912

**[FLUCON] Fluconazole Level**

- **SPECIMEN REQUIRED:** Refrigerated or frozen serum or plasma
- **TUBE OR CONTAINER:** Red or Lavender (EDTA)
- **SPECIAL HANDLING:** Do NOT collect specimen in gel barrier tube
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4-7 days
- **OTHER NAMES:** Diflucan
- **METHODOLOGY:** High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)
- **CLINICAL USE:** Therapeutic Drug Monitoring
- **CPT:** 80299

**[FLUNIT] FLUNITRAZEPAM SCREEN**

- **SPECIMEN REQUIRED:** Frozen serum or plasma
- **TUBE OR CONTAINER:** Red or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: 7-Amino Flunitrazepam and Flunitrazepam
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
OTHER NAMES: Rohypnol; Roofies; Date Rape drug
METHODOLOGY: Gas Chromatography/Mass Spectrometry (GC/MS)
CPT: 80101

[FLUOR] Fluoride Level
SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Red or Royal blue (EDTA)
SPECIAL HANDLING: Do NOT collect in gel barrier tube; separate within 45 minutes of collection
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1.1 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Environmental exposure: < 0.2 mg/L
METHODOLOGY: Ion-selective electrode (ISE) potentiometry
CLINICAL USE: Monitor chronic exposure to fluoride
CPT: 82735

[FLUOX] FLUOXETINE (PROZAC)
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Dark green (heparin) or Lavender (EDTA)
SPECIAL HANDLING: Do NOT use a serum-separator tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.6 mL
TEST INCLUDES: Fluoxetine and its metabolite - Norfluoxetine
TEST AVAILABILITY: Daily
REFERENCE RANGE: Fluoxetine: 91-302 ng/mL (therapeutic)
Norfluoxetine: 72 - 258 ng/mL
OTHER NAMES: Prozac; Sarafem; Rapiflux
METHODOLOGY: High-pressure liquid chromatography (HPLC)
CLINICAL USE: Useful in treating patients with atypical depression, panic disorder, and the depressed component of bipolar disorder
CPT: 80299

[FLUP] Fluphenazine Level
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Dark green (heparin) or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect in gel barrier tube; separate within 45 minutes of collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: 0.3-4.0 ng/mL
OTHER NAMES: Prolixin; Permitil
METHODOLOGY: Liquid chromatography/Mass spectrometry (LC/MS)
CLINICAL USE: Therapeutic drug monitoring
CPT: 84022

[FMF] FAMILIAL MEDITERRANEAN FEVER
SPECIMEN REQUIRED: Whole blood at room temperature or buccal swabs
TUBE OR CONTAINER: Lavender (EDTA) or Buccal swabs
SPECIMEN VOLUME: 3 mL or 2 swabs
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6 weeks (new patient)
METHODOLOGY: Bi-directional sequence analysis
CPT: 83891 x 5; 83892 x 2; 83894 x 5; 83898 x 5; 83904 x 10; 83912

[FMHIV] HIV1/2 RAPID SCREEN
SPECIMEN REQUIRED: EDTA whole blood/plasma or Heparin plasma
TUBE OR CONTAINER: Lavender (EDTA), Green (heparin)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 hour
REFERENCE RANGE: Negative
METHODOLOGY: Rapid Immunoassay
CLINICAL USE: Detect the presence of HIV-1/2 antibodies
CPT: 86701

[FMHPYLORI] Helicobacter pylori Screen
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 hours
REFERENCE RANGE: Negative
METHODOLOGY: Rapid Enzyme Immunoassay
CLINICAL USE: Screening method to detect IgG antibodies to Helicobacter pylori
CPT: 86677

[FMSEMEM] SEMEN POST VASECTOMY FAM MEDCL
SPECIMEN REQUIRED: Submit semen in a tightly capped sterile container
TUBE OR CONTAINER: Clean catch. Specimens collected in polypolyethylene connainers (urine container) must be examined immediately upon liquefaction or transferred to glass container since motility of the sperm declines more rapidly when stored in plastic.
SPECIAL HANDLING: Do not submit specimen in condom
SPECIMEN VOLUME: 1 mL
TESTS INCLUDED: Test includes volume, pH, presence or absence of sperm
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-8 hours
NORMAL TEST VALUES: NONE SEEN
METHODOLOGY: Microscopic examination for presence or absence of sperm
CLINICAL INFORMATION: Determining success of vasectomy

[FMT] FAM MEDULLARY THYROID CARCINOM
SPECIMEN REQUIRED: Whole blood or buccal swab at room temperature
TUBE OR CONTAINER: Lavender (EDTA), Yellow (ACD) or swab
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Sequencing of exons 10, 11, 13-16
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 weeks
METHODOLOGY: Direct mutation analysis by Polymerase Chain Reaction (PCR)
CPT: 83891; 83892 x 3; 83894 x 3; 83898 x 2; 83900; 83901 x 2
83909 x 12; 83912

[FOL] Folate
SPECIMEN REQUIRED: Refrigerated or frozen serum
TUBE OR CONTAINER: Gold or Red
SPECIAL HANDLING: Avoid hemolysis and protect from light
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: >2.6 ng/mL
METHODOLOGY: Chemiluminescence
CLINICAL USE: Detect folate deficiency; monitor therapy with folate; evaluate megaloblastic & macrocytic anemia
CPT: 82746

[FOLRBCP] FOLIC ACID RBC PROFILE
SPECIMEN REQUIRED: Frozen AND refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Draw 2 EDTA tubes; Transfer whole blood specimen from one tube to plastic transport tube and freeze. Refrigerate second whole blood tube (keep in original tube)
SPECIMEN VOLUME: 2 FULL tubes
TEST INCLUDES: RBC folate and hematocrit
TEST AVAILABILITY: Daily
REFERENCE RANGE: 468 - 1258 ng/mL
METHODOLOGY: Electrochemiluminescence Immunoassay (ECLIA)
CLINICAL USE: Evaluate megablastic and macrocytic anemia
CPT: 82747; 85014

<table>
<thead>
<tr>
<th>FORM</th>
<th>Formic Acid Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum or plasma</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Dark Green (heparin)</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.3 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 3-9 days</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Methanoic acid; Formate</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Ion chromatography (IC)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Exposure monitoring</td>
<td></td>
</tr>
<tr>
<td>CPT: 83921</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>FORMU</th>
<th>Urine Formic Acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated random urine</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Urine container</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Collect sample prior to the last shift of the work week</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 30 mL</td>
<td></td>
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<tr>
<td>MINIMUM VOLUME: 3 mL</td>
<td></td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 7-10 days</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: UP TO 65 mg/L</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Headspace Gas Chromatography/Flame Ionization Detection (GC-FID)</td>
<td></td>
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<tr>
<td>CLINICAL USE: Exposure monitoring</td>
<td></td>
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<tr>
<td>CPT: 83921</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>FOSPHEN</th>
<th>Fosphenytoin (Cerebyx) Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum or plasma</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red, Lavender (EDTA) or Gray(Sodium Fluoride)</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.7 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 3-6 days</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Cerebyx</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: High Performance Liquid Chromatography (HPLC)</td>
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</tr>
<tr>
<td>CLINICAL USE: Therapeutic drug monitoring</td>
<td></td>
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<tr>
<td>CPT: 80185</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>FOSRES</th>
<th>FOSCARNET RESISTANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Actively growing isolate at room temperature</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Media tube</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Foscavir</td>
<td></td>
</tr>
</tbody>
</table>
METHODOLOGY: Plaque reduction assay
CLINICAL USE: Measures the extent to which various concentrations of Foscarnet inhibit the growth of virus in cell culture
CPT: 87252; 87253

[FOXC1] FOXC1 GENE ANALYSIS
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
REFERENCE RANGE: No mutation detected
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Confirmation of clinical diagnosis
CPT: 83891 x 4; 83892 x 2; 83894 x 4; 83898 x 8; 83904 x 8; 83912

[FOXC2] FOXC2 GENE SEQ (LYMPHEDEMA)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
REFERENCE RANGE: No mutation detected
OTHER NAMES: Hereditary Lymphedema II
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Confirmation of clinical diagnosis
CPT: 83890; 83891; 83894; 83898; 83904; 83912

[FOXF1] FOXF1 GENE ANALYSIS
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 weeks
REFERENCE RANGE: No mutation detected
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Confirmation of clinical diagnosis
CPT: 83891; 83894; 83898 x 4; 83904 x 8; 83909 x 8; 83912

[FOXG1] FOXG1 GENE SEQUENCING
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
OTHER NAMES: Congenital Variant of Rett Syndrome
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 5; 83904 x 10; 83909 x 10; 83912

[FOXL2] BPES VIA FOXL2 GENE
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Must be received in laboratory by 1:30 pm, Monday-Thursday only; refrigerate until shipment
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2-3 weeks
REFERENCE RANGE: No mutation detected
OTHER NAMES: Blepharophimosis- ptosis-epicanthus inversus syndrome (BPES)
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898; 83904 x 3; 83912

[FOXP3] FOXP3 GENE SEQUENCING (IPEX)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 month
REFERENCE RANGE: No mutation detected
OTHER NAMES: X-linked immunodysregulation, polyendocrinopathy, enteropathy syndrome (IPEX)
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891 x 7; 83894 x 7; 83898 x 7; 83904 x 14; 83909 x 14; 83912

[FRAGX] FRAGILE X DNA ANALYSIS
SPECIMEN REQUIRED: Whole blood; refrigerated or room temp
TUBE OR CONTAINER: Yellow (ACD) or Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 1-3 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83892 x 2, 83894; 83896; 83897; 83898; 83912

[FRANCAB] Francisella tularensis Antibody
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 days
REFERENCE RANGE: Negative: METHODOLOGY: Direct Agglutination
CLINICAL USE: Serological aid for the diagnosis of tularemia
CPT: 86000

<table>
<thead>
<tr>
<th>FRAXE</th>
<th>FRAXE DNA ANALYSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
<td></td>
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<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
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<tr>
<td>SPECIMEN VOLUME: 10 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-3 weeks</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase chain reaction (PCR)</td>
<td></td>
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<tr>
<td>CPT: 83890; 83898; 83909; 83912</td>
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</tbody>
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<table>
<thead>
<tr>
<th>FRDA</th>
<th>FRIEDICH'S ATAXIA DNA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 10-12 days</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Fluorescent PCR sizing of the GAA region of the frataxin gene</td>
<td></td>
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<tr>
<td>CPT: 83890; 83894; 83898 x 4; 83903 x 4; 83912</td>
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<table>
<thead>
<tr>
<th>FRUC</th>
<th>Fructosamine</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Room temperature serum or plasma</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red, Gold, Green (heparin) or Lavender (EDTA)</td>
<td></td>
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<tr>
<td>SPECIAL HANDLING: Separate from clot within 45 minutes</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 3-4 days</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Colorimetric</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Evaluate diabetic control, reflecting diabetic control over a shorter time period (2-3 weeks) than that represented by hemoglobin A1C</td>
<td></td>
</tr>
<tr>
<td>CPT: 82985</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>FRUCLIV</th>
<th>Liver Biopsy Fructose</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen liver tissue</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile container</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: Fructose-1-Phosphatase, Fructose 1,6 diphosphatase, Fructose 1-Phosphate Aldolase B</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
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<tr>
<td>TURNAROUND TIME: 2-3 weeks</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Enzymatic</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Definitive diagnosis of both fructose aldolase B</td>
<td></td>
</tr>
</tbody>
</table>
and fructose-1,6 diphosphatase deficiencies
CPT: 82657

<table>
<thead>
<tr>
<th>FSGS</th>
<th>FOCAL &amp; SEGMENT GLOMERULOSCLER</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated whole blood</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 pm Monday through Thursday only</td>
<td></td>
</tr>
<tr>
<td>Must arrive at performing lab on a weekday</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 10 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Thursday</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-3 weeks</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Inherited Focal and Segmental Glomerulosclerosis Evaluation</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase chain reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Detects sequence variations in the ACTN4, TRPC6, and HPHS2 genes</td>
<td></td>
</tr>
<tr>
<td>CPT: 83891; 83898 x 43; 83904 x 43; 83909; 83912</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>FSH</th>
<th>Follicle Stimulating Hormone</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated plasma or serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Light Green (heparin), Gold or Red</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.6 mL</td>
<td></td>
</tr>
<tr>
<td>PEDIATRIC TEST INFO: Order PEDFSH for pediatric reference range</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 24 hours</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: Females: Follicular phase: 4.1-12.6 Mid-cycle peak: 5.0-21.0 Luteal phase: 2.1-12.6 Postmenopausal: 19.3-131.0 Males: 1.0-7.9</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Pituitary Gonadotropin</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Chemiluminescence</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Useful to distinguish primary gonadal failure from secondary (hypothalamic/pituitary) causes of gonadal failure, menstrual disturbances and amenorrhea. Useful in defining menstrual cycle phases in infertility evaluation of women and testicular dysfunction in men</td>
<td></td>
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<tr>
<td>CPT: 83001</td>
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</tbody>
</table>

| FSHDSEQ | FACIOSCAPULOHUMERAL DYS | |
|--------|-------------------------|
| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIAL HANDLING: Must arrive in laboratory by 1:30 pm, Monday-Friday only |
| ship same day specimen is collected |
| SPECIMEN VOLUME: 30 mL |
**MINIMUM VOLUME:** 10 mL  
**TEST AVAILABILITY:** Monday-Friday  
**TURNAROUND TIME:** 14-21 days  
**REFERENCE RANGE:** Normal: restriction fragment length 41 and 330 kb  
**OTHER NAMES:** Facioscapulohumeral muscular dystrophy (FSHD)  
**METHODOLOGY:** Pulsed Field Gel Electrophoresis and Southern blot  
**CLINICAL USE:** Detects deletions on chromosome 4q35 associated with FSHD  
**CPT:** 83891; 83892 x 2; 83894 x 2; 83896; 83897; 83907; 83912

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**[FSP] Fibrin Degradation Products, Quant**

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** FDP tube  
**SPECIAL HANDLING:** Collect blood in special FDP assay tube supplied by the laboratory. If unable to send to laboratory ASAP, incubate tube @ 37 degrees for 30 minutes; separate plasma and send  
**SPECIMEN VOLUME:** 1 full tube  
**Testing volume:** 2 mL of PLASMA  
**MINIMUM VOLUME:** 1 full tube  
**Testing volume:** 1.5 mL of PLASMA  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 1-4 hours  
**REFERENCE RANGE:** Negative: < 10 ug/mL  
**OTHER NAMES:** Fibrinogen Degradation Products (FDP)  
**METHODOLOGY:** Latex Agglutination  
**CPT:** 85362

---

**[FST] FAMILY SPECIFIC TEST**

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIMEN VOLUME:** 18 mL  
**MINIMUM VOLUME:** 8 mL  
**TEST AVAILABILITY:** Daily  
**METHODOLOGY:** Polymerase Chain Reaction (PCR)  
**CPT:** 83891; 83898; 83904; 83909; 83912

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**[FTA] Treponema pallidum Ab (FTA-ABS)**

**SPECIMEN REQUIRED:** Serum at room temperature  
**TUBE OR CONTAINER:** Red or Gold  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2 days  
**REFERENCE RANGE:** Nonreactive  
**OTHER NAMES:** Fluorescent Treponemal Antibody Test; FTA-Ab  
**METHODOLOGY:** Indirect fluorescent antibody (IFA)  
**CLINICAL USE:** Confirm syphilis  
**CPT:** 86780
**[FTACSF] CSF Treponema pallidum Ab (FTA-ABS)**

SPECIMEN REQUIRED: Frozen CSF  
TUBE OR CONTAINER: Sterile container  
SPECIMEN VOLUME: 1 ml  
MINIMUM VOLUME: 0.5 ml  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-5 days  
REFERENCE RANGE: Nonreactive  
METHODOLOGY: Indirect fluorescent antibody (IFA)  
CLINICAL USE: Confirm presence of antibody and establish diagnosis of neurosyphilis  
CPT: 86780

**[FTDP] FAMILIAL FRONTOTEMPORAL DEMENT**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 10-14 days  
OTHER NAMES: Tau gene; Pick disease; MAPT gene  
METHODOLOGY: PCR amplification of exon 10 of the TAU1 gene and DNA sequencing  
CPT: 83890; 83894; 83898 x 4; 83904 x 5; 83912

**[FTL] NEUROFERRITINOPATHY (FTL GENE)**

SPECIMEN REQUIRED: Whole blood; amniotic fluid or cultured cells at room temperature  
TUBE OR CONTAINER: Lavender (EDTA); sterile container; T25 flasks  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 3 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 4-6 weeks  
METHODOLOGY: PCR-based sequencing  
CPT: 83891, 83898 x 5, 83904 x 2, 83912

**[FUMFIB] FUMARASE FIBROBLASTS**

SPECIMEN REQUIRED: Fibroblasts at room temperature  
TUBE OR CONTAINER: T24 flasks  
SPECIMEN VOLUME: 2 flasks  
TEST AVAILABILITY: Monday-Thursday  
METHODOLOGY: Radioactive assay  
CPT: 82657; 88233

**[FUNGAB] AB FUNGUS GROUP**

SPECIMEN REQUIRED: Serum at room temperature  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.9 mL
TEST INCLUDES: Titers for antibody responses to: Histoplasma,
Aspergillus species, Blastomyces, Coccidioides
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 days
METHODODOLOGY: Double immunodiffusion (DID)
CLINICAL USE: Diagnosis of pathogenic or opportunistic fungal
infections
CPT: 86606 x 3, 86612, 86635, 86698

[FUNGABCSF] FUNGAL AB CSF

SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile CSF container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Aspergillus Antibodies; Blastomyces Antibody
Coccidioides Antibody; Histoplasma Mycelia and
Yeast phase
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
REFERENCE RANGE: < 1:2

METHODODOLOGY: Complement Fixation (CF)
CPT: 86606; 86612; 86635; 86698 x 2

[FUNGITELL] Beta-(1,3)-D-Glucan

SPECIMEN REQUIRED: Refrigerated or frozen (preferred) serum
TUBE OR CONTAINER: Gold
SPECIAL HANDLING: Do NOT transfer; send in original tube
SPECIMEN VOLUME: 1 ml
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Negative: < 60 pg/mL
Indeterminate: 60 - < 80 pg/mL
Positive: >/= 80 pg/mL
OTHER NAMES: Beta-(1,3)-D-Glucan
CLINICAL USE: Aids in the presumptive diagnosis of invasive
fungal disease through detection of elevated
levels of (1,3)-B-D-glucan
CPT: 85130

[FUNID] FUNGUS IDENTIFICATION

[FUNMIC:MOLD] SUSCEPTIBILITY TEST: MOLD

This test may be ordered only by special request. The physician
must call the Microbiology Lab and discuss the request with a
senior technologist or supervisor. Call 1-4006 for further
information.
Each anti-fungal requested will be billed separately.
**[FUNSENS] FUNGUS SENSITIVITY TEST ONLY**

**[FUNSM] Fungal Smear GMS**

- **SPECIMEN REQUIRED:** Refrigerated specimen
- **Source:**
  - **BODY FLUIDS:** Submit 5 mL or more in a sterile, tightly capped container
  - **BRONCHIAL WASHING, BRUSHING, OR LAVAGE:** Submit in tightly sealed sterile container; do not add Cytolyt.
  - **SPUTUM:** Have the patient rinse mouth with tap water just prior to collection. Submit 5 mL (or more) deeply coughed sputum in a sterile, tightly sealed container.
  - **TISSUE:** Submit specimen in a tightly sealed sterile container. Add a small amount of sterile saline to prevent the tissue from drying. Do not add CytoLyt or formalin.
  - **TUBE OR CONTAINER:** Tightly sealed sterile container
- **SPECIAL HANDLING:** Indicate specimen source
- **ORDERING MODULE:** MIC
- **SPECIMEN VOLUME:** 5 mL
- **TEST AVAILABILITY:** Monday-Saturday
- **TURNAROUND TIME:** 1 day
- **REFERENCE RANGE:** Negative for fungal elements
- **METHODOLOGY:** GMS (Silver) stain
- **CLINICAL USE:** Determine presence or absence of fungal forms by direct microscopic exam
- **CPT:** 87205

**[FUNSYNREF] Synergy Fungal Susc- Referred**

**[FURO] Urine Furosemide Level**

- **SPECIMEN REQUIRED:** Urine at room temperature (random)
- **TUBE OR CONTAINER:** Urine container
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 5-8 days
- **REFERENCE RANGE:** < 5.0 ug/mL
- **OTHER NAMES:** Lasix
- **METHODOLOGY:** High Performance Liquid Chromatography (HPLC) with Fluorescence Detection
- **CLINICAL USE:** Therapeutic drug monitoring
- **CPT:** 80299

**[FUROS] Furosemide Level**

- **SPECIMEN REQUIRED:** Serum or plasma at room temperature
- **TUBE OR CONTAINER:** Red or Dark Green (heparin)
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
TURNAROUND TIME: 5-8 days
REFERENCE RANGE: < 5.0 ug/mL
OTHER NAMES: Lasix
METHODOLOGY: High Performance Liquid Chromatography (HPLC) with Fluorescence Detection
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

[FXTASDNA] FRAGILE X-ASSOC TREMOR/ATAXIA
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 10 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 14-21 days
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83892 x 2; 83894; 83896; 83897; 83898; 83909; 83912

[FZD4] FAM VITREORETINOPATHY (FZD4)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6 weeks
OTHER NAMES: Familial Exudative Vitreoretinopathy (FEVR) via FZD4 gene
METHODOLOGY: Bi-directional sequence analysis
CPT: 83891 x 6; 83892 x 2; 83894 x 6; 83898 x 12; 83904 x 12; 83912

[G6PC3] SCN/DURSAN SYNDROME-G6PC3 GENE
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 weeks
REFERENCE RANGE: No mutation detected
OTHER NAMES: Autosomal Recessive Severe Congenital Neutropenia/ Dursun Syndrome via G6PC3 Gene Sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 7; 83904 x 7; 83912

[G6PDDNA] G6PD DNA MUTATION
SPECIMEN REQUIRED: Whole blood or filter paper card at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Filter paper card
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
<table>
<thead>
<tr>
<th><strong>TEST AVAILABILITY:</strong> Daily</th>
<th><strong>TURNAROUND TIME:</strong> 3-7 days</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>METHODOLOGY:</strong> Real-time Polymerase Chain Reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td><strong>CPT:</strong> 83891; 83896 x 4; 83898; 83900; 83903 x 4; 83912</td>
<td></td>
</tr>
</tbody>
</table>

### [G6PDP] Glucose-6-Phosphate Dehydrogenase

- **SPECIMEN REQUIRED:** Refrigerated whole blood
- **TUBE OR CONTAINER:** 2 Lavender (EDTA) or 1 dark green (heparin) and 1 lavender (EDTA) or 1 yellow (ACD) and 1 lavender
- **SPECIAL HANDLING:** Do not aliquot specimen; send in original tube
- **SPECIMEN VOLUME:** 5 mL (each tube)
- **MINIMUM VOLUME:** 1 mL (each tube)
- **TEST INCLUDES:** Quantitative G6PD and red blood cell count (RBC)
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 48 hours
- **REFERENCE RANGE:** 146-376 units/trillion RBC
- **OTHER NAMES:** Glucose-6-Phosphate Dehydrogenase Quant
- **METHODOLOGY:** Kinetic - 340 nm
- **CLINICAL USE:** Evaluate G6PD deficiency; determine the cause of drug-induced hemolysis or hemolysis secondary to acute bacterial or viral infection and metabolic disorder such as acidosis
- **CPT:** 82955; 85041

### [G6PDQL] Glucose-6-Phosphate Dehydrogenase

- **SPECIMEN REQUIRED:** Refrigerated whole blood
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 1 mL LAV
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Monday-Friday
- **TURNAROUND TIME:** Daily 8-4:30
- **REFERENCE RANGE:** Normal/non-deficient
- **OTHER NAMES:** Glucose-6-Phosphate Dehydrogenase Qual
- **METHODOLOGY:** Colorimetric
- **CLINICAL USE:** Evaluate G6PD deficiency; determine the cause of drug-induced hemolysis or hemolysis secondary to acute bacterial or viral infection and metabolic disorder such as acidosis
- **CPT:** 82960

### [G6PDSEQ] G6PD Deficiency Sequencing

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 10 mL
- **MINIMUM VOLUME:** 3 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4 weeks
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
## [GA1DNA] GLUTARIC ACIDEMIA TYPE 1 DNA

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td>SPECIAL HANDLING:</td>
<td>Specimen must arrive in laboratory by 1:30 pm, Sunday through Wednesday only</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Sunday-Wednesday</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>No mutation detected</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Polymerase Chain Reaction (PCR)</td>
</tr>
</tbody>
</table>

CPT: 83891; 83894 x 12; 83904 x 24; 83909 x 24; 83912

## [GA2DNA] GLUTARIC ACIDEMIA TYPE 2 DNA

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td>SPECIAL HANDLING:</td>
<td>Specimen must arrive in laboratory by 1:30 pm, Sunday through Wednesday only</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Sunday-Wednesday</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>No mutation detected</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Polymerase Chain Reaction (PCR)</td>
</tr>
</tbody>
</table>

CPT: 83891; 83894 x 18; 83898 x 9; 83904 x 18; 83912

## [GABA] Gabapentin Level

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Room temperature serum or plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Red, Dark green (heparin) or Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING:</td>
<td>Do NOT collect in gel barrier tube</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>0.3 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>7 days</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>4.0-16.0 ug/mL</td>
</tr>
<tr>
<td>OTHER NAMES:</td>
<td>Neurontin</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Liquid chromatography/tandem mass spectrometry (LC/MS-MS)</td>
</tr>
<tr>
<td>CLINICAL USE:</td>
<td>Monitor dosage adjustment and toxicity</td>
</tr>
</tbody>
</table>

CPT: 80299

## [GABACSF] GAMMA AMINOBUTYRIC ACID (GABA)

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Frozen CSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Sterile CSF container</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>0.25 ml</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>7-10 days</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Mass Spectrometry</td>
</tr>
</tbody>
</table>

CPT: 83789
### g-AMINOBUTYRIC RECEPT GAMMA-2

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Ship overnight to arrive at performing lab within 24 hours of collection. Refrigerate if shipment delayed</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 7 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 3 weeks</td>
</tr>
<tr>
<td>OTHER NAMES: Gamma-aminobutyric Receptor Subunit Gamma-2 DNA sequencing</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83891; 83898 x 10; 83904 x 20; 83912</td>
</tr>
</tbody>
</table>

### Glutamic Acid Decarboxylate Ab

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated or frozen serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL (this volume does not allow for repeat testing)</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.0-1.5 units/mL</td>
</tr>
<tr>
<td>OTHER NAMES: Anti-GAD; GAD65; GADAb</td>
</tr>
</tbody>
</table>

| METHODOLOGY: Radioimmunoassay (RIA)             |
| CLINICAL USE: Provides early evidence of autoimmune disease activity; aids in prediction, diagnosis and management of patients with diabetes |
| CPT: 83519                                      |

### Urine Glycosaminoglycans

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Frozen urine (random)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Plastic urine container</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Early morning specimens are preferred</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 20 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 10-14 days</td>
</tr>
<tr>
<td>CPT: 83864</td>
</tr>
</tbody>
</table>

### RBC Galactose-1-Phosphate

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Frozen &amp; washed RBC's</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Dark green (heparin)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-3 weeks</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.00 - 0.17 umol/g of hemoglobin</td>
</tr>
</tbody>
</table>
METHODOLOGY: Enzymatic
CLINICAL USE: Monitoring the dietary management of galactosemics
CPT: 82775

[GALACT] Galactokinase
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Dark green (heparin)
SPECIAL HANDLING: Specimen must arrive at performing lab within 48 hours of collection
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2-8 days
REFERENCE RANGE: < 2 years: 20.1 - 79.8 mU/g of hemoglobin
> 2 years: 12.1 - 39.7 mU/g of hemoglobin
METHODOLOGY: Radioisotopic
CPT: 82759

[GALACTOSE] Galactose Total
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Light green (heparin)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
METHODOLOGY: Spectrophotometry
CPT: 82760

[GALACTOSYL] Galactosylceramide b-Galactosidase
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Yellow (ACD)
SPECIAL HANDLING: Do NOT transfer specimen to other containers Collect Monday-Thursday only; must arrive at performing lab within 48 hours of collection
SPECIMEN VOLUME: 7 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2-8 days
REFERENCE RANGE: 21.5 - 59.2 mU/g of protein
METHODOLOGY: Radioisotopic
CPT: 82658

[GALACTU] Urine Galactose
SPECIMEN REQUIRED: Frozen urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: METHODOLOGY: Spectrophotometric, Kinetic
CPT: 82760

[GALACU] Urine Galactitol
SPECIMEN REQUIRED: Frozen urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
REFERENCE RANGE: Values are expressed as mmol/mol creatinine
Normal Galactosemia
1-6 years: 0-45.3 (n=34) 194-620 (n=38)
>6 years: 0-18.4 (n=30) 98-282 (n=32)
METHODOLOGY: Gas chromatography/Mass Spectrometry (GCMS)
CLINICAL USE: Diagnosis and monitoring of galactosemia
CPT: 84378

[GALGENE] GALACTOSEMIA GENE ANALYSIS
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must arrive at performing lab within 96 hours of collection
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
METHODOLOGY: Real-time Polymerase Chain Reaction (PCR)
CLINICAL USE: Confirmation of galactosemia; Identify galactosemia carriers; document germ line mutations; follow-up testing for borderline GALT enzyme tests
CPT: 83890; 83896 x 6; 83898 x 6; 83912

[GALOP] GALOP AUTOANTIBODY
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8-12 days
OTHER NAMES: Gait associated late onset polyneuropathy (GALOP)
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CPT: 83520 x 2

[GALPUT] GALACTOSE-1-PHOS PHENOTYPING
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Galactose-1-phosphate uridyltransferase quantitative and phenotyping
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
METHODOLOGY: Isoelectric Focusing
CLINICAL USE: Determine the likely genotype when quantitative galactose-1-phosphate uridyltransferase (GALT) data suggests a GG or DG genotype (a patient with a GG genotype must be on a galactose-free diet). The biochemical phenotype of a child should be identified when the activity of GALT is 10.0 U/g of hemoglobin or less
CPT: 82664

**[GALPUTQNT] Galactose-1-Phos Uridyl Transferase**

SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: 18.5 - 28.5 U/g of hemoglobin
OTHER NAMES: G-1-PU (Galactose-1-Phosphate Uridyltransferase); Galactose-1-Phosphate Uridyltransferase; GALT (Galactose-1-Phosphate Uridyltransferase)
METHODOLOGY: Ultraviolet, Kinetic
CLINICAL USE: Aid in diagnosis of galactosemia
CPT: 82775

**[GANCIC] Ganciclovir Level**

SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-8 days
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

**[GANRES] GANCICLOVIR RESISTANCE**

SPECIMEN REQUIRED: Actively growing isolate at room temperature
TUBE OR CONTAINER: Media tube
TEST AVAILABILITY: Daily
METHODOLOGY: Plaque reduction assay
CLINICAL USE: Measures the extent to which various concentrations of Ganciclovir inhibit the growth of virus in cell culture
CPT: 87252; 87253
### [GAST] Gastrin

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Frozen serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>specimen not received frozen; gross</td>
</tr>
<tr>
<td>lipemia; plasma specimen</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Patient must fast 12-14 hours or overnight; separate &amp; freeze immediately</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat testing)</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Age specific</td>
</tr>
<tr>
<td>METHODOLOGY: Immunochemiluminometric Assay (ICMA)</td>
</tr>
<tr>
<td>CLINICAL USE: Diagnose Zollinger-Ellison syndrome and gastrinoma</td>
</tr>
<tr>
<td>CPT: 82491</td>
</tr>
</tbody>
</table>

### [GAUCH] GAUCHER DISEASE MUTATION

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Yellow (ACD)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 6 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 4 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-3 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83890; 83896 x 8; 83900; 83912; 83914</td>
</tr>
</tbody>
</table>

### [GBE1] GLYCOGEN STORAGE TYPE IV(GBE1)

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 28 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: No mutation detected</td>
</tr>
<tr>
<td>OTHER NAMES: Glycogen Branching enzyme Deficiency, Adult Polyglucosan Body Disease</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83891; 83894; 83898 x 16; 83904 x 36; 83909; 83912</td>
</tr>
</tbody>
</table>

### [GD1AP] GD1A ANTIBODY PANEL

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Serum at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Freeze after 5 days</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.3 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: IgG and IgM</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
</tbody>
</table>

| TURNAROUND TIME: 5-14 days |
### GD1BP - GD1B Antibody Panel

**Specimen Required:** Frozen serum  
**Tube or Container:** Red or Gold  
**Specimen Volume:** 1 mL  
**Minimum Volume:** 0.3 mL  
**Test Includes:** IgG and IgM  
**Test Availability:** Daily  
**Turnaround Time:** 3-8 days  
**Methodology:** Enzyme-linked immunosorbent assay (ELISA)  
**CPT:** 83520 x 2

### GDAP1 - CMT Type 4A via GDAP1 Gene

**Specimen Required:** Whole blood at room temperature  
**Tube or Container:** Lavender (EDTA)  
**Special Handling:** Specimen must arrive in laboratory by 1:30 pm, Monday-Thursday only  
**Ship same day as collected**  
**Specimen Volume:** 10 mL  
**Minimum Volume:** 5 mL  
**Test Availability:** Monday - Thursday  
**Turnaround Time:** 2-3 weeks  
**Reference Range:** No sequence variation detected  
**Other Names:** Charcot-Marie-Tooth Disease, Type 4A  
**Methodology:** Polymerase Chain Reaction (PCR) and DNA sequencing  
**Clinical Use:** Detects sequence variations in the GDAP1 gene  
**CPT:** 83891; 83898 x 6; 83904 x 6; 83909 x 6; 83912

### GDF6 - Klippel-Feil Synd (GDF6 Gene)

**Specimen Required:** Whole blood at room temperature  
**Tube or Container:** Lavender (EDTA)  
**Specimen Volume:** 5 mL  
**Minimum Volume:** 1 mL  
**Test Availability:** Daily  
**Turnaround Time:** 4-6 weeks  
**Methodology:** Polymerase chain reaction (PCR)  
**CPT:** 83890; 83891; 83894; 83898 x 4; 83904 x 4; 83912

### Genome - Whole Genome Sequencing

**Specimen Required:** Whole blood at room temperature; Frozen skeletal muscle (preferred) or tissue  
**Tube or Container:** Lavender (EDTA) or sterile container  
**Specimen Volume:** 6 mL or 50 mg muscle or tissue  
**Minimum Volume:** 2 mL  
**Test Availability:** Daily  
**Turnaround Time:** 6 weeks  
**Methodology:** Polymerase chain reaction (PCR)
[GENPHTY] PHENYLALANINE/TYROSINE

SPECIMEN REQUIRED: Filter paper card or frozen plasma  
TUBE OR CONTAINER: Special Filter paper card or Green (heparin)  
SPECIAL HANDLING: Contact laboratory (1-6161) for card;  
Separate and freeze plasma within 1 hour of collection  
SPECIMEN VOLUME: Filled circles or 2 mL  
MINIMUM VOLUME: Filled circles or 1 mL  
TEST INCLUDES: Quantitation of Phenylalanine and Tyrosine  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-4 days  
METHODOLOGY: Mass Spectrometry  
CPT: 82131; 84510

[GENT] Random Gentamicin Level

SPECIMEN REQUIRED: Refrigerated plasma or serum  
TUBE OR CONTAINER: Light Green (heparin) or Gold  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
REFERENCE RANGE: None established  
OTHER NAMES: Garamycin  
METHODOLOGY: Turbidimetric inhibition immunoassay  
CLINICAL USE: Monitor therapeutic drug level and assess toxicity  
CPT: 80170

[GENTP] Gentamicin Level Peak

SPECIMEN REQUIRED: Refrigerated plasma or serum  
TUBE OR CONTAINER: Light Green (heparin) or Gold  
SPECIAL HANDLING: Draw 45-60 minutes after IV injection, 30 minutes after the end of 30 minute IV infusion or immediately after 60 minute IV infusion  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
REFERENCE RANGE: 4.0 - 10.0 mg/L  
OTHER NAMES: Garamycin  
METHODOLOGY: Turbidimetric inhibition immunoassay  
CLINICAL USE: Monitor therapeutic drug level and assess toxicity  
CPT: 80170

[GENTT] Gentamicin Level Trough

SPECIMEN REQUIRED: Refrigerated plasma or serum  
TUBE OR CONTAINER: Light Green (heparin) or Gold  
SPECIAL HANDLING: Draw immediately prior to next dose  
SPECIMEN VOLUME: 1 mL
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 8 hours  
**REFERENCE RANGE:** < 2.0 mg/L  
**OTHER NAMES:** Garamycin  
**METHODOLOGY:** Turbidimetric inhibition immunoassay  
**CLINICAL USE:** Monitor therapeutic drug level and assess toxicity  
**CPT:** 80170

---

**[GFI1] SCN VIA GFI1 GENE**

| SPECIMEN REQUIRED: | Whole blood at room temperature  
| TUBE OR CONTAINER: | Lavender (EDTA) or Yellow (ACD)  
| SPECIMEN VOLUME: | 5 mL  
| MINIMUM VOLUME: | 2 mL  
| TEST AVAILABILITY: | Daily  
| TURNAROUND TIME: | 3-6 weeks  
| REFERENCE RANGE: | No mutation detected  
| OTHER NAMES: | Severe Congenital Neutropenia via GFI1 Gene Sequencing  
| METHODOLOGY: | Polymerase Chain Reaction (PCR)  
| CPT: | 83890; 83891; 83894; 83898 x 7; 83904 x 7; 83912  

---

**[GGT] Gamma Glutamyl Transpeptidase**

| SPECIMEN REQUIRED: | Refrigerated plasma or serum  
| TUBE OR CONTAINER: | Light Green (heparin) or Gold  
| SPECIMEN VOLUME: | 1 mL  
| MINIMUM VOLUME: | 0.5 mL  
| TEST AVAILABILITY: | Daily  
| TURNAROUND TIME: | 8 hours  
| REFERENCE RANGE: | Female: 5-55 U/L  
| | Male: 10-69 U/L  
| METHODOLOGY: | Enzymatic rate  
| CLINICAL USE: | Biliary enzyme that is useful in the diagnosis of obstructive jaundice, intrahepatic cholestasis, and pancreatitis  
| CPT: | 82977  

---

**[GH] Human Growth Hormone**

| SPECIMEN REQUIRED: | Refrigerated serum  
| TUBE OR CONTAINER: | Red or Gold  
| SPECIAL HANDLING: | Patient must be fasting and at complete rest  
| | 30 minutes before drawing. No isotopes administered 24 hours prior to collection  
| | Specimen must not be free from hemolysis and lipemia  
| SPECIMEN VOLUME: | 1 mL  
| MINIMUM VOLUME: | 0.5 mL  
| TEST AVAILABILITY: | Monday-Friday  
| TURNAROUND TIME: | 1-3 days  
| REFERENCE RANGE: | Age specific
OTHER NAMES: HGH; Human Growth Hormone; Somatotropic Hormone; Somatotropin

METHODOLOGY: Enzyme immunoassay

CLINICAL USE: Pituitary function test useful in the diagnosis of hypothalamic disorder, hypopituitarism, acromegaly, and ectopic growth hormone production by neoplasm

CPT: 83003

---

### [GHAB] Growth Hormone Antibody

| SPECIMEN REQUIRED: Frozen serum |
| TUBE OR CONTAINER: Red or Gold |
| SPECIAL HANDLING: Separate serum from cells within one hour of collection |
| SPECIMEN VOLUME: 2 ml |
| MINIMUM VOLUME: 0.5 ml |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 3-10 days |
| METHODOLOGY: HGH-I125 binding capacity |
| CPT: 86277 |

---

### [GHBP] Growth Hormone Binding Protein

| SPECIMEN REQUIRED: Frozen serum |
| TUBE OR CONTAINER: Red or Gold |
| SPECIMEN VOLUME: 1 mL |
| MINIMUM VOLUME: 0.2 mL (this volume does not allow for repeat testing) |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 4-18 days |
| METHODOLOGY: Ligand binding immunoprecipitation assay (LIA) |
| CPT: 83519 |

---

### [GIAANT] Giardia Antigen

| SPECIMEN REQUIRED: Raw stool |
| TUBE OR CONTAINER: Para-Pak Formalin (pink top) |
| ORDERING MODULE: MIC |
| SPECIMEN VOLUME: 5 mL |
| TEST AVAILABILITY: Monday-Friday |
| TURNAROUND TIME: 3 days |
| REFERENCE RANGE: Negative |
| METHODOLOGY: Enzyme immunoassay (EIA) |

CLINICAL USE: Diagnosis of infection with Giardia; Giardia antigen is 50% more sensitive than O&P exam

CPT: 87329

---

### [GIARDAB] AB GIARDIA PANEL

| SPECIMEN REQUIRED: Refrigerated serum |
| TUBE OR CONTAINER: Red or Gold |
| SPECIMEN VOLUME: 3 mL |
| MINIMUM VOLUME: 1 mL |
TEST INCLUDES: Giardia lamblia IgG, IgM and IgA antibodies
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-6 days
REFERENCE RANGE: IgG IgA IgM
METHODOLOGY: Indirect fluorescent antibody (IFA)
CLINICAL USE: Detection of recent, current or past infection with Giardia lamblia
CPT: 86674 x 3

**[GILB] GILBERT SYNDR/UGT1A1 GENOTYPE**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 3 mL
TEST INCLUDES: Genotype analysis of the A(TA)7TAA allele that can discriminate between the A(TA)7TAA and A(TA)6TAA alleles
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 weeks
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83894; 83898 x 2; 83912

**[GLA] FABRY DISEASE via GLA GENE**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
OTHER NAMES: GLA Gene Sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 7; 83904 x 7; 83912

**[GLI2] HOLOPROSENCEPHALY-9 VIA GLI2**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-5 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 17; 83904 x 17; 83912

**[GLIADIN] GLIADIN ANTIBODIES IGG/IGA**

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: IgG and IgA antibodies
TEST AVAILABILITY: Daily
REFERENCE RANGE: IgA: Negative: 0-10 U/mL
IgG: Negative: 0-10 U/mL
OTHER NAMES: Deamidated Gliad Antibodies (DGP); Celiac Disease Antibodies; Antigliuten antibodies
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Aid in diagnosis and monitoring of certain gluten-sensitive enteropathies, such as celiac disease and dermatitis herpetiformis
CPT: 83520 x 2

**[GLOMAB] Anti-Glomerular Basement Memb Ab**

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 0.6 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 0.0 - 3.0 units/mL
OTHER NAMES: Anti-GBM; Goodpasture Syndrome
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Detect the presence of circulating glomerular basement membrane-specific antibodies in Goodpasture's syndrome
CPT: 83520

**[GLU] Glucose Level**

SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin), Gold or Gray
SPECIAL HANDLING: Centrifuge and separate serum from cells promptly
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 0-30 days: 40-110 mg/dL
1 month +: 65-110 mg/dL
METHODOLOGY: Oxygen rate electrode
CLINICAL USE: Evaluate carbohydrate metabolism, acidosis and ketoacidosis, dehydration, work-up alcoholism, or apparent alcoholism, work-up coma, or neuroglycopenia
CPT: 82947

**[GLU1] Glucose 1 Hour**

SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin), Gold or Gray
SPECIAL HANDLING: Separate serum from cells promptly
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 0-30 days: 40-110 mg/dL  
1 month +: 65-110 mg/dL  
METHODOLOGY: Oxygen rate electrode  
CPT: 82950

**[GLU2PP] Glucose 2 Hour Postprandial**

SPECIMEN REQUIRED: Refrigerated plasma or serum  
TUBE OR CONTAINER: Gray, Light Green (heparin) or Gold  
SPECIAL HANDLING: Centrifuge and remove serum/plasma from cells promptly; indicate time of last meal or post-prescribed dosage of glucola  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
METHODOLOGY: Oxygen rate electrode  
may be used along with FBS to follow patients with impaired glucose tolerance  
CPT: 82947

**[GLU30] Glucose 1/2 Hour**

SPECIMEN REQUIRED: Refrigerated plasma or serum  
TUBE OR CONTAINER: Light Green (heparin), Gold or Gray  
SPECIAL HANDLING: Separate serum from cells promptly  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
METHODOLOGY: Oxygen rate electrode

**[GLUC] Glucagon Level**

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Chilled Lavender (EDTA)  
SPECIAL HANDLING: Overnight fast recommended for basal level. No isotopes administered 24 hours prior to collection. Patient should not be in a stress state at time of drawing. If diabetic, patient should be in good control  
Collect one full chilled tube. Transfer to a red-top tube containing 0.25 mL Trasylol Mix well, centrifuge and freeze  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat testing)  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-4 days  
REFERENCE RANGE: 40-130 pg/mL  
OTHER NAMES: Pancreatic glucagon  
METHODOLOGY: Radioimmunoassay (RIA)  
CLINICAL USE: Aid in diagnosis of glucagonoma
## CSF Glucose

<table>
<thead>
<tr>
<th>Specimen Required: Refrigerated cerebrospinal fluid (CSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container: Sterile container</td>
</tr>
<tr>
<td>Specimen Volume: 1 mL</td>
</tr>
<tr>
<td>Minimum Volume: 0.5 mL</td>
</tr>
<tr>
<td>Test Availability: Daily</td>
</tr>
<tr>
<td>Turnaround Time: 8 hours</td>
</tr>
<tr>
<td>Reference Range: 0-13 years: 60-80 mg/dL</td>
</tr>
<tr>
<td>13 years+: 40-70 mg/dL</td>
</tr>
<tr>
<td>Methodology: Oxygen rate electrode</td>
</tr>
<tr>
<td>Clinical Use: Evaluate meningitis, neoplastic involvement of meninges, other neurological disorders;</td>
</tr>
<tr>
<td>CPT: 82945</td>
</tr>
</tbody>
</table>

## Fasting Glucose

<table>
<thead>
<tr>
<th>Specimen Required: Refrigerated plasma or serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container: Gray, Gold, or Light Green (heparin)</td>
</tr>
<tr>
<td>Special Handling: Separate serum from cells promptly</td>
</tr>
<tr>
<td>Specimen Volume: 1 mL</td>
</tr>
<tr>
<td>Minimum Volume: 0.5 mL</td>
</tr>
<tr>
<td>Test Availability: Daily</td>
</tr>
<tr>
<td>Turnaround Time: 8 hours</td>
</tr>
<tr>
<td>Reference Range: 65-110 mg/dL</td>
</tr>
<tr>
<td>Methodology: Oxygen rate electrode</td>
</tr>
<tr>
<td>CPT: 82947</td>
</tr>
</tbody>
</table>

## Body Fluid Glucose

<table>
<thead>
<tr>
<th>Specimen Required: Refrigerated body fluid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container: Sterile container</td>
</tr>
<tr>
<td>Special Handling: Specify source of fluid</td>
</tr>
<tr>
<td>Specimen Volume: 1 mL</td>
</tr>
<tr>
<td>Minimum Volume: 0.5 mL</td>
</tr>
<tr>
<td>Test Availability: Daily</td>
</tr>
<tr>
<td>Turnaround Time: 8 hours</td>
</tr>
<tr>
<td>Reference Range: None established</td>
</tr>
<tr>
<td>Methodology: Oxygen rate electrode</td>
</tr>
<tr>
<td>CPT: 82945</td>
</tr>
</tbody>
</table>

## Pericardial Fluid Glucose

<table>
<thead>
<tr>
<th>Specimen Required: Refrigerated fluid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container: Sterile container</td>
</tr>
<tr>
<td>Specimen Volume: 1 mL</td>
</tr>
<tr>
<td>Minimum Volume: 0.5 mL</td>
</tr>
<tr>
<td>Test Availability: Daily</td>
</tr>
<tr>
<td>Turnaround Time: 8 hours</td>
</tr>
<tr>
<td>Reference Range: None established</td>
</tr>
<tr>
<td>Methodology: Oxygen rate electrode</td>
</tr>
<tr>
<td>CPT: 82945</td>
</tr>
<tr>
<td>GLUPL</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated fluid</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile container</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 hours</td>
</tr>
<tr>
<td>REFERENCE RANGE: None established</td>
</tr>
<tr>
<td>METHODOLOGY: Oxygen rate electrode</td>
</tr>
<tr>
<td>CLINICAL USE: Decreased fluid glucose concentration is usually associated with septic or inflammatory processes</td>
</tr>
<tr>
<td>CPT: 82945</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GLUPT</th>
<th>Peritoneal Fluid Glucose</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated fluid</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile container</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 hours</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: None established</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Oxygen rate electrode</td>
<td></td>
</tr>
<tr>
<td>CPT: 82945</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GLUR</th>
<th>Urine Random Glucose</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated random urine</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Plastic urine container</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 10 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 1 day</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: No range established</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Oxygen rate electrode</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Aid in the evaluation of glucosuria, renal tubular defects; manage diabetes mellitus</td>
<td></td>
</tr>
<tr>
<td>CPT: 82945</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GLUSY</th>
<th>Synovial Fluid Glucose</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated fluid</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile container</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 hours</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: None established</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Oxygen rate electrode</td>
<td></td>
</tr>
<tr>
<td>CPT: 82945</td>
<td></td>
</tr>
</tbody>
</table>

| GLUTAC| GLUTARIC ACID  |
**SPECIMEN REQUIRED:** Frozen serum or plasma  
**TUBE OR CONTAINER:** Red, Gold or Lavender  
**SPECIAL HANDLING:** Centrifuge and separate within one hour of collection  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST INCLUDES:** Glutaric Acid and 3-Hydroxyglutaric acid  
**TEST AVAILABILITY:** Daily  
**REFERENCE RANGE:** < 250 ng/mL  
**METHODOLOGY:** Stable isotope dilution gas chromatography-mass spectrometry (GC/MS)  
**CLINICAL USE:** Diagnosis and treatment of glutaric acidemia types I and II  
**CPT:** 83921

---

**[GLUTACU] GLUTARIC ACID URINE**

**SPECIMEN REQUIRED:** Frozen urine (random)  
**TUBE OR CONTAINER:** Urine container  
**SPECIAL HANDLING:** Early morning specimen preferred  
**SPECIMEN VOLUME:** 2 mL  
**MINIMUM VOLUME:** 1 mL  
**TEST INCLUDES:** Glutaric Acid and 3-Hydroxyglutaric acid  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 6-9 days  
**REFERENCE RANGE:** Normal < 15 ug/mg creatinine  
**METHODOLOGY:** Stable isotope dilution gas chromatography-mass spectrometry (GC/MS)  
**CLINICAL USE:** Diagnosis and treatment of glutaric acidemia types I and II  
**CPT:** 83921

---

**[GLUTAM] Glutamine Level**

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Light green or dark green (heparin)  
**SPECIAL HANDLING:** Separate and freeze within 1 hour of collection  
**SPECIMEN VOLUME:** 4 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3-8 days  
**METHODOLOGY:** High-pressure liquid chromatography (HPLC)  
**CPT:** 82975

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**[GLUTCSF] CSF Glutamine**

**SPECIMEN REQUIRED:** Frozen CSF  
**TUBE OR CONTAINER:** CSF transport tube  
**SPECIMEN VOLUME:** 2 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3-8 days
<table>
<thead>
<tr>
<th>Test</th>
<th>Methodology</th>
<th>CLINICAL USE</th>
<th>Specimen</th>
<th>Tube/Container</th>
<th>Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Reference Range</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>[GLUTM] UR GLUCOSE TIMED</strong></td>
<td>High-pressure liquid chromatography (HPLC)</td>
<td>Aid in the evaluation of glucosuria, renal tubular defects; manage diabetes mellitus</td>
<td>Frozen aliquot of 24-hour urine</td>
<td>Plastic urine container</td>
<td>10 mL</td>
<td>1 mL</td>
<td>Daily</td>
<td>2 days</td>
<td>0-500 mg/24 hour</td>
<td>82975</td>
</tr>
<tr>
<td><strong>[GLYALB] Glycosylated Albumin</strong></td>
<td>Enzymatic</td>
<td>Glycated albumin assesses average blood glucose levels over approximately a 20-day period</td>
<td>Frozen serum or plasma</td>
<td>Red, Gold or Lavender (EDTA)</td>
<td>1 mL</td>
<td>0.4 mL</td>
<td>Daily</td>
<td>2-9 days</td>
<td>0.6-3.0%</td>
<td>82985</td>
</tr>
<tr>
<td><strong>[GLYC] Glycine Level</strong></td>
<td>Enzymatic</td>
<td></td>
<td>Frozen plasma</td>
<td>Light Green or Dark green (heparin)</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>Daily</td>
<td>2-6 days</td>
<td></td>
<td>82131</td>
</tr>
<tr>
<td><strong>[GLYCCSF] CSF Glycine</strong></td>
<td>High-pressure liquid chromatography (HPLC)</td>
<td></td>
<td>Frozen CSF</td>
<td>CSF transport tube</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>Daily</td>
<td></td>
<td></td>
<td>82945</td>
</tr>
</tbody>
</table>
### [GLYCO] 1,5-Anhydroglucitol (1,5-AG)

- **SPECIMEN REQUIRED:** Serum or plasma at room temperature
- **TUBE OR CONTAINER:** Red, Gold or Lavender (EDTA)
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.75 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-4 days
- **REFERENCE RANGE:** 0-17 years: no range established
  > 18 years: 10.7 - 32.0 ug/mL
- **OTHER NAMES:** 1,5-Anhydroglucitol (1,5-AG)
- **METHODOLOGY:** Enzymatic, Colorimetric assay
- **CLINICAL USE:** Reflective of Mealtime Spikes and thus is a complement to A1C testing for those who are seeking a lower treatment target
- **CPT:** 84378

### [GLYCU] Urine Glycine

- **SPECIMEN REQUIRED:** Frozen urine
- **TUBE OR CONTAINER:** Urine container (random)
- **SPECIMEN VOLUME:** 10 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4-8 days
- **METHODOLOGY:** High-pressure liquid chromatography (HPLC) separation with postcolumn Ninhydrin quantitation
- **CPT:** 82131

### [GLYSDIA] GLYCOGEN STORAGE DIS TYPE Ia

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-4 weeks
- **OTHER NAMES:** von Gierke Disease, G6PC Exon sequencing
- **METHODOLOGY:** Polymerase chain reaction (PCR)
- **CLINICAL USE:** Confirm diagnosis; Carrier testing and prenatal diagnosis
- **CPT:** 83890, 83891, 83894, 83898 x 5, 83904 x 5, 83912

### [GM1AB] AB GM1

- **SPECIMEN REQUIRED:** Serum at room temperature
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.3 mL
- **TEST INCLUDES:** IgG and IgM antibodies
<table>
<thead>
<tr>
<th>Test Description</th>
<th>Specimen Required</th>
<th>TUBE OR CONTAINER</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Includes</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Other Names</th>
<th>Methodology</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>[GM1ASIAL] GM1 ASIALO AB IGG/M</strong></td>
<td>Frozen serum</td>
<td>Red or Gold</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>IgG and IgM antibodies</td>
<td>Daily</td>
<td>3-8 days</td>
<td>Asialo Ganglioside Monosialic Ab</td>
<td>Enzyme-linked Immunosorbent assay (ELISA)</td>
<td>x 2</td>
</tr>
<tr>
<td><strong>[GM1GAMCSF] GM1 IGG/IGM AB CSF</strong></td>
<td>CSF at room temperature</td>
<td>Sterile capped container</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>GM1 IgG and IgM</td>
<td>Daily</td>
<td>3-6 days</td>
<td>&lt; 1:2</td>
<td>Enzyme-linked immunosorbent assay (ELISA)</td>
<td>x 2</td>
</tr>
<tr>
<td><strong>[GM1TRIADCO] CO-GM1 TRIAD PROFILE</strong></td>
<td>Room temperature serum; refrigerate if not shipped same day; Serum stable up to 2 weeks</td>
<td>Red or Gold</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>[GONOAB] Neisseria gonorrhoeae Antibody</strong></td>
<td>Refrigerated serum</td>
<td>Red or Gold</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
**[GPR56] GPR56 SEQUENCING**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-4 weeks
- **OTHER NAMES:** GPR56 Sequencing for Bilateral Frontoparietal Polymicrogyria
- **METHODOLOGY:** Polymerase chain reaction (PCR)
- **CPT:** 83890; 83891; 83894; 83898 x 14; 83904 x 14; 83912

**[GQ1BAB] GQ1b Antibodies**

- **SPECIMEN REQUIRED:** Refrigerated or room temperature serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.3 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4-14 days
- **REFERENCE RANGE:** < 20
- **METHODOLOGY:** Enzyme-linked immunosorbent assay (ELISA)
- **CPT:** 83520

**[GRAB] Anti-Granulocyte Antibody**

- **SPECIMEN REQUIRED:** Frozen serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 3 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-8 days
- **REFERENCE RANGE:** Negative
- **OTHER NAMES:** Neutrophil Antibody
- **METHODOLOGY:** Flow Cytometry
- **CLINICAL USE:** Detect presence of neutrophil antibody that has been implicated in causing neutropenia of various autoimmune disorders including Felty's syndrome, SLE and drug-induced neutropenia
- **CPT:** 86021

**[GRAMCSF] Gram Stain**

- **CPT:** 87205
**Gram Stain Sputum Screen**

**Gram Stain**

**SPECIMEN REQUIRED:** Material or swab from infected area
**TUBE OR CONTAINER:** Sterile container, Swab or slide
**SPECIAL HANDLING:** Indicate source of specimen

Gram stains are routinely performed with many cultures; in those cases, it is not necessary to order gram stain separately. Refer to the specific culture to determine if gram stain is included; Sources that are usually excluded and must be ordered separately include URINE & STOOL. It is usually more appropriate to order a Fecal WBC smear on Stool

Call Micro Lab at 271-4006 with questions

Instructions for sending slide: Carefully select material from infected area with a sterile swab. Gently roll swab onto a clean glass slide to make a thin smear. Air dry the slide. Do not fix. Maintain at room temperature.

Submit in slide holder (cardboard or plastic). Label the slide and the slide holder with the patient's name.

**ORDERING MODULE:** MIC

**SPECIMEN VOLUME:** Smear (air-dried) made at bedside or immediately after collection is preferred or one made in lab from swab or clinical material

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 24 hours

**CLINICAL USE:** Determine the presence of microorganisms and to evaluate type of specimen by type of cells seen

**CPT:** 87205

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**GRISEOFULVIN**

**SPECIMEN REQUIRED:** Refrigerated serum or plasma
**TUBE OR CONTAINER:** Red or Lavender (EDTA)
**SPECIAL HANDLING:** Do NOT collect specimen in gel barrier tube

**SPECIMEN VOLUME:** 2 mL

**MINIMUM VOLUME:** 1 mL

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 3-9 days

**METHODOLOGY:** High Performance Thin Layer Chromatography (HPTLC)

**CLINICAL USE:** Therapeutic drug monitoring

**CPT:** 82489

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**GALACTOSEMIA COMPREHENSIVE**

**SPECIMEN REQUIRED:** Whole blood at room temperature
**TUBE OR CONTAINER:** Lavender (EDTA) & Dark Green (heparin)
**SPECIAL HANDLING:** Specimen must arrive at in lab by 1:30 pm, Monday-Thursday only; ship within 24 hours collection; Refrigerate until time of shipment
SPECIMEN VOLUME: 5 mL each tube

MINIMUM VOLUME: 3 mL (heparinized)
1 mL (EDTA)
TEST INCLUDES: Galactose-1-Phosphate Uridyltransferase enzyme activity, Galactose-1-phosphate RBC and GALT common mutation panel
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 7-14 days
OTHER NAMES: Comprehensive Galactosemia Panel: Classic Galactosemia; GALT deficiency; Galactose-1-Phosphate Uridyltransferase Deficiency
METHODOLOGY: GALT enzyme: Radioenzymatic analysis; Gal-1-P: Spectrophotometry; Mutation analysis: Polymerase Chain Reaction (PCR) and allele-specific extension
CLINICAL USE: Confirmation of galactosemia; Identify galactosemia carriers;
CPT: 82775 x 2; 83891; 83894 x 2; 83900; 83901 x 2; 83914; 85018

<table>
<thead>
<tr>
<th>[GSD0] GLYCOGEN STORAGE TYPE 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE: No mutation detected</td>
</tr>
<tr>
<td>OTHER NAMES: Glycogen synthetase deficiency</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83890; 83891; 83894; 83898 x 16; 83904 x 16; 83912</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>[GSD2] GLYCOGEN STORAGE TYPE 2</th>
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<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
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<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
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<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
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<tr>
<td>MINIMUM VOLUME: 2 mL</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-4 weeks</td>
</tr>
<tr>
<td>OTHER NAMES: GAA Exon Sequencing</td>
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<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
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<tr>
<td>CPT: 83890; 83891; 83894; 83898 x 16; 83904 x 18; 83912</td>
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<table>
<thead>
<tr>
<th>[GSD3] GLYCOGEN STORAGE TYPE 3</th>
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<tbody>
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<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
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<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
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<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-3 weeks</td>
</tr>
<tr>
<td>OTHER NAMES: AGL Gene Sequencing</td>
</tr>
</tbody>
</table>
**[GSD6]** GLYCOGEN STORAGE TYPE 6

SPECIMEN REQUIRED: Whole blood room temperature  
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-4 weeks  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83890; 83891; 83894; 83898 x 28; 83904 x 28; 83912

**[GSD6TX]** Glycogen Storage Disease Screen

SPECIMEN REQUIRED: Liver tissue  
TUBE OR CONTAINER:  
SPECIMEN VOLUME:  
MINIMUM VOLUME:  
TEST AVAILABILITY: Daily  
TURNAROUND TIME:  
OTHER NAMES: Liver Phosphorylase Deficiency; GSD Type VI; Hers Disease  
CLINICAL USE: Provide definitive diagnosis  
CPT: 82657

**[GSD7]** GLYCOGEN STORAGE TYPE 7

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-5 weeks  
REFERENCE RANGE: No mutation detected  
OTHER NAMES: Tarui Disease; PFKM gene sequencing  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83890; 83891; 83894; 83898 x 18; 83904 x 18; 83912

**[GSD9]** GLYCOGEN STORAGE TYPE 9

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-5 weeks  
REFERENCE RANGE: No mutation detected  
OTHER NAMES: PHKG2 gene sequencing  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83890; 83891; 83894; 83898 x 6; 83904 x 7; 83912

**[GSD9ENZ]** Glycogen Storage Disease Screen
SPECIMEN REQUIRED: Whole blood; Liver, Heart or Muscle tissue
TUBE OR CONTAINER: Lavender (EDTA) or sterile container
SPECIAL HANDLING: Send control sample with patient sample
SPECIMEN VOLUME: 10 mL (blood)
MINIMUM VOLUME: 3 mL (blood)
TEST AVAILABILITY: Daily
TURNAROUND TIME:
OTHER NAMES: Phosphorylase b Kinase (PhK) Deficiency; GSD Type IX
CLINICAL USE: Provide definitive diagnosis
CPT: 82657

[GSDSCRN] GLYCOGEN STORAGE SCREEN TISSUE
SPECIMEN REQUIRED: Frozen muscle/liver tissue
TUBE OR CONTAINER: Cryovial
SPECIMEN VOLUME: 200 mg
TEST INCLUDES: Glycogen content, Glucose-6-Phosphatase, Debranching Enzyme, Total Phosphorylase
TEST AVAILABILITY: Daily
TURNAROUND TIME:
CPT: 82657 x 4

[GSMA] GLYCOGEN STORAGE MYOPATHY "A"
SPECIMEN REQUIRED: Frozen muscle tissue
TUBE OR CONTAINER: Cryovial
SPECIMEN VOLUME: 200 mg
TEST AVAILABILITY: Daily
TURNAROUND TIME: 14-28 days
CPT: 82657 x 3; 84311

[GTS] Gestational Glucose Tolerance Test
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Gray, Light Green(heparin) or Gold
SPECIAL HANDLING: Collect a one hour post administration of 50 gram (half-bottle) glucola; Centrifuge and remove serum or plasma from cells promptly; No urine specimens need to be collected
This procedure for pregnant females only
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
METHODOLOGY: Oxygen rate electrode
CLINICAL USE: Test on pregnant women only; recommended by the American College of Obstetrics and Gynecologists to determine maternal diabetic state
A positive screen should be followed by a 3-hour glucose tolerance test for confirmation on a subsequent day
**[GTT2] Glucose Tolerance Test**

SPECIMEN REQUIRED: Refrigerated plasma or serum  
TUBE OR CONTAINER: Gray, Light Green (heparin) or Gold  
SPECIAL HANDLING: For valid results, the patient must be fasting for at least eight hours, abstain from all food and liquids (even water) during testing period, no smoking and should refrain from walking or other activity as much as possible. Collect a baseline (fasting) and two hours post-dose; Label each with appropriate time interval (i.e., fasting, two hours, etc). Centrifuge and remove from cells promptly; no urine specimens need to be collected  
SPECIMEN VOLUME: 1 mL each specimen  
MINIMUM VOLUME: 0.5 mL each specimen  
TEST INCLUDES: Fasting glucose, two-hour glucose  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
METHODOLOGY: Oxygen rate electrode  
CPT: 82950

**[GTT3] Glucose Tolerance Test**

SPECIMEN REQUIRED: Refrigerated plasma or serum  
TUBE OR CONTAINER: Gray, Light Green (heparin) or Gold  
SPECIAL HANDLING: For valid results, the patient must be fasting for at least eight hours, abstain from all food and liquids (even water) during testing period, no smoking and should refrain from walking or other activity as much as possible. Collect a baseline (fasting), 1, 2, & 3 hour post-dose; Label each with appropriate time interval (i.e., fasting, two hours, etc). Centrifuge and remove from cells promptly; no urine specimens need to be collected  
SPECIMEN VOLUME: 1 mL each specimen  
MINIMUM VOLUME: 0.5 mL each specimen  
TEST INCLUDES: Fasting glucose, one hour glucose, two hour glucose, and three hour glucose  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
METHODOLOGY: Oxygen rate electrode  
CPT: 82951

**[GTT5] Glucose Tolerance Test**

SPECIMEN REQUIRED: Refrigerated plasma or serum  
TUBE OR CONTAINER: Gray, Light Green (heparin) or Gold  
SPECIAL HANDLING: For valid results, the patient must be fasting for at least eight hours, abstain from all
food and liquids (even water) during testing period, no smoking and should refrain from walking or other activity as much as possible. Collect a fasting, 1, 2, 3, 4 and 5 hour post-dose; Label each with appropriate time interval (i.e., fasting, two hours, etc). Centrifuge and remove from cells promptly; no urine specimens need to be collected
SPECIMEN VOLUME: 1 mL each specimen
MINIMUM VOLUME: 0.5 mL each specimen
TEST INCLUDES: Fasting glucose, one, two, three, four and five hour glucose
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
METHODOLOGY: Oxygen rate electrode

**[GUSB] MUCOPOLYSAC TYPE 7 VIA GUSB**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
OTHER NAMES: Mucopolysaccharidosis Type VII/Sly Syndrome via GUSB Gene Sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 10; 83904 x 10; 83912

**[H1N12009] 2009 Influenza A (H1N1)**

**[HADHB] TRIFUNCTIONAL PROTEIN (HADHB)**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
OTHER NAMES: Trifunctional Protein Deficiency; HADHB gene sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83894; 83898 x 13; 83904 x 26; 83909 x 26; 83912

**[HALOP] HALOPERIDOL (HALDOL) PROFILE**

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Dark green (heparin) or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 1.6 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Therapeutic: 4-26 ng/mL
Potentially toxic: >50 ng/mL
OTHER NAMES: Haldol
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
CLINICAL USE: Assess and optimize dosing regimens and maintenance
CPT: 80173

[HAM] Acid Hemolysin (Ham's) Test
SPECIMEN REQUIRED: Serum AND whole blood at room temperature
TUBE OR CONTAINER: Red or Gold AND Lavender (EDTA)
SPECIAL HANDLING: Specimen must be received in laboratory by 1:30 pm, Monday through Friday only; must be shipped direct to performing lab
SPECIMEN VOLUME: 3 ml (serum)
5 mL (whole blood)
MINIMUM VOLUME: 1.5 mL (serum)
1 mL (whole blood)
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Negative
METHODOLOGY: Visual identification of hemolysis
CPT: 85475

[HAMA] Human Anti-Mouse Antibodies
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.2 mL (This volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
REFERENCE RANGE: 0-188 ng/mL
METHODOLOGY: Enzyme immunoassay (EIA)

[HANTABP] AB HANTAAN VIRUS PANEL
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Hanta Ab IgG and IgM
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA)
CPT: 86790 x 2

[HAPQNT] Haptoglobin
SPECIMEN REQUIRED: Serum or heparin plasma
TUBE OR CONTAINER: Gold or Light Green (heparin)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: 49-198 mg/dL
METHODOLOGY: Turbidimetric
CLINICAL USE: Work-up for hemolytic state
CPT: 83010

[HAVAB]  Hepatitis A Antibody Total
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Lavender (EDTA), Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Measurement of both IgG and IgM forms of the antibody; reported as the total antibody
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Non-Reactive
METHODOLOGY: Chemiluminescence (ICMA)
CLINICAL USE: Differential diagnosis of hepatitis; in conjunction with anti-HAV, IgM to confirm immunity to hepatitis A
CPT: 86708

[HAVMAB]  Hepatitis A IgM Antibody
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Lavender (EDTA), Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Non-Reactive
METHODOLOGY: Chemiluminescence (ICMA)
CLINICAL USE: Differential diagnosis of hepatitis; the presence of IgM antibody to hepatitis A is good evidence for acute hepatitis A
CPT: 86709

[HAVPCRQL]  Hepatitis A Interpretation
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red, Lavender (EDTA), or Yellow (ACD)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83898

[HAXI]  HAX1-SEVERE CONGEN NEUTROPENIA
SPECIMEN REQUIRED: Whole blood at room temperature
**HBCAB** | Hepatitis B Core Total Antibody
---|---
**SPECIMEN REQUIRED:** Refrigerated EDTA plasma or serum  
**TUBE OR CONTAINER:** Lavender (EDTA), Red or Gold serum  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Monday-Friday  
**TURNAROUND TIME:** Daily - Weekdays  
**REFERENCE RANGE:** Non-Reactive  
**METHODOLOGY:** Chemiluminescence  
**CLINICAL USE:** Differential diagnosis of hepatitis  
**CPT:** 86704

**HBCMAB** | Hepatitis B Core IgM Antibody
---|---
**SPECIMEN REQUIRED:** Refrigerated EDTA plasma or serum  
**TUBE OR CONTAINER:** Lavender (EDTA), Red or Gold serum  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Monday-Friday  
**TURNAROUND TIME:** Daily - Weekdays  
**REFERENCE RANGE:** Non-Reactive  
**METHODOLOGY:** Chemiluminescence  
**CLINICAL USE:** Reliable marker for acute disease for a hepatitis B viral infection; at times this marker is the only one demonstrated for diagnosis. Not recommended outside Acute Hepatitis Profile.  
**CPT:** 86705

**HBEAB** | Hepatitis Be Antibody
---|---
**SPECIMEN REQUIRED:** Refrigerated serum or plasma  
**TUBE OR CONTAINER:** Red, Gold or Lavender (EDTA)  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.4 mL (this volume does not allow for repeat testing)  
**TURNAROUND TIME:** 2 days  
**REFERENCE RANGE:** Negative  
**METHODOLOGY:** Enzyme immunoassay (EIA)  
**CLINICAL USE:** Differential diagnosis, staging, and prognosis of hepatitis B infection  
**CPT:** 86707

**HBEAG** | Hepatitis Be Antigen
**[HBSAB] Hepatitis B Surface Antibody**

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<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Refrigerated EDTA plasma or serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Lavender (EDTA), Red or Gold serum</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>0.3 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>Daily - Weekdays</td>
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<tr>
<td>REFERENCE RANGE:</td>
<td>Non-Reactive</td>
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<tr>
<td>METHODOLOGY:</td>
<td>Chemiluminescence</td>
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<tr>
<td>CLINICAL USE:</td>
<td>Presence of Hepatitis B Surface Ab is an indicator of clinical recovery and subsequent immunity</td>
</tr>
<tr>
<td>CPT:</td>
<td>86706</td>
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</table>

**[HBSAG] Hepatitis B Surface Antigen**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Refrigerated EDTA plasma or serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Lavender (EDTA), Red or Gold serum</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>Daily - weekdays</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>Non Reactive</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Chemiluminescence</td>
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<tr>
<td>REFLEX TEST INFORMATION:</td>
<td>All positives, will reflex a viral neutralization test for confirmation</td>
</tr>
<tr>
<td>CLINICAL USE:</td>
<td>Earliest indicator of the presence of acute infection; useful for the differential diagnosis of hepatitis</td>
</tr>
<tr>
<td>CPT:</td>
<td>87340</td>
</tr>
</tbody>
</table>

**[HBSQNT] Hepatitis B Surface Antibody, Quant**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Refrigerated EDTA plasma or serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Lavender (EDTA), Red or Gold serum</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>24 hours</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>Negative: Inconsistent with immunity &lt; 9.0</td>
</tr>
</tbody>
</table>
Indeterminate: 9.0 - 10.9
Positive: Consistent with Immunity > 10.9
METHODOLOGY: Chemiluminescence
CLINICAL USE: Evaluation of possible immunity
CPT: 86317

[HBVDNAQNT]  HBV DNA PCR QUANTITATIVE

SPECIMEN REQUIRED: Frozen plasma or serum
TUBE OR CONTAINER: Lavender (EDTA), Red or Gold
SPECIAL HANDLING: Separate and freeze within 6 hours of collection
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1.1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
METHODOLOGY: COBAS; TaqMan
CLINICAL USE: Detect mutations in viral polymerase of hepatitis B virus genome; detect mutations associated with resistance to nucleoside analogues such as lamivudine (Epivir)
CPT: 87517

[HBVDRUG]  HBV DRUG RESISTANCE

SPECIMEN REQUIRED: Frozen plasma or serum
TUBE OR CONTAINER: Lavender (EDTA), Yellow (ACD), Red or Gold
SPECIAL HANDLING: Separate and freeze within 6 hours of collection
SPECIMEN VOLUME: 2.5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase chain reaction (PCR) amplification and DNA probe
CLINICAL USE: Identifies mutations or polymorphisms at positions 80, 169, 173, 180, 181, 184, 194, 202, 204, 233, 236, and 250 which are associated with resistance to treatment
CPT: 83891; 83894; 83898 x 6; 83909 x 4; 83912

[HBVGENO]  HBV GENOTYPE

SPECIMEN REQUIRED: Frozen plasma or serum
TUBE OR CONTAINER: Lavender (EDTA), Yellow (ACD), Red or Gold
SPECIAL HANDLING: Separate and freeze within 6 hours of collection
SPECIMEN VOLUME: 2.5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase chain reaction (PCR) amplification and DNA probe
CLINICAL USE: Identifies HBV genotypes A to H by detection of type-specific sequences in the HBV polymerase
gene. Disease progression and response to therapy may be influenced by genotype.
CPT: 83891; 83894; 83898 x 6; 83909 x 4; 83912

[HCGCSF] CSF Tumor Marker HCG
SPECIMEN REQUIRED: Refrigerated or frozen CSF
TUBE OR CONTAINER: Sterile, plastic tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: < 5.0 mIU/mL
METHODOLOGY: Immunochemiluminometric Assay (ICMA)
CLINICAL USE: Aid in following treatment response and tumor recurrence in non-seminoamatous testicular cancer
CPT: 84702

[HCGFLD] Body Fluid Chorionic Gonadotropin
SPECIMEN REQUIRED: Refrigerated or frozen body fluid
TUBE OR CONTAINER: Sterile tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: < 5.0 mIU/mL
METHODOLOGY: Immunochemiluminometric Assay (ICMA)
CPT: 84702

[HCGQL] Serum Pregnancy Test, Qualitative
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Negative
METHODOLOGY: Immunoassay
CLINICAL USE: Provides sensitive and specific test for detection of early pregnancy, diagnose ectopic pregnancy, or threatened abortion
CPT: 84703

[HCGQLU] Urine Pregnancy Test
SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Urine - Plastic urine container
SPECIAL HANDLING: First-morning urine is the preferred sample as it usually contains the highest concentration of Beta-hCG
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Negative
METHODOLOGY: Immunoassay
CLINICAL USE: Provides a sensitive and specific test for the
detection of early pregnancy
CPT: 81025

[HCGQNT] Human Chorionic Gonadotropin, Quant

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Female: \( \geq 25.0 \text{ mIU/mL} \) - Positive
Male: 0.0-4.9 mIU/mL
OTHER NAMES: Beta-hCG Quantitative, Serum; hCG Quantitative,
Quantitative pregnancy test

METHODOLOGY: Chemiluminometric Immunoassay
CLINICAL USE: Determine presence of HCG in patients with
gestational trophoblastic disease; evaluate and
monitor males with testicular tumors; and
follow-up on molar pregnancies
CPT: 84702

[HCH] HYPOCHONDROPLASIA/FGFR3 EXON11

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10-14 days
METHODOLOGY: PCR amplification followed by DNA sequencing or
mutation specific restriction enzyme digestion
CPT: 83890; 83894; 83898 x 3; 83904 x 4; 83912

[HCLFRTOT] HYDROCHLORIC ACID FREE/TOTAL

SPECIMEN REQUIRED: Refrigerated gastric secretions, four
15-minute basal and four 15-minute post-
stimulation collections.
Entire volume collected.
TUBE OR CONTAINER: Clean containers, no preservative
SPECIAL HANDLING: State total volume of aspirate on the test
request form. Indicate time of collection
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST INCLUDES: Free HCl and total titratable acidity; pH of
gastric contents
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: Free: basal secretion: 0.0-40.0 mEq/L
after stimulation: 10.0-130.0 mEq/L
total: basal secretion: 10.0-60.0 mEq/L
pH: 1.5-3.5
OTHER NAMES: Gastric Analysis; Peptavlon Stimulation Test; pH
Gastric Contents; Titratable Acidity
METHODOLOGY: Free acid titration; pH by pH meter
CLINICAL USE: Evaluate gastric acid secretion; support the
diagnosis of pernicious anemia, gastric mucosal
atrophy, peptic ulcer disease, Zollinger-Ellison
syndrome, Menetrier disease; evaluate the
efficacy of vagotomy
CPT: 82930

[HCM] HCM TEST
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 18 mL
MINIMUM VOLUME: 8 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83898 x 73; 83904 x 73; 83909 x 73; 83912

[HCO3U] Urine Bicarbonate
SPECIMEN REQUIRED: Frozen urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 4.5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
METHODOLOGY: Enzymatic Assay (EZA)
CPT: 82374

[HCT] Hematocrit
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 1.5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Age specific
METHODOLOGY: Automated cell counter
CLINICAL USE: Evaluate anemia, blood loss, hemolytic anemia,
polycythemia, and state of hydration
CPT: 85014

[HCTFL] Body Fluid Hematocrit
SPECIMEN REQUIRED: Body fluid at room temperature (state
source of fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1.5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Not established
CPT: 85013

[HCTM] Manual Hematocrit

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 1.5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Age specific
CLINICAL USE: Evaluate anemia, blood loss, hemolytic anemia, polycythemia, and state of hydration
CPT: 85013

[HCVAB] Hepatitis C Antibody

SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Lavender (EDTA), Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Negative
METHODOLOGY: Chemiluminescence (ICMA)
CLINICAL USE: Assess exposure to hepatitis C infection; test blood units for transfusion safety
CPT: 86803

[HCVABCP] HEP C AB CONF PROFILE

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA), or Green(heparin)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative
METHODOLOGY: Immunoblot assay
CLINICAL USE: Confirmatory test for Hepatitis C virus; should be ordered following positive HCV testing
Hepatitis C virus by RIBA should not be utilized for initial screening
CPT: 86804

[HCVFIB] HCV FIBROSURE

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 4 mL (Aliquot into 2 tubes- 1st - 3 mL
2nd - 1 mL
MINIMUM VOLUME: 3 mL (Aliquot into 2 tubes- 1st - 2.5 mL
2nd - 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
CLINICAL USE: Assessment of liver status following a diagnosis of HCV. Baseline determination of liver status before initiating HCV therapy. Post-treatment assessment of liver status six months after completion of therapy. Noninvasive assessment of liver status in patients who are at increased risk of complications from a liver biopsy.
CPT: 82172; 82247; 82977; 83010; 83883; 84460

[HUNTINGTON CHOREA]
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 14 days
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: To determine whether an individual with an ataxia has HD; To differentiate individuals with HD from other ataxias or determine risk
CPT: 83890; 83892; 83894; 83896; 83897; 83898; 83912

[HEPATITIS DELTA ANTIBODY]
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-6 days
REFERENCE RANGE: Negative
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Aids in the diagnosis of delta hepatitis virus infections (hepatitis D)
CPT: 86692

[HEPATITIS D IgM ANTIBODY]
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-9 days
REFERENCE RANGE: Negative
[HDAG]  **Hepatitis D Antigen**

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-9 days
- **REFERENCE RANGE:** Negative
- **METHODOLOGY:** Enzyme immunoassay (EIA)
- **CPT:** 86692

[HDL]  **HDL Cholesterol**

- **SPECIMEN REQUIRED:** Refrigerated plasma or serum
- **TUBE OR CONTAINER:** Light Green (heparin) or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8 hours
- **REFERENCE RANGE:** 35 - 80 mg/dL
- **METHODOLOGY:** Timed-endpoint
- **CLINICAL USE:** Evaluate risk of developing coronary artery disease
- **CPT:** 87380

[HE4]  **HE4 Ovarian Cancer Marker**

- **SPECIMEN REQUIRED:** Frozen serum
- **TUBE OR CONTAINER:** Gold or Red
- **SPECIMEN VOLUME:** 0.5 mL
- **MINIMUM VOLUME:** 0.2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-7 days
- **OTHER NAMES:** Ovarian Cancer Monitor
- **METHODOLOGY:** Enzyme-linked immunosorbent assay (ELISA)
- **CLINICAL USE:** Tumor marker test
- **CPT:** 86305

[HEAVY]  **HEAVY METALS SCREEN BLOOD**

- **SPECIMEN REQUIRED:** Room temperature whole blood
- **TUBE OR CONTAINER:** Lavender (EDTA); Royal-blue (heparin)
  - Must be submitted in original tube
- **SPECIAL HANDLING:** Patient should avoid seafood and red wine 72 hours prior to collection
- **SPECIMEN VOLUME:** 7 mL
- **MINIMUM VOLUME:** 1.1 mL
- **TEST INCLUDES:** Arsenic, Lead and Mercury
- **TURNAROUND TIME:** 4 days
- **REFERENCE RANGE:** See individual tests
**METHODOLOGY:** Atomic absorption spectrometry (AAS); inductively coupled plasma-mass spectrometry (ICP-MS)
**CLINICAL USE:** Monitor exposure to arsenic, lead, and mercury
**CPT:** 82175, 83655, 83825

### HEAVY METALS SCREEN HAIR

**SPECIMEN REQUIRED:** Hair at room temperature  
**TUBE OR CONTAINER:** Plastic, metal free tube  
**SPECIAL HANDLING:** Collect a pencil-thick segment of hair. Bundle, cut at roots, wrap with twist tie at root end.  
**SPECIMEN VOLUME:** 500 mg of hair  
**TEST INCLUDES:** Arsenic, Lead, Mercury, Chromium and Cadmium  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 8-15 days  
**METHODOLOGY:** Graphite Furnace Atomic Absorption Spectroscopy (GFAAS) Inductively Coupled Plasma/Mass Spectrometry (ICP/MS)  
**CLINICAL USE:** Exposure monitoring  
**CPT:** 80103 x 5; 82300; 82175; 83655; 82495; 83825

### HEAVY METALS SCREEN NAILS

### UR HEAVY METALS SCREEN

**SPECIMEN REQUIRED:** Room temperature aliquot (24-hour or random)  
**TUBE OR CONTAINER:** Plastic urine container  
**SPECIAL HANDLING:** Collect specimen in a "P" container (no preservative); random sample is acceptable  
**SPECIMEN VOLUME:** 15 mL  
**MINIMUM VOLUME:** 5.5 mL  
**TEST INCLUDES:** Total urine arsenic; arsenic (inorganic), lead, mercury and all ratios  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 4 days  
**REFERENCE RANGE:** See individual tests  
**METHODOLOGY:** Atomic absorption spectrometry (AAS); inductively coupled plasma-mass spectrometry (ICP-MS)  
**CLINICAL USE:** Monitor exposure to arsenic, lead, and mercury  
**CPT:** 82175; 82570; 83655; 83825

### Stool Helicobacter pylori Antigen

**SPECIMEN REQUIRED:** Frozen stool  
**TUBE OR CONTAINER:** Screw-cap container  
**SPECIMEN VOLUME:** 2 grams solid  
2 mL liquid stool  
**MINIMUM VOLUME:** 1 gram solid  
1 mL liquid stool  
**TEST AVAILABILITY:** Daily  
**METHODOLOGY:** Immunoassay  
**CLINICAL USE:** Establish the presence and possible etiologic
role of Helicobacter pylori in cases of chronic
gastric ulcer, gastritis, duodenal ulcer,
dyspepsia, etc
CPT: 87338

[HELIGA] Helicobacter pylori IgA Antibody

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 days
REFERENCE RANGE: Negative: < 0.89
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Diagnose H. pylori infection in patients with
duodenal disease and for monitoring the
eradication of H. pylori following antimicrobial
therapy
CPT: 86677

[HELIGG] Helicobacter pylori IgG Antibody

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Gold, Red or Lavender
SPECIAL HANDLING: Store plasma or serum at 2-8 degrees C for up
to 5 days, if testing is delayed.
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: MONDAY AND THURSDAY
TURNAROUND TIME: 1-5 days
REFERENCE RANGE: Negative: METHODOLOGY: Enzyme Linked Fluorescent
Antibody (ELFA)
CLINICAL USE: Aid in the diagnosis of H. pylori infection;
determine the cause of chronic type B gastritis or
ulcers of the stomach or duodenum
CPT: 86677

[HELIGM] Helicobacter pylori IgM Antibody

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative: < 0.8
Equivocal: 0.8-1.19
Positive: >1.19
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Diagnose early H. pylori infection in patients
with gastric and duodenal disease
CPT: 86677
### HEMAINV] HEMOPHILIA A INVERSION (DIRECT)

| SPECIMEN REQUIRED: Whole blood at room temperature or refrigerated amniotic fluid |
| TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD); sterile screw-cap container |
| SPECIAL HANDLING: All prenatal specimens must be accompanied by a maternal blood specimen |
| SPECIMEN VOLUME: 5 mL blood or 20 mL fluid |
| TEST AVAILABILITY: Monday-Thursday |
| TURNAROUND TIME: 2-8 days |
| REFERENCE RANGE: An interpretive report will be issued which will include a risk analysis |
| METHODOLOGY: Southern Blot |
| CPT: 83891; 83892 x 2; 83894; 83896; 83897; 83912 |

### HEMALINK] HEMOPHILIA A LINKAGE

| SPECIMEN REQUIRED: |
| TUBE OR CONTAINER: |
| SPECIAL HANDLING: |
| SPECIMEN VOLUME: |
| MINIMUM VOLUME: |
| PEDIATRIC TEST INFO: |
| TEST INCLUDES: |
| TEST AVAILABILITY: |
| TURNAROUND TIME: |
| REFERENCE RANGE: |
| METHODOLOGY: |
| REFLEX TEST INFORMATION: |
| CLINICAL USE: |
| CPT: |

### HEMANEM] HEMOLYTIC ANEMIA PROFILE

| SPECIMEN REQUIRED: Fresh EDTA whole blood ACD (solution B) whole blood EDTA (lav) from a normal, unrelated person. Label as NORMAL CONTROL (indicate sex of control on label). 1 well-made blood smear, Wright stained of patient’s blood Must be received at Mayo within 72 hours of collection. |
| TUBE OR CONTAINER: Lavender (EDTA) + Yellow (ACD) - patient Lavender (EDTA) - control |
| SPECIMEN VOLUME: 5 mL in each tube |
| TEST INCLUDES: Hexokinase; Glucose phosphate isomerase; Phosphofructokinase, Phosphoglycerate Kinase; Pyruvate Kinase, Glucose-6-phos dehydrogenase, Pyrimidine 5’ nucleotidase, Adenosine deaminase, Glutathione, unstable hemoglobin, hemoglobin S, hemoglobin F, Osmotic fragility, hemoglobin |
electrophoresis, hemoglobin A2/F and consult
TEST AVAILABILITY: Monday-Thursday
CPT: 82657 x6; 82955; 83020; 83021; 83068; 84087; 84220; 85557;
82664 (if appropriate); 82978(if appropriate); 85660
(if appropriate); 88184 (if appropriate)

[HEMASS]  HEMOLYTIC ASSAY
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 month
REFERENCE RANGE: Negative
CPT: 86161

[HEMAV]  HEMAVISION-LEUKEMIA-SPEC CHROM
SPECIMEN REQUIRED: Refrigerated whole blood or bone marrow
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING: Must be received in the lab within 24 hours
of collection
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 5-7 days
METHODOLOGY: Reverse transcriptase-Polymerase Chain Reaction
(RT-PCR)
CPT: 83891; 83894; 83900; 83901 x 14; 83902; 83912

[HEMGAB]  Haemophilus influenzae B IgG Ab
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-7 days
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Detection of specific IgG antibodies against H.
influenzae which can cause conditions including
meningitis, septicemia, cellulitis, epiglottis
pneumonia, and septic arthritis
CPT: 86684

[HEMOCHROM]  HEREDITARY HEMOCHROMATOSIS
SPECIMEN REQUIRED: Refrigerated or room temperature whole blood
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-7 days
OTHER NAMES: C282Y Mutation; Iron Overload or Iron Storage disease
METHODOLOGY: Polymerase Chain Reaction (PCR) and Restriction enzyme digestion
CPT: 83890, 83898 x2, 83904 x 2, 83912

[HEMOS] Urine Hemosiderin
SPECIMEN REQUIRED: Random urine
TUBE OR CONTAINER: Plastic urine cup
SPECIMEN VOLUME: 30 mL
MINIMUM VOLUME: 10 mL
TEST AVAILABILITY: Monday-Friday
REFERENCE RANGE: Negative
METHODOLOGY: Microscopy
CPT: 88312

[HEMOSFL] Body Fluid Hemosiderin Pigment
SPECIMEN REQUIRED: Body fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 30 mL
MINIMUM VOLUME: 10 mL
TEST AVAILABILITY: Monday-Friday
REFERENCE RANGE: Negative
METHODOLOGY: Microscopy
CPT: 88312

[HEPARIN] Heparin Anti-Xa Act, Unfractionated
SPECIMEN REQUIRED: Citrate plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube MUST be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 0.5 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 - 4 HOURS
REFERENCE RANGE: Therapeutic- UF Heparin = 0.3 - 0.7 IU/mL
Therapeutic- LMW Heparin = 0.5 - 1.0 IU/mL
Prophylaxis UF Heparin = 0.1 - 0.4 IU/mL
Prophylaxis LMW Heparin = 0.2 - 0.4 IU/mL
OTHER NAMES: Heparin assay; Heparin Xa
CLINICAL USE: Monitor heparin therapy
CPT: 85520
### Heparin Anti-Xa Activity

**SPECIMEN REQUIRED:** Citrate plasma  
**TUBE OR CONTAINER:** Blue (Citrate)  
**SPECIAL HANDLING:** Draw 1 FULL citrate tube; tube MUST be filled to the fill line to ensure proper anticoagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma  
**SPECIMEN VOLUME:** 1 full tube  
**Testing volume:** 1 mL of PLASMA  
**MINIMUM VOLUME:** 1 full tube  
**Testing volume:** 0.5 mL of PLASMA  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 1-4 HOURS  
**REFERENCE RANGE:**  
- Therapeutic- UF Heparin = 0.3 - 0.7 IU/mL  
- Therapeutic- LMW Heparin = 0.5 - 1.0 IU/mL  
- Prophylaxis- UF Heparin = 0.1 - 0.4 IU/mL  
- Prophylaxis- LMW Heparin = 0.2 - 0.4 IU/mL  
**CLINICAL USE:** Monitor heparin therapy  
**CPT:** 85520

### Heparin Anti-Xa Activity

**SPECIMEN REQUIRED:** Citrate plasma  
**TUBE OR CONTAINER:** Blue (Citrate)  
**SPECIAL HANDLING:** Draw 1 FULL citrate tube; tube MUST be filled to the fill line to ensure proper anticoagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma  
**SPECIMEN VOLUME:** 1 full tube  
**Testing volume:** 1 mL of PLASMA  
**MINIMUM VOLUME:** 1 full tube  
**Testing volume:** 0.5 mL of PLASMA  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 1-4 HOURS  
**REFERENCE RANGE:**  
- Therapeutic- UF Heparin = 0.3 - 0.7 IU/mL  
- Therapeutic- LMW Heparin = 0.5 - 1.0 IU/mL  
- Prophylaxis- UF Heparin = 0.1 - 0.4 IU/mL  
- Prophylaxis- LMW Heparin = 0.2 - 0.4 IU/mL  
**CLINICAL USE:** Monitor heparin therapy  
**CPT:** 85520

### Heparin Cofactor II

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Blue (citrate)  
**SPECIAL HANDLING:** Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-
coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-8 days
REFERENCE RANGE: 65-165 %
METHODOLOGY: Chromagenic
CLINICAL USE: Assessment of thrombotic risk associated with heparin cofactor II levels
CPT: 85130

**HEPFONDA**  Fondaparinux Anti-Xa Activity

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 0.5 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: 0.39 - 0.50 mg/L
OTHER NAMES: Arixtra
METHODOLOGY: Chromogenic
CLINICAL USE: Monitor heparin
CPT: 85520

**HEPNEUT**  Heparin Neutralization

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
ACUTE HEPATITIS PANEL

SPECIMEN REQUIRED: Refrigerated EDTA plasma or serum
TUBE OR CONTAINER: Lavender (EDTA), Red or Gold serum
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Hepatitis A virus antibody, IgM; Hepatitis B core IgM; Hepatitis B surface antigen; Hepatitis C antibody
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 24 hours
REFERENCE RANGE: See individual tests
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Panel for detecting markers for HAV or HBV infections; can be used for all stages of infection
CPT: 80074

Heparin Level

SPECIMEN REQUIRED: Heparin solution
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-7 days
CPT: 85520

HEPATITIS E IGG/IGM

SPECIMEN REQUIRED: Frozen or refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Separate within 1-2 hours of collection
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
REFERENCE RANGE: Not Detected
METHODOLOGY: Enzyme Linked Immunosorbent Assay (ELISA)
CPT: 86790 x 2

HEX4 URINE

SPECIMEN REQUIRED: Frozen urine (random)
TUBE OR CONTAINER: Urine cup
SPECIAL HANDLING: For diagnostic use, must be done in conjunction with GAA enzyme assay (Pompe enzyme) in blood
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.25 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
REFERENCE RANGE:
METHODOLOGY: Mass Spectrometry
REFLEX TEST INFORMATION:
CPT: 83789

[HFI] HEREDITARY FRUCTOSE INTOLERANCE
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 2; 83898 x 9; 83904 x 18; 83912

[HFP] HEPATIC FUNCTION PANEL
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Total Protein, Albumin, Total & Direct Bilirubin, Alkaline Phosphatase, AST, ALT
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: See individual tests
OTHER NAMES: Liver Panel; Liver Enzyme Panel
METHODOLOGY: See individual tests
CPT: 80076

[HGBA1C] GLYCOSYLATED HEMOGLOBIN (A1C)
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPEC HANDLING: Lab cannot accept as an add-on specimen greater than eight hours old if cap has been previously removed from tube and specimen was stored at room temp.
Specimens stored and shipped at 2-8 C are stable for 7 days.
SPECIMEN VOLUME: Whole tube
MINIMUM VOLUME: 200 uL Whole Blood
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 24 hours
REFERENCE RANGE: 4.4% - 6.4%
METHODOLOGY: High-pressure liquid chromatography (HPLC)
CLINICAL USE: Assess long-term glucose control in patients with diabetes mellitus
CPT: 83036

[HGBF] Hemoglobin F (Fetal)
<table>
<thead>
<tr>
<th>Test Name</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Reference Range</th>
<th>Methodology</th>
<th>Clinical Use</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fetal Hemoglobin</td>
<td>Refrigerated whole blood</td>
<td>Lavender (EDTA)</td>
<td>3 mL (adult)</td>
<td>1 mL (pediatric)</td>
<td>Monday-Friday</td>
<td>1-4 days</td>
<td>0 Day: 60-97% 1 month: 40-70% 2 months: 30-50% 3 months: 15-25% 6 months: 0-2%</td>
<td>Electrophoresis by cellulose acetate</td>
<td>Evaluate hemoglobinopathies, hemolytic anemia; diagnose hereditary persistence of fetal hemoglobin; diagnose thalassemia; evaluate sickling hemoglobin</td>
<td>83030</td>
</tr>
<tr>
<td>Urine Free Hemoglobin</td>
<td>Refrigerated random urine</td>
<td>Plastic urine container</td>
<td>3 mL</td>
<td>0.5 mL</td>
<td>Daily</td>
<td>2-4 days</td>
<td>Negative</td>
<td>Reagent Strip</td>
<td>Determine the presence of hemoglobinuria</td>
<td>81003</td>
</tr>
<tr>
<td>Plasma Free Hemoglobin</td>
<td>Refrigerated plasma</td>
<td>Dark Green (heparin)</td>
<td>1 mL</td>
<td>0.1 mL</td>
<td>Daily</td>
<td></td>
<td>Values obtained between 5-15 mg/dL should be interpreted with caution since such variables as suboptimal venipuncture may increase result</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
OTHER NAMES: Free Hemoglobin; Hgb Solubility
METHODOLOGY: Spectrophotometry
CLINICAL USE: Evaluate hemolytic anemia, especially intravascular hemolysis
CPT: 83051

[HGBSC] HEMOGLOBIN S & C FETAL DNA
SPECIMEN REQUIRED: Amniotic fluid and whole blood at room temperature
TUBE OR CONTAINER: Sterile tube and Lavender (EDTA)
SPECIMEN VOLUME: 10 mL amniotic fluid
MINIMUM VOLUME: 5 mL amniotic fluid
TEST AVAILABILITY: Daily
OTHER NAMES: Sickle Cell Anemia, Prenatal
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83893; 83896 x 2; 83898; 83912

[HGE] HUMAN GRANULOCYTIC EHRLICH
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.2 mL
TEST INCLUDES: Antibody detection to human granulocytic ehrlichiosis (HGE) IgG and IgM
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: IgG Negative: < 1:64
IgM Negative: < 1:20
OTHER NAMES: Anaplasma phagocytophila
METHODOLOGY: Indirect Fluorescent antibody (IFA)
CLINICAL USE: Detection and semiquantitation of human serum IgG and IgM class antibodies to human granulocytic ehrlichiosis (HGE); aid in the diagnosis of human granulocytic ehrlichiosis
CPT: 86666 x 2

[HGVPCR] HEPATITIS G VIRUS RNA QUAL PCR
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: Not detected
METHODOLOGY: Real-time Polymerase Chain Reaction (RT-PCR)
CLINICAL USE: Detection of HGV RNA genomes
CPT: 87526

[HH] HGB & HCT
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Invert specimen gently to avoid platelet clumping; Refrigerate if specimen is held longer than 24 hours
Specimen must not be hemolyzed, clotted, or diluted with IV fluid
Clotted specimens WILL be rejected
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
EDTA MICROCONTAINER Minimum: 250uL
TEST INCLUDES: Hematocrit and hemoglobin
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-4 hours
METHODOLOGY: Automated cell counter
CLINICAL USE: Evaluate anemia, blood loss, hemolytic anemia, polycythemia, and state of hydration
CPT: 85018; 85014

[H-HCG] Hyperglycosylated HCG
SPECIMEN REQUIRED: Refrigerated or frozen serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Immunoassay
CPT: 82397

[HHLMT1555] HEREDITARY HEARING LOSS(mt1555)
SPECIMEN REQUIRED: Room temperature whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 2 tubes (3-5 mLs each)
MINIMUM VOLUME: 1-2 mLs (pediatric)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 9-12 days
METHODOLOGY: PCR amplification of the mitochondrial DNA followed by mutation specific restriction enzyme digestion for mtA1555G mutation
CLINICAL USE: Determine whether a hearing defect in a child is hereditary; Evaluation of progressive hearing loss in adults; Determine the genetic basis for hearing loss in an affected individual; Evaluate the risk of having a child with hearing loss
CPT: 83890; 83892 x 2; 83894; 83898 x 3; 83912

[HHT] HERED HEMORRHAGIC TELANGIECT
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
**[HHV6CSF] HUMAN HERPESVIRUS-6 CSF**

- **SPECIMEN REQUIRED:** Refrigerated or frozen CSF
- **TUBE OR CONTAINER:** Sterile container
- **SPECIMEN VOLUME:** 3 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST INCLUDES:** HHV6 IgG and IgM
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-5 days
- **REFERENCE RANGE:** < 1:2
- **METHODOLOGY:** Immunofluorescent antibody (IFA)
- **CPT:** 86790 x 2

**[HHV6DNA] Herpesvirus 6 DNA (Quant PCR)**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
  - Other specimens: Bone marrow, tissue or BAL at room temperature
  - Frozen CSF
- **TUBE OR CONTAINER:** Lavender (EDTA)
  - Sterile tube (Bronchial lavage & CSF)
  - Sterile tube w/saline (tissue)
  - Sodium heparin tube (bone marrow)
- **SPECIAL HANDLING:** Collect specimen Monday-Thursday only
- **SPECIMEN VOLUME:** 5 mL whole blood
  - 4 mL (bronchial lavage), 2 mL (bone marrow), 1 mL (CSF-frozen)
- **MINIMUM VOLUME:** 3 mL whole blood; 2 mL(bronchial lavage), 1 mL (bone marrow), 0.3 (CSF-frozen)
- **TEST INCLUDES:** Detects both Type A and Type B
- **TEST AVAILABILITY:** Monday-Thursday
- **TURNAROUND TIME:** 2 days
- **REFERENCE RANGE:** Not detected
- **METHODOLOGY:** Quantitative, Real-time PCR
- **CPT:** 87533

**[HHV6G] Herpesvirus 6 IgG Antibody**

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 0.5 mL
- **MINIMUM VOLUME:** 0.2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-7 days
- **REFERENCE RANGE:** Negative: Equivocal: 1:20-1:80
  - Positive: >=1:160
- **METHODOLOGY:** Indirect fluorescent antibody (IFA)
- **CLINICAL USE:** Aid in the diagnosis of past infection/exposure
to roseola infantum; may be useful in diagnosis of chronic fatigue syndrome
CPT: 86790

[HHV6M] Herpesvirus 6 IgM Antibody
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Immunofluorescence
CPT: 86790

[HHV7G] Herpesvirus 7 IgG Antibody
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-14 days
REFERENCE RANGE: Negative: < 1:160
METHODOLOGY: Indirect fluorescent antibody (IFA)
CLINICAL USE: Aid in diagnosis of past infection/exposure to roseola infantum
CPT: 86790

[HHV7M] Herpesvirus 7 IgM Antibody
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-14 days
REFERENCE RANGE: Negative: < 1:20
METHODOLOGY: Indirect fluorescent antibody (IFA)
CLINICAL USE: Aid in diagnosis of acute infection
CPT: 86790

[HHV7PCR] Herpesvirus 7 DNA (Quant PCR)
SPECIMEN REQUIRED: Whole blood at room temperature
Other specimens: Bone marrow, tissue or BAL at room temperature
Frozen CSF
TUBE OR CONTAINER: Lavender (EDTA)
Sterile tube (Bronchial lavage & CSF)
Sterile tube w/saline (tissue)
Sodium heparin tube (bone marrow)
SPECIAL HANDLING: Collect specimen Monday-Thursday only
SPECIMEN VOLUME: 5 mL whole blood
4 mL (bronchial lavage), 2 mL (bone marrow),
**HHV8PCR**  [Herpesvirus 8 DNA (PCR)]

<table>
<thead>
<tr>
<th>Specimen Required: Whole blood at room temperature</th>
<th>Other specimens: Bone marrow, tissue or BAL at room temperature</th>
<th>Frozen CSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td>Sterile tube (Bronchial lavage &amp; CSF)</td>
<td>Sterile tube w/saline (tissue)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL whole blood</td>
<td>Sodium heparin tube (bone marrow)</td>
<td>Sodium heparin tube (bone marrow)</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 3 mL whole blood; 2 mL (bronchial lavage), 1 mL (bone marrow), 0.3 mL (CSF-frozen)</td>
<td>SPECIAL HANDLING: Collect specimen Monday-Thursday only</td>
<td>SPECIAL HANDLING: Collect specimen Monday-Thursday only</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Thursday</td>
<td>SPECIMEN VOLUME: 5 mL whole blood</td>
<td>SPECIMEN VOLUME: 5 mL whole blood</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2 days</td>
<td>4 mL (bronchial lavage), 2 mL (bone marrow), 1 mL (CSF-frozen)</td>
<td>4 mL (bronchial lavage), 2 mL (bone marrow), 1 mL (CSF-frozen)</td>
</tr>
<tr>
<td>REFERENCE RANGE: Not detected</td>
<td>TEST AVAILABILITY: Monday-Thursday</td>
<td>TEST AVAILABILITY: Monday-Thursday</td>
</tr>
<tr>
<td>METHODOLOGY: Quantitative, Real-time PCR</td>
<td>TURNAROUND TIME: 2 days</td>
<td>TURNAROUND TIME: 2 days</td>
</tr>
<tr>
<td>CPT: 87799</td>
<td>REFERENCE RANGE: Not detected</td>
<td>REFERENCE RANGE: Not detected</td>
</tr>
<tr>
<td></td>
<td>METHODOLOGY: Quantitative, Real-time PCR</td>
<td>METHODOLOGY: Quantitative, Real-time PCR</td>
</tr>
<tr>
<td></td>
<td>CPT: 87799</td>
<td>CPT: 87799</td>
</tr>
</tbody>
</table>

**HIDS**  [HYPER-IGD SYNDROME (HIDS)]

<table>
<thead>
<tr>
<th>Specimen Required: Whole blood at room temperature or buccal swabs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Buccal swabs</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL or 2 swabs</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 3 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4 weeks (new patient)</td>
</tr>
<tr>
<td>METHODOLOGY: Bi-directional sequence analysis</td>
</tr>
<tr>
<td>CPT: 83891 x 5; 83892 x 4; 83894 x 5; 83898 x 5; 83904 x 5; 83912</td>
</tr>
</tbody>
</table>

**HIGM**  [HYPER IGM (3 GENE PANEL)]

<table>
<thead>
<tr>
<th>Specimen Required: Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: Gene sequencing of AICDA, UNG and CD40</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
</tbody>
</table>
### H-INFANT H. influenzae b Direct Antigen

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th>Refrigerated CSF, serum or urine (random)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td>Sterile plastic (CSF) tube or plastic urine container; Red or Gold</td>
</tr>
<tr>
<td>ORDERING MODULE</td>
<td>MIC</td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td>0.5 mL CSF</td>
</tr>
<tr>
<td></td>
<td>1 mL serum</td>
</tr>
<tr>
<td></td>
<td>5 mL urine (random)</td>
</tr>
<tr>
<td>TEST AVAILABILITY</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME</td>
<td>2-3 days</td>
</tr>
<tr>
<td>REFERENCE RANGE</td>
<td>Negative</td>
</tr>
<tr>
<td>METHODOLOGY</td>
<td>Latex agglutination (LA)</td>
</tr>
<tr>
<td>CLINICAL USE</td>
<td>Aid in documentation of active infection with Haemophilus influenzae</td>
</tr>
<tr>
<td>CPT</td>
<td>87899</td>
</tr>
</tbody>
</table>

### HIST Histamine Level

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th>Frozen plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td>2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME</td>
<td>1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME</td>
<td>3-4 days</td>
</tr>
<tr>
<td>METHODOLOGY</td>
<td>Radioimmunoassay (RIA)</td>
</tr>
<tr>
<td>CLINICAL USE</td>
<td>Measure histamine that was released in vivo prior to collection of the specimen; evaluate possible systemic mastocytosis</td>
</tr>
<tr>
<td>CPT</td>
<td>83088</td>
</tr>
</tbody>
</table>

### HISTAB Histone Antibodies

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th>Serum at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td>Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>TEST INCLUDES</td>
<td>Semiquantitative result of IgG antibody</td>
</tr>
<tr>
<td>TEST AVAILABILITY</td>
<td>Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE</td>
<td>Negative: 0-99 U/mL</td>
</tr>
<tr>
<td></td>
<td>Equivocal: 100-120 U/mL</td>
</tr>
<tr>
<td></td>
<td>Positive: &gt;120 U/mL</td>
</tr>
<tr>
<td>OTHER NAMES</td>
<td>Drug-Induced Lupus Antibodies; H2a/H2b and H3 and H4 Antibodies</td>
</tr>
<tr>
<td>METHODOLOGY</td>
<td>Multiplex bead flow cytometry</td>
</tr>
<tr>
<td>CPT</td>
<td>86235</td>
</tr>
</tbody>
</table>

### HISTABCSF HISTOPLASMA AB CSF

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED</th>
<th>Frozen CSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER</td>
<td>Sterile CSF container</td>
</tr>
<tr>
<td>SPECIMEN VOLUME</td>
<td>1 mL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[HISTAGCSF] HISTOPLASMA AG CSF</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Room temperature CSF</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Sterile tube</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 2 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 1.5 mL</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 4-5 days</td>
</tr>
<tr>
<td><strong>REFERENCE RANGE:</strong> &lt; 1.0</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Enzyme immunoassay (EIA)</td>
</tr>
<tr>
<td><strong>CPT:</strong> 87385</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[HISTAGP] HISTOPLASMA ANTIGEN SERUM</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Room temperature serum</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Red or Gold (serum)</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 3 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 2 mL</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 4-5 days</td>
</tr>
<tr>
<td><strong>REFERENCE RANGE:</strong> &lt; 1.0</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Enzyme immunoassay (EIA)</td>
</tr>
<tr>
<td><strong>CLINICAL USE:</strong> Diagnose histoplasmosis</td>
</tr>
<tr>
<td><strong>CPT:</strong> 87385</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[HISTAGU] HISTOPLASMA ANTIGEN URINE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Room temperature urine</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Plastic tube or cup (urine)</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 10 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 2 mL</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 4-5 days</td>
</tr>
<tr>
<td><strong>REFERENCE RANGE:</strong> &lt; 1.0</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Enzyme immunoassay (EIA)</td>
</tr>
<tr>
<td><strong>CLINICAL USE:</strong> Diagnose histoplasmosis</td>
</tr>
<tr>
<td><strong>CPT:</strong> 87385</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[HISTOAB] Histoplasma Antibody</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Refrigerated serum</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Red or Gold</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 0.6 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 0.3 mL</td>
</tr>
</tbody>
</table>
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Negative < 1:1
CLINICAL USE: Aid in the diagnosis and prognosis of histoplasmosis
CPT: 86698

[HISTOPCR] Histoplasmosis Interpretation

SPECIMEN REQUIRED: Whole blood at room temperature; Frozen bronchoalveolar lavage (BAL), CSF or urine; Frozen tissue
TUBE OR CONTAINER: Lavender (EDTA) or sterile container
SPECIMEN VOLUME: 5 mL (blood)
1 mL CSF, BAL or Urine
>3 mm tissue
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: Not Detected
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Detects the presence of Histoplasma capsulatum. DNA in clinical specimens
CPT: 87798

[HISTTM] UR HISTAMINE TIMED

SPECIMEN REQUIRED: Frozen aliquot of 24-hour urine collection
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: 24 hour urine collected in "P" container (no preservative); keep refrigerated during collection
SPECIMEN VOLUME: 15 mL
MINIMUM VOLUME: 10 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-8 days
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: Evaluate possible systemic mastocytosis
CPT: 83088

[HIT] Heparin-Induced Platelet Antibody

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Allow blood to clot for 30 minutes then centrifuge 10 minutes at 3000 rpm
Include heparin type and concentration
SPECIMEN VOLUME: 2 transport tubes with 1 mL serum each
MINIMUM VOLUME: 2 transport tubes with 0.5 mL serum each
TEST AVAILABILITY: Monday through Friday; Must be in ET Lab by 12:00 pm and at VA by 1:00 pm
TURNAROUND TIME: 1-2 days
REFERENCE RANGE: Negative
OTHER NAMES: HAT; Heparin-Associated Thrombocytopenia Ab;
**Heparin-Induced Thrombocytopenia Ab; HITA**

**METHODOLOGY:** Enzyme-linked immunosorbent assay (ELISA)

**CLINICAL USE:** Assist in the diagnosis of heparin-induced thrombocytopenia

**CPT:** 86022

---

**[HIV12AB] HIV (1&2) Antibody**

**SPECIMEN REQUIRED:** Refrigerated plasma

**TUBE OR CONTAINER:** Lavender (EDTA)

**UNACCEPTABLE SPECIMEN TYPE:** Cord blood, cadaver specimens, and any body fluid other than EDTA plasma.

**SPECIAL HANDLING:** Submit in the original tube, labeled with the patient's name or confidential ID number

**NOTE:** Confidential numbers may be used in place of the patient's name; however, the confidential number must be written on the tube as well as in the patient name field on the laboratory requisition

**SPECIMEN VOLUME:** 1 mL

**MINIMUM VOLUME:** 0.5 mL

**TEST AVAILABILITY:** Monday-Friday

**TURNAROUND TIME:** 24 hours

**REFERENCE RANGE:** Nonreactive

**METHODOLOGY:** Immunochemiluminometric Assay (ICMA)

**REFLEX TEST INFORMATION:** Repeat-reactive samples are referred to an Oklahoma state-approved testing lab for confirmatory Western Blot testing, at an additional charge

**CLINICAL USE:** Detect antibodies to HIV 1/O/2

**CPT:** 86703

---

**[HIV2PCRQL] HIV-2 DNA/RNA Qualitative (PCR)**

**SPECIMEN REQUIRED:** Whole blood or bone marrow at room temperature

**TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)

**SPECIAL HANDLING:** Specimen must arrive at performing lab within 48 hours of collection

**SPECIMEN VOLUME:** 5 mL

**MINIMUM VOLUME:** 1 mL

**TEST AVAILABILITY:** Monday-Thursday

**METHODOLOGY:** Polymerase chain reaction (PCR) with Southern blot confirmation

**CLINICAL USE:** Detect HIV-2 proviral DNA in WBC's from peripheral blood

**CPT:** 87538

---

**[HIVGEN] HIV Retroviral Genotype**

**SPECIMEN REQUIRED:** Frozen plasma

**TUBE OR CONTAINER:** Lavender (EDTA) or PPT (white)
SPECIAL HANDLING: Specimen must be frozen in a screw top tube or a PPT tube. Place in -20°C freezer.

SPECIMEN VOLUME: 3 mL
TEST INCLUDES: All approved HIV antiretroviral drugs
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 weeks
METHODOLOGY: ID of HIV-1 drug resistance mutations by sequencing
CLINICAL USE: Detect resistance in HIV-1 to antiretroviral drugs
CPT: 87900, 87901

[HIVINTEG] HIV Integrase Inhibitor Mutations

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA) or PPT (white)
SPECIAL HANDLING: Specimen must be frozen in a screw top tube or a PPT tube. Place in -20°C freezer.
SPECIMEN VOLUME: 6 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
CLINICAL USE: Provides phenotypic resistance analysis
CPT: 87903

[HIVNAT] HIV (NAT)

SPECIMEN REQUIRED: Refrigerated plasma or whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL (whole blood) or 2 mL (plasma)
MINIMUM VOLUME: 3 mL (whole blood) or 1 mL (plasma)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE:
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Donor screening for detection of HIV-1 and HCV RNA from human donors
CPT: 87535

[HIVPCRP] HIV DNA BY PCR PROFILE

SPECIMEN REQUIRED: Whole blood at room temperature in original tube
TUBE OR CONTAINER: Yellow (ACD)
SPECIAL HANDLING: Mix well to avoid clotting; do not centrifuge
SPECIMEN VOLUME: 5 mL (adult)
MINIMUM VOLUME: 1.5 mL (pediatric)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-8 days
METHODOLOGY: Polymerase chain reaction (PCR) amplification and DNA probe detection
REFLEX TEST INFORMATION:
CLINICAL USE: Detect HIV; resolution of indeterminate HIV serology; detect HIV-infected newborns
CPT: 87535

[HIVPHENGT]  HIV-1 PHENOSENSE GT(PHENO/GENO)
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA) or PPT (white)
SPECIAL HANDLING: Specimen must be frozen in a screw top tube or a PPT tube
Place in -20 C freezer
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: HIV with Replication capacity: Combination Phenosense & Genotype
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
METHODOLOGY: Direct measurement of the drug susceptibility of a patient's HIV-1 virus to all approved antiretrovirals combined with identification of HIV-1 drug resistance mutations by sequencing
CPT: 87900, 87901, 87903, 87904 x 10

[HIVPHENO]  HIV-1 PHENOSENSE COMPREHENSIVE
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA) or PPT (white)
SPECIAL HANDLING: Specimen must be frozen in a screw top tube or a PPT tube
Place in -20 C freezer
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
METHODOLOGY: PCR amplification and viral culture
CLINICAL USE: Detect resistance in HIV-1 to antiretroviral drugs
CPT: 87903, 87904 x 10

[HIVPHENTRY]  HIV-1 PHENOSENSE ENTRY
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA) or PPT (white)
SPECIAL HANDLING: Specimen must be frozen in a screw top tube or a PPT tube
Place in -20 C freezer
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
METHODOLOGY: ID of HIV-1 drug resistance mutations by sequencing
CLINICAL USE: Direct measurement of the drug susceptibility of
a patient's HIV-1 virus to entry inhibitors
CPT: 87903

<table>
<thead>
<tr>
<th>[HLAB5701] HLA-B5701</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Room temperature whole blood</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Buccal swab (Yellow will be rejected)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 7 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 3 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Friday</td>
</tr>
<tr>
<td>OTHER NAMES: Abacavir Hypersensitivity HLA Association; B<em>5701; HLA Antigen B</em>5701</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase chain reaction (PCR)/sequence-specific oligonucleotide probes (SSOP)</td>
</tr>
<tr>
<td>CLINICAL USE: Determine the presence of the HLA-B*5701 allele</td>
</tr>
<tr>
<td>CPT: 83890; 83893 x 3; 83896 x 3; 83898; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[HLH] FAMILIAL HLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4 weeks</td>
</tr>
<tr>
<td>OTHER NAMES: Familial Hemophagocytic Lymphohistiocytosis type 2; Perforin 1 (PRF1) gene</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83890; 83891; 83894; 83898; 83904; 83912 (known)</td>
</tr>
<tr>
<td>CPT: 83890; 83891 x 2; 83894 x 3; 83898 x 3; 83904 x 12; 83912 (full gene mutation)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[HMGCL] HMGCL GENE SEQUENCING</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-4 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83890; 83891; 83894; 83898 x 9; 83904 x 9; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[HMWK] HMW Kininogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Blue (citrate)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Draw 1 FULL citrate tube; tube MUST be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting</td>
</tr>
<tr>
<td>Send to lab immediately or centrifuge and freeze plasma</td>
</tr>
<tr>
<td><strong>[HNPCCCOMP] HNPCC COMPREHENSIVE</strong></td>
</tr>
<tr>
<td>---------------------------------------</td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 3 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: Sequence &amp; Deletion/Duplication Analysis of MLH1, MSH2 and MSH6</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 6 weeks</td>
</tr>
<tr>
<td>OTHER NAMES: Lynch Syndrome</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83891; 83894; 83898 x 50; 83900; 83901 x 25; 83904 x 50; 83909 x 100; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[HNPCCMLH1] HNPCC (MLH1 GENE)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 14 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 6 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-3 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83891; 83894; 83898 x 19; 83904 x 19; 83909 x 38; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[HNPCC-MSH2] HNPCC (MSH2 GENE ONLY)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 14 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 6 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-6 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83891; 83894; 83898 x 16; 83904 x 16; 83909 x 32; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[HNPCC-MSH6] HNPCC (MSH6 GENE ONLY)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 14 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 6 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-6 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83891; 83894; 83898 x 19; 83904 x 19; 83909 x 38; 83912</td>
</tr>
</tbody>
</table>
### HNPCC-MSI

**SPECIMEN REQUIRED:** Whole blood or paraffin block at room temperature  
Other acceptable specimens: 7-8 slides and 1 H&E. Must have both normal & abnormal tissue slides  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIMEN VOLUME:** 7 mL  
**MINIMUM VOLUME:** 3 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2 weeks  
**METHODOLOGY:** Polymerase Chain Reaction (PCR)  
**CPT:** 83891 x 2; 83900 x 2; 83901 x 8; 83909 x 2; 83912

### HNPCC SCREEN (MSI & IHC)

**SPECIMEN REQUIRED:** Whole blood and paraffin block at room temperature  
Preferably send both normal & abnormal tumor tissues  
**TUBE OR CONTAINER:** Lavender (EDTA) and paraffin blocks  
**SPECIMEN VOLUME:** 7 mL  
**MINIMUM VOLUME:** 3 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3 weeks  
**METHODOLOGY:** Polymerase Chain Reaction (PCR)  
**CPT:** 83891; 83894 x 2; 83900; 83901 x 2; 88342 x 4; 83912

### PRESSURE PALSY NEUROPATHY

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Dark green (heparin)  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 1 mL  
**TEST AVAILABILITY:** Monday-Thursday  
**TURNAROUND TIME:** 10-14 days  
**METHODOLOGY:** Fluorescence in situ hybridization (FISH)  
**CLINICAL USE:** Detect duplications/deletions in patients with a suspected diagnosis of an inherited peripheral neuropathy or in individuals with a positive family history  
**CPT:** 88230; 88271; 88273

### HOLOPROSENCEPHALY GENE MUT

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 10 weeks  
**METHODOLOGY:** Bi-directional sequence analysis  
**CPT:** 83891 x 32, 83892 x 2, 83894 x 32, 83898 x 32, 83904 x 32, 83912
### HOMOCUP  | UR HOMOCYSTEINE PANEL
---
**SPECIMEN REQUIRED:** Refrigerated urine (random or 24 hour)
**TUBE OR CONTAINER:** Plastic urine container
**SPECIMEN VOLUME:** 5 mL
**MINIMUM VOLUME:** 1 mL
**TEST AVAILABILITY:** Daily
**REFERENCE RANGE:** None detected
**METHODOLOGY:** Gas chromatography/Mass spectrometry (GC/MS)
**CPT:** 83090

### HOMOCYCSF  | Homocysteine
---
**SPECIMEN REQUIRED:** Frozen CSF
**TUBE OR CONTAINER:** CSF tube
**SPECIAL HANDLING:** Must be in Lab Monday-Wednesday by 2:00 pm
**SPECIMEN VOLUME:** 1 mL
**MINIMUM VOLUME:** 0.25 mL
**TEST AVAILABILITY:** Monday-Wednesday only
**TURNAROUND TIME:** 2 weeks
**METHODOLOGY:** LC-MS/MS
**CPT:** 83090

### HOMOCYS  | Homocysteine
---
**SPECIMEN REQUIRED:** Refrigerated EDTA or heparin plasma
**TUBE OR CONTAINER:** Light Green(heparin), Lavender(EDTA), or Gold
**SPECIAL HANDLING:** Separate from cells within 1 hour
Specimen that is lipemic or stored at room temperature will be rejected
**SPECIMEN VOLUME:** 1 mL
**MINIMUM VOLUME:** 0.5 mL
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 24 hours
**REFERENCE RANGE:** < 11.8 umol/L
**METHODOLOGY:** Chemiluminescence
**CLINICAL USE:** Screen for patients who may be at risk for heart disease and stroke
**CPT:** 83090

### HOPP2  | HYPOKALEM PERIODIC PARALYS 2
---
**SPECIMEN REQUIRED:** Whole blood at room temperature
**TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)
**SPECIMEN VOLUME:** 10 mL
**MINIMUM VOLUME:** 5 mL
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 4 weeks
**METHODOLOGY:** Polymerase Chain Reaction (PCR)
**CPT:** 83891; 83894; 83898 x 2; 83904 x 2; 83912

### HOS  | HOLT-ORAM SYNDROME (TBX5 GENE)
<table>
<thead>
<tr>
<th>Test Name</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Methodology</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED:</td>
<td>Whole blood at room temperature</td>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td>SPECIMEN VOLUME:</td>
<td>5 mL</td>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME:</td>
<td>METHODOLOGY: Bi-directional sequencing</td>
<td>CPT: 83891 x 9; 83892 x 2; 83894 x 9; 83898 x 18; 83904 x 18; 83912</td>
</tr>
<tr>
<td>HEREDITARY PANCREATITIS</td>
<td>Room temperature whole blood</td>
<td>TUBE OR CONTAINER: EDTA (lavender) or Yellow (ACD)</td>
<td>SPECIMEN VOLUME:</td>
<td>5 mL</td>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME:</td>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
<td>CPT: 83890; 83886 x 2; 83898 x 2; 83912</td>
</tr>
<tr>
<td>HYPOXANTHINE PHOSPHORIB TRANS</td>
<td>Refrigerated whole blood</td>
<td>TUBE OR CONTAINER: ACD (Yellow)</td>
<td>SPECIMEN VOLUME:</td>
<td>5 mL</td>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME:</td>
<td>REFERENCE RANGE: 400-2200 nmoles/min/gm Hgb</td>
<td>CPT: 82658</td>
</tr>
<tr>
<td>HPV DETECTION AND TYPE</td>
<td>Conventional or liquid Pap smear, Cyto brush/cervical swab M4) or one (1) paraffin-embedded block of tissue</td>
<td>TUBE OR CONTAINER: Liquid pap container or sterile media</td>
<td>SPECIMEN VOLUME:</td>
<td>N/A</td>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME:</td>
<td>CLINICAL USE: Aid in diagnosis of Lesch-Nyhan syndrome</td>
<td>CPT: 87621</td>
</tr>
<tr>
<td>[HSCR] RET GENE-HIRSCHSPRUNG (HSCR)</td>
<td>Whole blood at room temperature</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)
**SPECIMEN VOLUME:** 5 mL
**MINIMUM VOLUME:** 1 mL
**TEST AVAILABILITY:** Daily
**TURAROUND TIME:** 6-8 weeks
**OTHER NAMES:** RET Gene Analysis in Hirschsprung disease
**METHODOLOGY:** Polymerase chain reaction (PCR)
**CPT:** 83891 x 12; 83892 x 2; 83894 x 12; 83898 x 12; 83904 x 24; 83912

**[HSD3B2] HSD3B2 DNA SEQUENCING**

**SPECIMEN REQUIRED:** Whole blood at room temperature
**TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)
**SPECIAL HANDLING:** Specimen must be received in laboratory by 1:30 pm Monday-Thursday only
Ship immediately to performing lab (must arrive at Athena less than 24 hours after collection
**SPECIMEN VOLUME:** 10 mL
**MINIMUM VOLUME:** 2 mL
**TEST AVAILABILITY:** Monday-Thursday
**TURAROUND TIME:** 2-8 weeks
**REFERENCE RANGE:** No mutation detected
**METHODOLOGY:** Polymerase Chain Reaction (PCR) and DNA sequencing
**CLINICAL USE:** Detects mutations in the coding sequence of HSD3B2
**CPT:** 83891; 83898 x 5; 83904 x 5; 83912

**[HSEP] HEREDITARY SPHEROCYTOSIS EVAL**

**SPECIMEN REQUIRED:** Refrigerated whole blood from patient and a normal unrelated person (label CONTROL)
**TUBE OR CONTAINER:** Lavender (EDTA)
**SPECIAL HANDLING:** Specimen must arrive in laboratory by 2:00 p.m on the day it is collected (Ship Mon-Fri only)
A Control specimen must be included
**SPECIMEN VOLUME:** 5 mL
**MINIMUM VOLUME:** 3 mL
**TEST INCLUDES:** Immediate and 24 hour incubation; band 3 fluorescence staining if osmotic fragility test is abnormal
**TEST AVAILABILITY:** Monday-Saturday
**TURAROUND TIME:** 72 hours
**REFERENCE RANGE:** Normal
**METHODOLOGY:** Osmotic lysis; Flow Cytometry
**CLINICAL USE:** Useful for suspected hereditary spherocytosis
**CPT:** 85557; 88184

**[HSN2] HERED SENSORY NEUROPATHY TYPE2**

**SPECIMEN REQUIRED:** Whole blood at room temperature
**HSV12AB| AB HERPES SIMPLEX 1 & 2**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)</td>
</tr>
<tr>
<td>CLINICAL USE: Determine exposure to HSV and aid in diagnosis of primary infection with HSV</td>
</tr>
<tr>
<td>CPT: 86694; 86695; 86696</td>
</tr>
</tbody>
</table>

**HSV12M| Herpes Simplex I&II IgM Antibody**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL (this volume does not allow for repeat testing)</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative: &lt; 0.91</td>
</tr>
<tr>
<td>Equivocal: 0.91 - 1.09</td>
</tr>
<tr>
<td>Positive: &gt; 1.09</td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)</td>
</tr>
<tr>
<td>CLINICAL USE: Provide useful information about an acute event</td>
</tr>
<tr>
<td>CPT: 86694</td>
</tr>
</tbody>
</table>

**HSV12PCR| HSV 1/2 DETECT & DIFF BY PCR**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Frozen plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Yellow (ACD) or Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: HSV 1 DNA and HSV 2 DNA</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-3 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Not detected</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase chain reaction (PCR)</td>
</tr>
<tr>
<td>CLINICAL USE: Supports a diagnosis of herpes simplex encephalitis and herpes simplex meningitis</td>
</tr>
<tr>
<td>CPT: 87529 x 2</td>
</tr>
</tbody>
</table>

**HSV12PCRAM| HSV 1/2 PCR AMNIOTIC FLUID**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Frozen or refrigerated amniotic fluid</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Sterile container</td>
</tr>
</tbody>
</table>
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST INCLUDES: HSV type 1 and HSV type 2
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
METHODOLOGY: Polymerase chain reaction (PCR) with real time technology
CLINICAL USE: Aid to the diagnosis of herpes simplex virus (HSV) infections; also differentiates HSV-1 from HSV-2
CPT: 87529 x 2

HSV1G | Herpes Simplex Virus I IgG Antibody

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Freeze specimen if testing will not be performed within 5 days of collection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-7 days
REFERENCE RANGE: Negative: METHODOLOGY: Enzyme-linked immunoassay (ELISA)
CLINICAL USE: Detect IgG antibodies to HSV-1
CPT: 86695

HSV2G | Herpes Simplex Virus II IgG Ab

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Freeze specimen if testing will not be performed within 5 days of collection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-7 days
REFERENCE RANGE: Negative: METHODOLOGY: Enzyme-linked immunoassay (ELISA)
CLINICAL USE: Detect IgG antibodies to HSV-2
CPT: 86696

HSVCSF | AB HERPES SIMPLEX 1 & 2-CSF

SPECIMEN REQUIRED: Frozen CSF
TUBE OR CONTAINER: Sterile tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: HSV 1/2 Antibody and HSV 1/2 IgM Panel
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-6 days
METHODOLOGY: Indirect immunofluorescent assay (IFA) and ACIF
CPT: 86695 x 2; 86696 x 2
### [HSVISH] Herpes Simplex Virus Interpretation

- **SPECIMEN REQUIRED:** Formalin fixed or paraffin embedded tissue
- **TUBE OR CONTAINER:** Container
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-6 days
- **METHODOLOGY:** In Situ Hybridization with Biotin or Digoxigenin-Labeled probes

### [HTLVCSF] CSF HTLV I/II Antibody

- **SPECIMEN REQUIRED:** Frozen CSF
- **TUBE OR CONTAINER:** Sterile tube
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-5 days
- **REFERENCE RANGE:** Negative
- **METHODOLOGY:** Enzyme Immunoassay (EIA)/Western Blot
- **REFLEX TEST INFORMATION:** If positive, results will be confirmed by Western blot at an additional charge
- **CPT:** 86790 (86689-confirmation)

### [HTLVVI-II] HTLV-I/II Antibody

- **SPECIMEN REQUIRED:** Serum or plasma at room temperature
- **TUBE OR CONTAINER:** Red, Gold or Lavender (EDTA)
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 1.5 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** Negative
- **METHODOLOGY:** Enzyme immunoassay (EIA)
- **CLINICAL USE:** Qualitative detection of antibodies
- **CPT:** 86790

### [HTLVPCR] HTLV I/II DNA BY PCR

- **SPECIMEN REQUIRED:** Whole blood in original tube at room temperature
- **TUBE OR CONTAINER:** Yellow (ACD)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 1.5 mL (children < 10)
- **TEST AVAILABILITY:** Daily
- **METHODOLOGY:** Polymerase chain reaction (PCR) amplification and DNA probe detection
- **CLINICAL USE:** Detect HTLV-I and HTLV-II; discriminate between HTLV-I and HTLV-II, resolution of indeterminate serology
- **CPT:** 87798 x 2

### [HTLVWB] HTLV I/II WESTERN BLOT

- **SPECIMEN REQUIRED:** Refrigerated serum or plasma
- **TUBE OR CONTAINER:** Red, Gold, Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Antibody to HTLV 1 and 2
TEST AVAILABILITY: Daily
METHODOLOGY: Line immunoassay or immunoblot
CLINICAL USE: Confirmation and differentiation of HTLV infections; not to be used for screening purposes
CPT: 86687; 86688

[HTRA1] CARASIL-HTRA1 DNA
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday only
TURNAROUND TIME: 21-28 days
REFERENCE RANGE: No mutation detected
METHODOLOGY: DNA sequencing
CLINICAL USE: Detects mutation in the HTRA1 gene
CPT: 83891; 83898 x 10; 83904 x 10; 83909 x 10; 83912

[HUCSF] AB HU CSF
SPECIMEN REQUIRED: CSF at room temperature
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Freeze CSF if held longer than 5 days
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-10 days
REFERENCE RANGE: Negative
METHODOLOGY: Indirect fluorescence (IFA)
CPT: 86255

[HUNTER] HUNTER SYNDROME (MPS II)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 4 weeks
OTHER NAMES: Mucopolysaccharidosis Type II
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83894; 83898 x 9; 83904 x 18; 83909 x 18; 83912

[HUP] HU AUTOAB (NEURAL AB) PROFILE
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: Negative
OTHER NAMES: Neuronal Antibody
METHODOLOGY: Indirect fluorescent antibody (IFA)
CLINICAL USE: ANNA is most commonly associated with small cell lung carcinoma
CPT: 86255

[HVA24] UR HOMOVANILLIC ACID 24HR
SPECIMEN REQUIRED: Refrigerated aliquot (24 hour collection)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: 24 hour urine collected in "D" container (30 mLs 6N HCl); keep refrigerated during collection; adjust pH to SPECIMEN VOLUME: 30 mL
MINIMUM VOLUME: 4 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: 0.0-10.0 mg/24 hours
METHODOLOGY: Liquid chromatography/Tandem Mass Spectrometry (LC-MS/MS)
CLINICAL USE: Diagnose neuroblastoma, ganglioneuroblastoma and pheochromocytoma; follow course of tumor treatment
CPT: 83150

[HVAGCMS] Urine Homovanillic Acid
SPECIMEN REQUIRED: Frozen urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Adjust final pH to 1-3 with 6N HCL
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 days
METHODOLOGY: Gas chromatography/Mass Spectrometry (GC/MS)
CLINICAL USE: Work-up of catecholamine-secreting tumors
CPT: 83150

[HVARAN] UR HOMOVANILLIC ACID RANDOM
SPECIMEN REQUIRED: Refrigerated urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Adjust final pH to < 3 with 6N HCl
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 4 mL
TEST INCLUDES: HVA concentration; creatinine; and HVA:creatinine ratio
TEST AVAILABILITY: Daily
REFERENCE RANGE: Age specific
METHODOLOGY: Liquid chromatography/Tandem Mass Spectrometry (LC-MS/MS)
CLINICAL USE: Diagnose neuroblastoma, ganglioneuroblastoma and pheochromocytoma; follow course of tumor treatment
**[HWS] ECTODERMAL DYSPL (TP63 GENE)**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Buccal swab
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURAROUND TIME: 8 weeks
REFERENCE RANGE: No mutation detected
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Confirmation of clinical diagnosis
CPT: 83891 x 12; 83892 x 2; 83894 x 12; 83898 x 12; 83904 x 12; 83912

**[HYDPROLTM] UR HYDROXYPROLINE TIMED**

SPECIMEN REQUIRED: Refrigerated aliquot of 24-hour urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect in "D" container (6N HCl); adjust pH to SPECIMEN VOLUME: 30 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 7-43 mg/24 hours
METHODOLOGY: Spectrophotometric
CLINICAL USE: Evaluate collagen metabolism of bone
CPT: 83505

**[HYDROPR] UR HYDROXYPROLINE FREE & TOTAL**

SPECIMEN REQUIRED: Refrigerated aliquot of 24-hour urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: 24 hour urine collected in "D" container (30 mLs 6N HCl); adjust pH to SPECIMEN VOLUME: 30 mL
MINIMUM VOLUME: 3 mL
TEST INCLUDES: Free hydroxyproline (unbound); total hydroxyproline (peptide bound and free)
TEST AVAILABILITY: Daily
REFERENCE RANGE: Total: 7-43 mg/24 hours
Free: 0-4 mg/24 hours
METHODOLOGY: Colorimetric
CLINICAL USE: Differentiation of increased collagen turnover and hydroxyprolinemia
CPT: 83500; 83505

**[HYDROXYZ] Hydroxyzine Level**

SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Red or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-9 days
REFERENCE RANGE: 10 - 100 ng/mL
OTHER NAMES: Atarax; Vistaril
METHODOLOGY: Gas Chromatography/Nitrogen Phosphorus Detection (GC-NPD)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

[HYOX] HYPEROXALURIA PANEL URINE
SPECIMEN REQUIRED: Frozen urine (random collection)
TUBE OR CONTAINER: Urine tube
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Urine glycolate, glycerate, oxalate and glyoxalate
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-4 weeks
METHODOLOGY: Gas Chromatography-Mass Spectrometry (GC-MS)
CPT: 82544

[HYPIGE] HYPER IGE SYNDROME (STAT3 GENE)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-8 weeks
OTHER NAMES: Hyper-Ige recurrent Infection Syndrome; Job's syndrome; HIES; STAT3 gene analysis
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891 x 6; 83892 x 2; 83894 x 6 ; 83898 x 12; 83904 x 12; 83912

[HYPOPP] HYPOKALEMIC PERIODIC PARALYSIS
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 2; 83898 x 3; 83904 x 3; 83912

[HYPO4] HYPOPHOSPHATASIA (ALPL GENE)
SPECIMEN REQUIRED: Whole blood, amniocytes or fibroblasts at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or T25 flasks
SPECIMEN VOLUME: 6 mL or 2 flasks
MINIMUM VOLUME: 2 mL or 1 flask
TEST AVAILABILITY: Daily
**METHODOLOGY:** Polymerase Chain Reaction (PCR)
**CPT:** 83890; 83894 x 21; 83898 x 21, 83904 x 24; 83912

### HYPPP | HYPERKALEMIA PERIODIC PARALYS

**SPECIMEN REQUIRED:** Serum at room temperature
**TUBE OR CONTAINER:** Red or Gold
**SPECIMEN VOLUME:** 1 mL
**MINIMUM VOLUME:** 0.5 mL
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 2-10 days
**REFERENCE RANGE:** < 0.76 U/mL
**OTHER NAMES:** ICA512 Autoantibodies; Tyrosine Phosphatase Autoantibodies

**METHODOLOGY:** Radioimmunoassay (RIA)
**CPT:** 86341

### IA2AB | Insulin Autoantibody

**SPECIMEN REQUIRED:** Serum at room temperature
**TUBE OR CONTAINER:** Red or Gold
**SPECIMEN VOLUME:** 1 mL
**MINIMUM VOLUME:** 0.5 mL
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 2-10 days
**REFERENCE RANGE:** < 0.76 U/mL
**OTHER NAMES:** ICA512 Autoantibodies; Tyrosine Phosphatase Autoantibodies

**METHODOLOGY:** Radioimmunoassay (RIA)
**CPT:** 86341

### IBD | INFLAMMATORY BOWEL DISEASE

**SPECIMEN REQUIRED:** Room temperature serum AND whole blood
**TUBE OR CONTAINER:** Red or Gold AND Lavender (EDTA)
**SPECIMEN VOLUME:** 2 mL serum AND 2 mL whole blood
**MINIMUM VOLUME:** 1 mL serum AND 1 mL whole blood
**TEST INCLUDES:** UC-specific pANCA (Neutrophil-specific nuclear autoantibody), CD-specific ASCA IgA & IgG (Anti-saccharomyces cervisiae), CD-specific anti-OmpC IgA (Outer membrane porin from E. coli), Perinuclear pattern and DNAse sensitivity
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 3-5 days
**OTHER NAMES:** IBD Diagnostic

**METHODOLOGY:** Enzyme-linked immunosorbent assay (ELISA), Chemiluminescent Assay, Indirect Immunofluorescent assay (IFA), Polymerase Chain Reaction (PCR)

**CLINICAL USE:** Aid in detection of inflammatory bowel disease (IBD) aids in differentiating between Ulcerative Colitis and Celiac Disease

**CPT:** 82397 x 3; 83520 x 4; 86021 x 2; 86140; 86609; 86671 x 2; 88347; 83896 x 8; 83898 x 4; 83907; 83912

### IBS | IRRITABLE BOWEL SYNDROME

**SPECIMEN REQUIRED:** Refrigerated or frozen serum
**TUBE OR CONTAINER:** Red or Gold
**SPECIMEN VOLUME:** 2 mL
**MINIMUM VOLUME:** 1 mL
**TEST INCLUDES:** BDNF (Brain-Derived Neurotrophic Factor), NGAL (Neutrophil Gelatinase-Associated Lipocalin), TWEAK (TNF-related Weak Inducer of Apoptosis), GRO-a (Growth-Regulated Oncogene Alpha), IL-1 (Interleukin -1 Beta), TIMP-1 (Tissue Inhibitor
of Metalloproteinase-1), ASCA-IgA (Anti-Saccharomyces cerevisiae Antibody), CBir1 (Anti-CBir1 Antibody), ANCA (Anti-Human Neutrophil Cytoplasmic Antibody), tTG (Anti-Human Tissue Transglutaminase IgA)

TEST AVAILABILITY: Daily
TURNAROUND TIME: 7 days
REFERENCE RANGE: BDNF: 7536.5 - 31324.4 pg/ml
NGAL: 28.3 - 272.5 ng/ml
TWEAK: 351.6 - 1751.7 pg/ml
GRO-alpha: 26.4 - 499.3 pg/ml
IL-1: 279.5 - 1358.6 fg/ml
TIMP-1: 156.1 - 410.6 ng/ml
ASCA-IgA: < 20.0 EU/ml
CBir1: < 21.0 EU/ml
ANCA: < 12.1 EU/ml
tTG IgA: < 4.0 U/ml

METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CLINICAL USE: Aid in diagnosis of irritable bowel syndrome
CPT: 83520 x 3; 82397 x 6, 86021

**[IBU] Ibuprofen Level**

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
OTHER NAMES: Advil, Midol IB, Motrin, Nuprin
METHODOLOGY: High Performance Liquid Chromatography with Ultraviolet Detection (HPLC-UV)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

**[IDIHIVGEN] HIV Retroviral Genotype**

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA) or PPT (white)
SPECIAL HANDLING: Specimen must be frozen in a screw top tube
or a PPT tube
Place in -20 C freezer
SPECIMEN VOLUME: 3 mL
TEST INCLUDES: All approved HIV antiretroviral drugs
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
METHODOLOGY: ID of HIV-1 drug resistance mutations by sequencing
CLINICAL USE: Detect resistance in HIV-1 to antiretroviral drugs
CPT: 87901
### [IDIHIVINTEG] HIV Integrase Inhibitor Mutations

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Lavender (EDTA) or PPT (white)  
**SPECIAL HANDLING:** Specimen must be frozen in a screw top tube or a PPT tube  
Place in -20°C freezer  
**SPECIMEN VOLUME:** 6 mL  
**MINIMUM VOLUME:** 3 mL  
**TEST AVAILABILITY:** Daily  
**CLINICAL USE:** Provides phenotypic resistance analysis  
**CPT:** 87903

### [IDIHIVPHENGT] HIV Genotype/Virtual Phenotype

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Lavender (EDTA) or PPT (white)  
**SPECIAL HANDLING:** Specimen must be frozen in a screw top tube or a PPT tube  
Place in -20°C freezer  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST INCLUDES:** HIV with Replication capacity: Combination Phenosense & Genotype  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-3 weeks  
**METHODOLOGY:** Direct measurement of the drug susceptibility of a patient's HIV-1 virus to all approved antiretrovirals combined with identification of HIV-1 drug resistance mutations by sequencing  
**CPT:** 87901, 87903, 87904 x 5

### [IDIHIVPHENO] HIV Phenotype

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIAL HANDLING:** Specimen must be frozen in a screw top tube or a PPT tube  
Place in -20°C freezer  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-3 weeks  
**METHODOLOGY:** PCR amplification and viral culture  
**CLINICAL USE:** Detect resistance in HIV-1 to antiretroviral drugs  
**CPT:** 87903, 87904 x 2

### [IDITROFDNA] HIV Co-receptor Tropism Assay

**SPECIMEN REQUIRED:** Frozen whole blood  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIAL HANDLING:** Specimen must be frozen in a screw top tube or in a PPT tube  
Place in -20°C freezer  
**SPECIMEN VOLUME:** 6 mL
MINIMUM VOLUME: 4 mL
TEST AVAILABILITY: Daily
CLINICAL USE: To be used when a patient's viral load is undetectable, tropism is unknown, and substitution with a CCR5 antagonist-containing regimen is desired
CPT: 87906

[IDITROFILE]  HIV Co-receptor Tropism Assay

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA) or PPT (white)
SPECIAL HANDLING: Specimen must be frozen in a screw top tube or a PPT tube
Place in -20 C freezer
SPECIMEN VOLUME: 6 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
CLINICAL USE: Identifies the tropism of a patient's HIV
CPT: 87901

[IDORG]  IDENTIFICATION OF ORGANISM X1

[IDORGBC]  IDENTIFICATION OF ORG BC X1

[IDURSULF]  Iduronate-2-Sulfatase (Hunter)

SPECIMEN REQUIRED: Frozen serum, whole blood or fibroblasts at room temperature
TUBE OR CONTAINER: Gold, Red, Dark green (heparin) or T-25 flasks
SPECIMEN VOLUME: 4 mL (serum); 10 mL (whole blood) or 2 flasks
MINIMUM VOLUME: 2 mL (serum) or 5 mL (whole blood)
TEST AVAILABILITY: Daily
CPT: 82658

[IEPCSF]  CSF IMMUNOELECTROPHORESIS

SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Immunofixation of CSF; CSF protein electrophoresis
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Normal pattern
METHODOLOGY: Agarose gel immunofixation (IFE); protein electrophoresis on agarose media
CLINICAL USE: Evaluate possible multiple sclerosis, subacute sclerosing panencephalitis, and other chronic CNS disorders associated with local IgG synthesis
CPT: 84166; 86335
### [IEPRAN] UR IMMUNOELECTROPHOR RANDOM

- **SPECIMEN REQUIRED:** Refrigerated aliquot of random urine
- **TUBE OR CONTAINER:** Plastic urine container
- **SPECIAL HANDLING:** Collect first morning urine
- **SPECIMEN VOLUME:** 30 mL
- **MINIMUM VOLUME:** 10 mL
- **TEST INCLUDES:** alpha 1-globulin; alpha 2-globulin; beta and gamma globulins, M-spike percentage; protein immunofixation
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-4 days
- **REFERENCE RANGE:** Normal pattern
- **METHODOLOGY:** Urine immunofixation (IFE) on agarose gel; urine protein electrophoresis on agarose media; visual light-chain typing
- **CLINICAL USE:** Useful in characterizing the proteins in cases of proteinuria
- **CPT:** 84166; 86335

### [IEPS] IMMUNOELECTROPHORESIS SERUM

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 3 ml
- **MINIMUM VOLUME:** 2 mL
- **TEST INCLUDES:** Quantitative IgG, IgA, and IgM; Protein electrophoresis; typing of monoclonal or polyclonal proteins for light and heavy chain specificity; Immunofixation electrophoresis if needed for clarification of equivocal IEP patterns
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-4 days
- **REFERENCE RANGE:** Normal pattern
- **METHODOLOGY:** Electrophoresis followed by immunodiffusion against monospecific antisera to immunoglobin and individual heavy and light chains (IEP); protein electrophoresis on agarose media; turbidimetric quantitation of IgG, IgA, and IgM
- **CLINICAL USE:** Detect and identify monoclonal immunoglobulin gammopathies
- **CPT:** 82784 x 3, 86320

### [IEPUT] UR IMMUNOELECTROPHORESIS 24-HR

- **SPECIMEN REQUIRED:** Refrigerated aliquot of 24-hour urine
- **TUBE OR CONTAINER:** Plastic urine container
- **SPECIAL HANDLING:** Collect 24-hour urine in "P" container (no preservative); mix well
- **SPECIMEN VOLUME:** 30 mL
- **MINIMUM VOLUME:** 10 mL
- **TEST INCLUDES:** Urine immunofixation; qualitative identification
of light chains and urine protein electrophoresis
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 days
REFERENCE RANGE: Normal pattern
OTHER NAMES: Bence Jones Protein Identification; Globulins;
IFE/Protein Electrophoresis; Myeloma Proteins;
Urinary IFE;
METHODOLOGY: Urine immunofixation (IFE) on agarose gel;
urine protein electrophoresis on arose media;
visual light-chain typing
CLINICAL USE: Useful in characterizing the proteins in cases of
proteinuria
CPT: 84166; 86335

[IF] IMMUNOFIXATION SERUM
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 3 ml
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Quantitation of immunoglobulins-IgA, IgG, IgM;
IFE interpretation of heavy- and light - chain patterns
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
METHODOLOGY: Electrophoresis followed by immunodiffusion against
monospecific antiserum to immunoglobulin and
individual heavy and light chains (IFE);
turbidimetric quantitation of IgA, IgG, IgM
CLINICAL USE: Detect and identify monoclonal immunoglobulin
gammopathies
CPT: 82784 x 3, 86334

[IFU] Urine Immunofixation
SPECIMEN REQUIRED: Refrigerated aliquot of random urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: No preservative; Collect first morning urine
SPECIMEN VOLUME: 30 mL
MINIMUM VOLUME: 10 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 days
REFERENCE RANGE: Normal pattern
METHODOLOGY: Agarose gel immunofixation electrophoresis (IFE)
CLINICAL USE: Useful in characterizing the proteins in cases of
proteinuria
CPT: 86335

[IGA] Immunoglobulin A
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIAL HANDLING: Draw from a fasting patient; test cannot be
performed on a lipemic sample
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.4 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 2 days
REFERENCE RANGE: Age specific
METHODOLOGY: Immuno-turbidimetric
CLINICAL USE: Aid in the diagnosis and treatment of immune
deficiency states, protein-losing conditions,
chronic infections, myeloma, cirrhosis and liver
disease
CPT: 82784

[IGAAB] Anti-Immunoglobulin A IgG Antibody
SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-9 days
METHODOLOGY: ELISA with Radial immunodiffusion
CLINICAL USE: Evaluation of patients with a history of a
severe transfusion reaction with signs of
anaphylaxis
Identify patients who require IgA-free blood
products
CPT: 83520

[IGACSF] CSF Immunoglobulin A
SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.25 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: 0.00 - 0.64
METHODOLOGY: Immunologic
CLINICAL USE: Quantitation of polyclonal or monoclonal response
CPT: 82784

[IGAFLD] Body Fluid Immunoglobulin A
SPECIMEN REQUIRED: Refrigerated Body fluid
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
**[IGASEC] Saliva Secretory IgA**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Refrigerated saliva</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Sterile container</td>
</tr>
<tr>
<td>SPECIAL HANDLING:</td>
<td>Sputum is not acceptable; Centrifuge and separate to remove cellular material</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>0.4 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>2-3 days</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>Male: 4.0-24.0 mg/dL</td>
</tr>
<tr>
<td></td>
<td>Female: 5.0-28.0 mg/dL</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Nephelometry</td>
</tr>
<tr>
<td>CLINICAL USE:</td>
<td>Useful in investigating recurrent upper respiratory infections in children</td>
</tr>
<tr>
<td>CPT:</td>
<td>82784</td>
</tr>
</tbody>
</table>

**[IGASUB] IMMUNOGLOBULIN A SUBCLASSES**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Frozen serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Gold or Red</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>TEST INCLUDES:</td>
<td>Total IgA; IgA 1 and IgA 2</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>10-14 days</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Immunologic</td>
</tr>
<tr>
<td>CPT:</td>
<td>82784, 82787 x 2</td>
</tr>
</tbody>
</table>

**[IGD] Immunoglobulin D**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Frozen serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Red or Gold</td>
</tr>
<tr>
<td>SPECIAL HANDLING:</td>
<td>Draw from a fasting patient; test cannot be performed on a lipemic sample</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>3 days</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>0.13-15.27 mg/dL</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Immunologic</td>
</tr>
<tr>
<td>CLINICAL USE:</td>
<td>Study patients for IgD myeloma</td>
</tr>
<tr>
<td>CPT:</td>
<td>82784</td>
</tr>
</tbody>
</table>

**[IGE] Immunoglobulin E**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Frozen serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>0.5 mL</td>
</tr>
</tbody>
</table>
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Age specific
METHODOLOGY: Immunochemiluminometric assay (ICMA)
CLINICAL USE: Evaluate immunoglobulin status in possible atopic disease
CPT: 82785

**[IGFBP-3] Insulin-like GF Binding Protein-3**

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL (this volume does not allow for repeat testing)
PEDiatric TEST INFO: Order PEDIGFBP3 for pediatric testing to be performed by Esoterix
TEST AVAILABILITY: Daily
REFERENCE RANGE: Age specific
OTHER NAMES: Insulin-like Growth Factor Binding Protein-3
METHODOLOGY: Immunochemiluminometric Assay (ICMA)
CLINICAL USE: Aids in evaluation of growth hormone secretion

CPT: 83520

**[IGF-II] Insulin-like Growth Factor II**

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL (this volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7 days
REFERENCE RANGE: Age specific
OTHER NAMES: Somatomedin A
METHODOLOGY: Radioimmunoassay (RIA) after acid: alcohol extraction
CLINICAL USE: An adjunct to IGF-I in the clinical evaluation of growth hormone-related disorders
CPT: 84305

**[IGG] Immunoglobulin G**

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIAL HANDLING: Draw from a fasting patient; test cannot be performed on a lipemic sample
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.4 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 2 days
REFERENCE RANGE: Age specific
METHODOLOGY: Immuno-turbidimetric
CLINICAL USE: Aid in the diagnosis and treatment of immune
deficiency states, protein-losing conditions,
chronic infections, liver disease, as well as
multiple sclerosis, mumps, meningitis, and
immunoglobulin G myeloma
CPT: 82784

[IGGAM] IMMUNOGLOBULINS G,A,M
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIAL HANDLING: Draw from a fasting patient; test cannot be
performed on a lipemic sample
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1.2 mL
TEST INCLUDES: Immunoglobulin A; immunoglobulin G; and
immunoglobulin M quantitation
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 2 days
REFERENCE RANGE: Age specific for each individual test
METHODOLOGY: Immuno-turbidimetric
CLINICAL USE: Evaluate humoral immunity; monitor therapy in
myeloma
CPT: 82784 x 3

[IGGAMCSF] CSF IMMUNOGLOBULINS
SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.75 mL
TEST INCLUDES: IgG, IgM and IgA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: See individual tests
METHODOLOGY: Immunologic
CPT: 82784 x 3

[IGGCSF] CSF Immunoglobulin G
SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Freeze specimen if testing will not occur
within 5 days
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.25 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
METHODOLOGY: Immunologic
CLINICAL USE: Evaluate central nervous system involvement by
infection, neoplasm, or primary neurologic
disease (in particular, multiple sclerosis)
### [IGGFLD] Body Fluid Immunoglobulin G

- **SPECIMEN REQUIRED:** Refrigerated Body fluid
- **TUBE OR CONTAINER:** Sterile container
- **SPECIAL HANDLING:** Specify source of fluid
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.3 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2 days
- **METHODOLOGY:** Nephelometry

CPT: 82784

### [IGGIN] CSF IGG INDEX

- **SPECIMEN REQUIRED:** Refrigerated serum/plasma AND CSF
- **TUBE OR CONTAINER:** Red, Gold or Green (Heparin) AND sterile CSF container
- **SPECIAL HANDLING:** Must have both CSF and serum/plasma to complete testing
- **SPECIMEN VOLUME:** 2 mL serum/plasma
  1 mL CSF
- **MINIMUM VOLUME:** 1 mL serum/plasma
  0.5 mL CSF
- **TEST INCLUDES:** Total albumin; CSF and serum, Total IgG; CSF and serum, IgG index and IgG/Albumin ratio
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** Index: 0.0-0.7
- **METHODOLOGY:** Immunologic, Spectrophotometry
- **CLINICAL USE:** Aid in diagnosis of multiple sclerosis

CPT: 82040; 82784 x2; 82042

### [IGGINDSYN] CSF IGG INDEX + SYNTHESIS

- **SPECIMEN REQUIRED:** Refrigerated serum AND CSF
- **TUBE OR CONTAINER:** Red or Gold AND sterile CSF container
- **SPECIAL HANDLING:** Must have both CSF and serum to complete testing
- **SPECIMEN VOLUME:** 2 mL serum
  1.5 mL CSF
- **MINIMUM VOLUME:** 0.7 mL serum
  0.5 mL CSF
- **TEST INCLUDES:** Total albumin; CSF and serum, Total IgG; CSF serum, IgG index and IgG/Albumin ratio and calculated IgG synthesis rate
- **TEST AVAILABILITY:** Daily
- **METHODOLOGY:** Immunologic, Spectrophotometry
- **CLINICAL USE:** Aid in diagnosis of multiple sclerosis

CPT: 82040; 82784 x2; 82042

### [IGGSUB] IMMUNOGLOBULIN G SUBCLASSES

- **SPECIMEN REQUIRED:** Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Freeze if specimen is to be stored > 2 weeks
Draw from a fasting patient; test cannot be performed on a lipemic sample
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1.5 mL
TEST INCLUDES: Quantitation of IgG1, IgG2, IgG3, IgG4 & total IgG
TEST AVAILABILITY: Daily
REFERENCE RANGE: Age specific
METHODOLOGY: Immunologic
CLINICAL USE: Study patients with recurrent bacterial infections or allergy
CPT: 82784; 82787 x4

[IGGSYN] CSF IGG SYNTHESIS

SPECIMEN REQUIRED: Refrigerated CSF AND serum/plasma
TUBE OR CONTAINER: Red or Gold AND Sterile container
SPECIAL HANDLING: Must have both CSF and serum to complete testing
SPECIMEN VOLUME: 1 mL each
MINIMUM VOLUME: 0.2 mL each
TEST INCLUDES: CSF and serum albumin; CSF and serum IgG; and calculated IgG synthesis rate
TEST AVAILABILITY: Daily
REFERENCE RANGE: Synthesis rate: -9.9 to +3.3 mg/day
METHODOLOGY: Immunologic; spectrophotometry
CLINICAL USE: Diagnosis of inflammatory and autoimmune diseases involving the CNS, in particular, multiple sclerosis
CPT: 82784 x 2; 82040; 82042

[IGM] Immunoglobulin M

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIAL HANDLING: Draw from a fasting patient; test cannot be performed on a lipemic sample
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.4 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 2 days
REFERENCE RANGE: Age specific
METHODOLOGY: Immuno-turbidimetric
CLINICAL USE: Aid in the diagnosis and treatment of immune deficiency states, protein-losing conditions, chronic infections, liver disease and Waldenstrom's macroglobulinemia
CPT: 82784

[IGMCSF] CSF Immunoglobulin M

SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.25 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: 0.00 - 0.26
METHODOLOGY: Immunologic
CLINICAL USE: In patients with bacterial meningitis, CSF IgM is usually elevated along with C-reactive protein
CPT: 82784

**[IGMFLD] Immunoglobulin M**

SPECIMEN REQUIRED: Refrigerated Body fluid
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
METHODOLOGY: Nephelometry
CPT: 82784

**[IGVH] IgVH HYPERMUTATION ANALYSIS**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark green (heparin) or Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 2-3 days
METHODOLOGY: Flow Cytometry
CPT: 88368 x 2

**[IL28B] INTERLEUKIN 28B POLYMORPHISM**

SPECIMEN REQUIRED: Whole blood or buccal swab at room temperature
TUBE OR CONTAINER: Lavender (EDTA), Yellow (ACD) or buccal swab
SPECIMEN VOLUME: 7 mL whole blood or buccal swab kit
MINIMUM VOLUME: 3 ml whole blood or 2 buccal swabs
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-8 days
METHODOLOGY: Real-time polymerase chain reaction (PCR) with allele-specific TaqMan probes
CLINICAL USE: Associated with higher sustained viral response rates to pegylated interferon/ribavirin therapy in HCV genotype 1-infected individuals
CPT: 83891; 83896 x 2; 83898; 83912

**[IMIPR] IMIPRAMINE (TOFRANIL)**

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Dark green(heparin) or Lavender(EDTA)
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.6 mL
TEST INCLUDES: Imipramine; desipramine (imipramine metabolite)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Therapeutic: 150-250 ng/mL
Potentially toxic > 500 ng/mL
OTHER NAMES: Tofranil
METHODOLOGY: High-pressure liquid chromatography (HPLC)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80174

[IMMU] UR IMMUNOGLOBULINS

SPECIMEN REQUIRED: Refrigerated urine (24-hour)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect 24 urine in "P" container (no preservative
SPECIMEN VOLUME: 50 mL
MINIMUM VOLUME: 15 mL
TEST INCLUDES: Urine total protein, Urine IgG, IgM and IgA
TEST AVAILABILITY: Daily
METHODOLOGY: Immunologic
CPT: 82784 x 3, 84156

[IMMUKNOW] IMMUKNOW CELL FUNCTION ASSAY

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark Green (heparin)
SPECIAL HANDLING: Must be collected and received in the lab by 1:30 pm Monday-Friday only
Collect specimen after 8:00 a.m. to preserve specimen integrity
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 48 hours
REFERENCE RANGE: Low immune cell response: Moderate immune cell response:
226-524 ATP ng/mL
Strong immune cell response: >= 525 ATP ng/mL
OTHER NAMES: Cylex
METHODOLOGY: Detects cell-mediated immunity by measuring concentration of ATP from CD4 cells following stimulation
CPT: 82397, 86353

[IMMUNE] IMMUNE COMPLEX PROFILE

SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIAL HANDLING: Freeze in 2 separate plastic transfer tubes
SPECIMEN VOLUME: 1 mL in two separate tubes
MINIMUM VOLUME: 0.2 mL in two separate tubes
TEST INCLUDES: C1q binding and Raji cell assay
TEST AVAILABILITY: Daily
REFERENCE RANGE: C1q Binding: < 4.0 ug Eq/mL
Raji cell: Normal METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Detect circulating immune complexes
CPT: 86332 x 2

**[IMMURAN]**  **UR IMMUNOGLOBULINS RANDOM**

SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 25 mL
MINIMUM VOLUME: 10 mL
TEST INCLUDES: Urine IgG, IgM and IgA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
METHODOLOGY: Immunologic
CPT: 82784 x 3

**[INDIN]**  **HIV Indinavir Resistance**

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
OTHER NAMES: Crixivan
METHODOLOGY: High-pressure liquid chromatography (HPLC)
CLINICAL USE: Monitor indinavir therapy
CPT: 80299

**[INFAPCR]**  **INFLUENZA A/H1N1 PCR**

SPECIMEN REQUIRED: Bronchial lavage/wash, sputum, NP or throat swab or respiratory aspirate at room temperature; Frozen CSF
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Influenza A and H1N1 Influenza A
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 days
REFERENCE RANGE: Not Detected
METHODOLOGY: Real-time Polymerase Chain Reaction (RT-PCR)
CLINICAL USE: Diagnose Influenza A and Influenza H1N1
CPT: 87503 x 2

**[INFLA]**  **Influenza Virus Type A Antibody**

SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative: < 1:8
METHODOLOGY: Complement fixation (CF)
CLINICAL USE: Detect antibodies to Influenza A
CPT: 86710

**[INFLAAG] Influenza A Antigen**

**[INFLAM] Influenza Virus Type A IgM Antibody**

SPECIMEN REQUIRED: Refrigerated serum or plasma  
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-5 days  
REFERENCE RANGE: < 0.8 - Negative  
METHODOLOGY: Enzyme immunoassay (EIA)  
CLINICAL USE: Aids in the diagnosis of Influenza, or the "flu"
CPT: 86710

**[INFLB] Influenza Virus Type B Antibody**

SPECIMEN REQUIRED: Serum at room temperature  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
REFERENCE RANGE: Negative: < 1:8  
METHODOLOGY: Complement fixation (CF)  
CLINICAL USE: Detect antibodies to Influenza B
CPT: 86710

**[INFLBAG] Influenza B Antigen**

**[INFLBM] Influenza Virus Type B IgM Antibody**

SPECIMEN REQUIRED: Refrigerated serum or plasma  
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-5 days  
REFERENCE RANGE: < 0.8 - Negative  
METHODOLOGY: Enzyme immunoassay (EIA)  
CLINICAL USE: Aids in the diagnosis of Influenza, or the "flu"
CPT: 86710

**[INFLCSF] AB INFLUENZA TYPE A&B CSF**

SPECIMEN REQUIRED: Refrigerated or frozen CSF  
TUBE OR CONTAINER: Sterile container
<table>
<thead>
<tr>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Includes</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Methodology</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mL</td>
<td>0.5 mL</td>
<td>Influenza A IgG/IgM and Influenza B IgG/IgM</td>
<td>Daily</td>
<td>3-7 days</td>
<td>Enzyme-Linked Immunosorbent Assay (ELISA)</td>
<td>86710 x 4</td>
</tr>
<tr>
<td>SPECIMEN REQUIRED</td>
<td>TUBE OR CONTAINER: Red or Dark green (heparin)</td>
<td></td>
<td>SPECIAL HANDLING: Freeze if held longer than 3 days</td>
<td></td>
<td>Dr. In.</td>
<td></td>
</tr>
<tr>
<td>2 mL</td>
<td>0.5 mL</td>
<td>Isoniazid Level</td>
<td>Daily</td>
<td>5-7 days</td>
<td>High Performance Liquid Chromatography with Ultraviolet Detection (HPLC-UV)</td>
<td>80299</td>
</tr>
<tr>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>SPECIMEN REQUIRED</td>
<td>TUBE OR CONTAINER: Red or Dark green (heparin)</td>
<td></td>
<td>SPECIAL HANDLING: Freeze if held longer than 3 days</td>
<td></td>
<td>Dr. In.</td>
<td></td>
</tr>
<tr>
<td>1 mL</td>
<td>0.5 mL</td>
<td>Inhibin A</td>
<td>Daily</td>
<td>2-4 days</td>
<td>Enzyme Immunoassay (EIA)</td>
<td>86336</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SPECIMEN REQUIRED</td>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
<td>SPECIAL HANDLING: Freeze if held longer than 3 days</td>
<td></td>
<td>Dr. In.</td>
<td></td>
</tr>
<tr>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>Inhibin B</td>
<td>Daily</td>
<td>2-9 days</td>
<td>Enzyme-linked Immunosorbent assay (ELISA)</td>
<td>83520</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIMEN REQUIRED</td>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
<td></td>
<td>SPECIAL HANDLING: Freeze if held longer than 3 days</td>
<td></td>
<td>Dr. In.</td>
<td></td>
</tr>
<tr>
<td>5 mL</td>
<td></td>
<td>CILIOPATHY VIA INPP5E</td>
<td></td>
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</tr>
<tr>
<td>SPECIMEN REQUIRED</td>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
<td></td>
<td>SPECIAL HANDLING: Freeze if held longer than 3 days</td>
<td></td>
<td>Dr. In.</td>
<td></td>
</tr>
</tbody>
</table>
**MINIMUM VOLUME:** 2 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 4-6 weeks  
**OTHER NAMES:** Ciliopathy via INPP5E gene sequencing  
**METHODOLOGY:** Polymerase chain reaction (PCR)  
**CPT:** 83890; 83891; 83894; 83898 x 11; 83904 x 11; 83912

**[INS] Insulin Level**

**SPECIMEN REQUIRED:** Frozen serum or plasma  
**TUBE OR CONTAINER:** Gold or Light Green (heparin)  
**SPECIAL HANDLING:** NO isotopes administered 24 hours prior to venipuncture; Patient should be fasting for at least 7 hours prior to venipuncture  
**SPECIMEN VOLUME:** 2 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Monday - Friday  
**TURNAROUND TIME:** 3-4 days  
**REFERENCE RANGE:** 0-17 years: 2.0-20.0 uIU/mL  
>18 years: 6.0-30.0 uIU/mL  
**METHODOLOGY:** Competitive Immunoassay  
**CLINICAL USE:** Work up for fasting hypoglycemia, evaluate for insulin producing neoplasm or pancreatic islet cell hyperplasia  
**CPT:** 83525

**[INSFR] INSULIN FREE AND TOTAL**

**SPECIMEN REQUIRED:** Refrigerated serum  
**TUBE OR CONTAINER:** Gold or Red  
**SPECIAL HANDLING:** Patient should fast at least 12 hours prior to specimen collection  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST INCLUDES:** Insulin Free and Total  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3-10 days  
**METHODOLOGY:** Radioimmunoassay (RIA)  
**CPT:** 83525; 83527

**[INSULAB] Insulin Autoantibody**

**SPECIMEN REQUIRED:** Serum at room temperature  
**TUBE OR CONTAINER:** Red or Gold  
**SPECIMEN VOLUME:** 0.5 mL  
**MINIMUM VOLUME:** 0.2 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-8 days  
**REFERENCE RANGE:** < 126  
**OTHER NAMES:** IAA; Insulin Antibodies  
**METHODOLOGY:** Radioimmunoassay (RIA)  
**CPT:** 86337
<table>
<thead>
<tr>
<th>[INT10] Interleukin 10 (IL-10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum or plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Gold, Red or Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Separate within 2 hours of venipuncture</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4 weeks</td>
</tr>
<tr>
<td>REFERENCE RANGE: &lt; 4.6 pg/mL</td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)</td>
</tr>
<tr>
<td>CPT: 83520</td>
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</table>

<table>
<thead>
<tr>
<th>[INT18] Interleukin-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Separate within 2 hours of venipuncture</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)</td>
</tr>
<tr>
<td>CPT: 83520</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>[INT1B] Interleukin 1 Beta (IL-1b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 7-10 days</td>
</tr>
<tr>
<td>METHODOLOGY: Multiplex Array</td>
</tr>
<tr>
<td>CPT: 83520</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[INT2] Interleukin 2 (IL-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Separate serum or plasma from cells as soon as possible and freeze</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 5-30 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: &lt; 3.4 pg/mL</td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA)</td>
</tr>
<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>[INT2R] Interleukin-2-Receptor (IL-2R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
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<td></td>
</tr>
</tbody>
</table>
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat
testing)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-10 days
REFERENCE RANGE: 223-710 units/mL
METHODOLOGY: Immunochemiluminometric assay (ICMA)
CLINICAL USE: The function of IL-2 sR is unclear, but increased
levels of IL-2 sR in biological fluids correlate
with increased T & B activation and immune system
activation
CPT: 83520

[INT4] Interleukin 4 (IL-4)

SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Multiplex array
CPT: 83520

[INT6] Interleukin 6 (IL-6)

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.4 mL (this volume does not allow for repeat
testing)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-7 days
REFERENCE RANGE: 0.0 - 14.0
OTHER NAMES: B-Cell Stimulation Factor 2; BSF-2; CDF; Cytolytic
Differentiation Factor; Hepatocyte Stimulatory
Factor; HGF; HSF; Hybridoma Growth Factor; IL-6
METHODOLOGY: Immunochemiluminometric assay (ICMA)
CPT: 83520

[INT6AMN] Interleukin 6 (IL-6)

SPECIMEN REQUIRED: Frozen amniotic fluid
TUBE OR CONTAINER: Sterile capped/conical tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: < 3.7 pg/ml
METHODOLOGY: Multiplex Array
CPT: 83520

[INT8] Interleukin 8 (IL-8)

SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIAL HANDLING: Separate within 1 hour of venipuncture
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: < 6.0 pg/mL
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CPT: 83520

**[INTFA] Alpha Interferon Level**

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-9 days
REFERENCE RANGE: < 15 IU/mL
METHODOLOGY: Enzyme-immunoassay (EIA)
CPT: 83520

**[INTFB] Interferon Beta Antibody**

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-9 days
REFERENCE RANGE: < 4.0 Units
METHODOLOGY: Multi-Analyte Immunodetection (MAID)
CLINICAL USE: Antibodies are detectable in relapsing-remitting multiple sclerosis patients after the third year of treatment with IFNB and are associated with exacerbations of disease
CPT: 83520

**[INTFG] Interferon Gamma Antibody**

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
REFERENCE RANGE: < 0.3 pg/mL
METHODOLOGY: Multiplex Array
CPT: 83520

**[INTRAB] Intrinsic Factor Antibody**

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.5 mL (this volume does not allow for repeat testing
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: Contributes to the diagnosis and differential diagnosis of B12 deficiency
CPT: 86340

[IODTM] UR IODINE TIMED
SPECIMEN REQUIRED: Urine at room temperature (24-hour collection)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
METHODOLOGY: Inductively couples plasma/Mass Spectrometry (ICP/MS)
CLINICAL USE: Monitor exposure; evaluate for iodine deficiency disorders (IDDS)
CPT: 83789

[IP] INCONTINENTIA PIGMENTI
SPECIMEN REQUIRED: Room temperature whole blood
TUBE OR CONTAINER: EDTA (lavender)
SPECIMEN VOLUME: 5 ml
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 4 weeks
REFERENCE RANGE: No deletion detected
OTHER NAMES: Bloch Sulzberger syndrome, Bloch Siemens syndrome, melanoblastosis cutis; naevus pigmentosus systematicus
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Confirmation of diagnosis and identify carrier status and prenatal diagnosis of Incontinentia Pigmenti (IP)
CPT: 83891 x 2; 83892 x 2; 83898 x 8; 83912

[IPEC] IPECAC USE MARKERS SCREEN
SPECIMEN REQUIRED: Urine (random) at room temperature
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: No preservative
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Emetine and Cephaine
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-9 days
REFERENCE RANGE: < 75.0 ng/mL
METHODOLOGY: Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
CLINICAL USE: Exclusion Screen
CPT: 80100

**[IRF6] IRF6 GENE MUTATION**
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
OTHER NAMES: IRF 6 Gene analysis in Van der Woude and Popliteal Pterygium Syndromes (PPS)
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891 x 2; 83892 x 2; 83894 x 2; 83898 x 4; 83904 x 4; 83912

**[IRON] Iron Level**
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 0-30 days: 100-250 mcg/dL
1 Month-2 Years: 40-100 mcg/dL
3-12 years: 50-120 mcg/dL
12 Years +: (Female) 40-150 mcg/dL
(Male) 50-160 mcg/dL
METHODOLOGY: Timed endpoint
CLINICAL USE: Aid in evaluation conditions involving red cell reproduction and destruction, iron metabolism or transplant
CPT: 83540

**[IRONU] Urine Random Iron**
SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Urine container
SPECIMEN VOLUME: 6 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-8 days
METHODOLOGY: Inductively Coupled Plasma/Optical Emission (ICP/OES)
CLINICAL USE: Monitor exposure
CPT: 83540

**[ISLETAB] Anti-Pancreatic Islet Cell Antibody**
SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7 days
REFERENCE RANGE: < 10 JDF units
OTHER NAMES: Islet cell Ab, antipancreatic islet cell antibody, anti-islet cell Ab
METHODOLOGY: Immunofluorescence
CLINICAL USE: Differential diagnosis of insulin-dependent diabetes from noninsulin-dependent diabetes
CPT: 88346

[ITRAT] Itraconazole Level
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
OTHER NAMES: Sporanox
METHODOLOGY: High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)
CLINICAL USE: Therapeutic Drug Monitoring
CPT: 80299

[IVD] Isovaleryl CoA Dehydrogenase
SPECIMEN REQUIRED: Whole blood at room temperature; Refrigerated amniotic fluid or CVS (or cultured cells
TUBE OR CONTAINER: Lavender (EDTA), Yellow (ACD), sterile container or T-25 flasks
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 10; 83904 x 10; 83912

[JAK2] Janus Kinase 2 V617F Mutation
SPECIMEN REQUIRED: Whole blood or bone marrow at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 7 mL (blood)
2 mL (bone marrow)
MINIMUM VOLUME: 5 mL (blood)
1 mL (bone marrow)
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 5-10 days
OTHER NAMES: JAK2 Mutation
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Used in conjunction with bone marrow histology and cytogenetic analysis to assist in the diagnosis of myeloproliferative disorders (MPDs) such as polycythemia vera, essential thrombocythemia and idiopathic myelofibrosis
CPT: 83890; 83896 x 2; 83898; 83903; 83912

[JAK2-12] JANUS KINASE 2 EXON 12 MUTAT
SPECIMEN REQUIRED: Whole blood or bone marrow at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Dark Green (heparin)
SPECIAL HANDLING: Must arrive in laboratory by 1:00 pm, Monday through Friday only (must be received at performing lab within 48 hours of collection)
SPECIMEN VOLUME: 7 mL (blood)
2 mL (bone marrow)
MINIMUM VOLUME: 5 mL (blood)
1 mL (bone marrow)
TEST AVAILABILITY: Monday-Friday
OTHER NAMES: JAK2 Exon 12 Mutation detection
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83898 x 6; 83909 x 6; 83912

[JAUNDCHIP] JAUNDICE CHIP SEQUENCING ARRAY
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Testing for ABCB4 gene, ABCB11 gene, ATP8B1 gene, JAG1 gene and SERPINA1 gene
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 weeks
METHODOLOGY: Resequencing Array & Polymerase chain reaction(PCR)
CPT: 83890; 83892; 83894 x 36; 83896 x 36; 83898 x 36; 83904 x 10; 83909 x 10; 88386; 83912

[JCVBKVDNA] JC/BK VIRUS DNA BY PCR
SPECIMEN REQUIRED: Frozen CSF
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.7 mL
TEST INCLUDES: BK virus DNA & JC virus DNA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Not detected
OTHER NAMES: Polyomavirus by PCR
METHODOLOGY: Polymerase chain reaction (PCR) real-time technology
CLINICAL USE: Aid in the diagnosis of progressive multifocal leukoencephalopathy (PML)
CPT: 87798 x 2

[JKA-JKB] JKA/JKB RED CELL AG GENOTYPING
SPECIMEN REQUIRED: Whole blood and amniotic fluid at room temperature
TUBE OR CONTAINER: Lavender (EDTA) and sterile container
SPECIMEN VOLUME: 10 mL (whole blood)
15 mL (amniotic fluid)
MINIMUM VOLUME: 5 mL (whole blood)
7 mL (amniotic fluid)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-9 days
METHODOLOGY: Allele-specific PCR
CPT: 83891; 83894; 83898 x 2; 83912; 86905 x 2

[JNCL] JNCL/BATTEN DISEASE (CLN3)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING:
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 12 weeks
OTHER NAMES: Juvenile Neuronal Ceroid Lipofuscinosis (JNCL); Batten Disease; CLN3 gene sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83894 x 4; 83898 x 15; 83904 x 16; 83912

[JO1AB] JO-1 Antibody
SPECIMEN REQUIRED: Room temperature serum or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)
SPECIMEN VOLUME: 0.6 mL
MINIMUM VOLUME: 0.3 mL (This volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
REFERENCE RANGE: 0.0 - 0.9
METHODOLOGY: Flow Cytometry
CLINICAL USE: Evaluate patients suspected of having polymyositis hermatomyositis, or polymyositis-scleroderma overlap syndrome
CPT: 86235

[JOUB] JOUBERT SYNDROME
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: AH11 gene
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
OTHER NAMES: Joubert syndrome Sequential evaluation via AHI1,
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 27; 83904 x 27; 83912

<table>
<thead>
<tr>
<th>K</th>
<th>Potassium Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated plasma or serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Light Green (heparin) or Gold</td>
<td></td>
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<tr>
<td>SPECIAL HANDLING: Care should be taken to avoid hemolysis during venipuncture. Specimen should be spun and removed from cells promptly.</td>
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</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.4 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
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<tr>
<td>TURNAROUND TIME: 2 hours</td>
<td></td>
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<tr>
<td>REFERENCE RANGE: 0-30 days: 3.7-5.9 mEq/L</td>
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<tr>
<td>1 month-1 year: 4.1-5.3 mEq/L</td>
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<tr>
<td>1 year + : 3.5-5.1 mEq/L</td>
<td></td>
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<tr>
<td>OTHER NAMES: K+</td>
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<tr>
<td>METHODOLOGY: Indirect potentiometry</td>
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<tr>
<td>CLINICAL USE: Aid in the diagnosis and treatment of hypokalemia, hyperkalemia, renal failure, Addison's disease or other diseases involving electrolyte imbalance</td>
<td></td>
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<tr>
<td>CPT: 84132</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>KB</th>
<th>Kleihauer-Betke Fetal Hemoglobin (L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Fresh whole blood (&lt; 6 hours old)</td>
<td></td>
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<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
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<tr>
<td>SPECIAL HANDLING: This test is performed only on the day shift</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 3 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 1 day</td>
<td></td>
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<tr>
<td>CLINICAL USE: Determine possible fetal-maternal hemorrhage and assess magnitude; aid in diagnosis of certain types of adult anemias. Calculate dosage of Rh immune globulin</td>
<td></td>
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<tr>
<td>CPT: 85460</td>
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<table>
<thead>
<tr>
<th>KBENTC</th>
<th>KIRBY BAUER ENTEROCOCCUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>KBENTCU</td>
<td>KIRBY BAUER ENTEROCOCCUS:URINE</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>KBF</th>
<th>Body Fluid Potassium</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated body fluid</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile tube</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Specify source of fluid</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
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<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
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<tr>
<td>Test</td>
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<tr>
<td>------</td>
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<tr>
<td>[KBGNR]</td>
<td>KIRBY BAUER GRAM NEGATIVE ROD</td>
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<td>[KBGNRU]</td>
<td>KIRBY BAUER GNR: URINE</td>
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<tr>
<td>[KBPA]</td>
<td>KIRBY BAUER PS.AERUG</td>
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<tr>
<td>[KBPAS]</td>
<td>KIRBY BAUER PASTEURELLA</td>
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<tr>
<td>[KBSAL]</td>
<td>KIRBY BAUER SALMONELLA</td>
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<tr>
<td>[KBSHI]</td>
<td>KIRBY BAUER SHIGELLA</td>
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<td>[KBSTA]</td>
<td>KIRBY BAUER STAPH NOT URINE</td>
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<tr>
<td>[KBSTAUR]</td>
<td>KIRBY BAUER STAPH URINE</td>
</tr>
<tr>
<td>[KBSTRB]</td>
<td>KB BETA STREP</td>
</tr>
<tr>
<td>[KBSTRVIR]</td>
<td>KB STREP VIRIDANS GROUP</td>
</tr>
<tr>
<td>[KCNA1]</td>
<td>KCNA1-EPISODIC ATAXIA TYPE I</td>
</tr>
</tbody>
</table>

**Specimen Required:** Whole blood at room temperature  
**Tube or Container:** Lavender (EDTA)  
**SPECIAL HANDLING:** Must arrive in laboratory by 1:30 pm, Monday through Thursday only  
**Specimen Volume:** 10 mL  
**Minimum Volume:** 3 mL  
**Test Availability:** Monday-Thursday  
**Turnaround Time:** 12 weeks  
**Other Names:** Episodic Ataxia Type I; EA1  
**Methodology:** Polymerase Chain Reaction (PCR)  
**CPT:** 83891; 83894 x 3; 83898 x 3; 83904 x 3; 83912

<table>
<thead>
<tr>
<th>Test</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[KCNJ11]</td>
<td>KCNJ11 (CH) DNA SEQUENCING</td>
</tr>
</tbody>
</table>

**Specimen Required:** Room temperature whole blood  
**Tube or Container:** Lavender (EDTA) or Yellow (ACD)  
**SPECIAL HANDLING:** Store specimen refrigerated, ship Monday through Thursday only  
**Specimen Volume:** 5 mL  
**Minimum Volume:** 3 mL  
**Test Availability:** Monday-Thursday  
**Turnaround Time:** 7-14 days
REFERENCE RANGE: No mutation detected
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 5; 83898 x 4; 83904 x 8; 83909 x 8; 83912

[**KCNQ2**]  **KCNQ2 SEQUENCING**

SPECIMEN REQUIRED: Refrigerated whole blood  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 3 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-3 weeks  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83891; 83898 x 19; 83904 x 19; 83909; 83912

[**KDCFIB**]  **a-KETOGLUTARATE DEHYDROGEN FIB**

SPECIMEN REQUIRED: Fibroblasts at room temperature  
TUBE OR CONTAINER: T25 flasks  
SPECIMEN VOLUME: 2 flasks  
TEST AVAILABILITY: Monday-Thursday  
METHODOLOGY: Radioactive assay  
CPT: 82657; 88233

[**KELLAG**]  **KELL (K1/K2) RED CELL AG GENO**

SPECIMEN REQUIRED: Whole blood and amniotic fluid at room temperature  
TUBE OR CONTAINER: Lavender (EDTA) and sterile container  
SPECIMEN VOLUME: 10 mL (whole blood)  
15 mL (amniotic fluid)  
SPECIMEN VOLUME: 5 mL (whole blood)  
7 mL (amniotic fluid)  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 7-9 days  
METHODOLOGY: Allele-specific PCR  
CPT: 83891; 83894; 83898 x 2; 83912; 86905 x 2

[**KENNED**]  **KENNEDY DISEASE DNA**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8-10 days  
METHODOLOGY: Fluorescent PCR  
CPT: 83890; 83898 x 2; 83903 x 5; 83912

[**KEPPRA**]  **Levetiracetam (Keppra) Level**

SPECIMEN REQUIRED: Serum or plasma at room temperature  
TUBE OR CONTAINER: Red, Dark green (heparin) or Lavender (EDTA)  
SPECIAL HANDLING: Do NOT collect in a gel barrier tube  
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 5-63 ug/mL
OTHER NAMES: Levetiracetam
METHODOLOGY: High-pressure liquid chromatography (HPLC) and/or Liquid chromatography mass spectrometry (LC/MS)
CLINICAL USE: Monitor therapeutic level
CPT: 80299

**[KETA] Serum Ketones**

SPECIMEN REQUIRED: Refrigerated serum or heparin plasma
TUBE OR CONTAINER: Gold or Light green (heparin)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Detection of acetoacetic acid
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Negative
METHODOLOGY: Nitroprusside
CLINICAL USE: Diagnose ketonemia, ketoacidosis resulting from diabetes mellitus, alcoholism, stress, starvation, intestinal disorders including emesis, glycogen storage disease (von Gierke), infantile organic acidemias, and other metabolic disorders
CPT: 82009

**[KETAMU] KETAMINE(KETALAR) URINE SCREEN**

SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Urine container
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Ketamine and metabolite-Norketamine
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
METHODOLOGY: Gas Chromatography (GC)
CPT: 82942

**[KETU] Urine Ketones**

SPECIMEN REQUIRED: Random urine
TUBE OR CONTAINER: Urine container
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-8 hours
REFERENCE RANGE: Negative
METHODOLOGY: Reagent strip
CPT: 81002

**[KFMEM] KNOWN FAMILIAL MUTATION-EMORY**

SPECIMEN REQUIRED: Whole blood room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 weeks
METHODOLOGY: Bi-directional sequence analysis
CPT: 83891; 83898; 83904 x 2; 83912

[KFMGEN] KNOWN FAMILIAL MUTATION-GENEDX
SPECIMEN REQUIRED: Whole blood room temperature or buccal swab
TUBE OR CONTAINER: Lavender (EDTA) or swab
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 weeks
METHODOLOGY: Bi-directional sequence analysis
CPT: 83891 x 2; 83892; 83894 x 4; 83898 x 2; 83904 x 2; 83912

[KFMPREN] KNOWN MUTATION-PRENATAL (UCD)
SPECIMEN REQUIRED: Whole blood room temperature or buccal swab
TUBE OR CONTAINER: Lavender (EDTA) or swab
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase Chain Analysis (PCR)
CPT: 83891 x 2; 83894 x 4; 83898 x 2; 83904 x 4; 83912 (1 MUT)
CPT: 83891 x 2; 83894 x 8; 83898 x 4; 83904 x 8; 83912 (2 MUT)

[KFMPREV] KNOWN FAMILIAL MUT-PREVENTION
SPECIMEN REQUIRED: Whole blood room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 weeks
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890, 83891, 83894, 83898, 83904, 83912 (1 EXON)
83890, 83891, 83894, 83898 x 2, 83904 x 2, 83912 (2 EXONS)

[KITF] KIT-F (D816V) MUTATION BY PCR
SPECIMEN REQUIRED: Refrigerated whole blood or bone marrow temperature
TUBE OR CONTAINER: Lavender (EDTA) or Pink (K2EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-9 days
OTHER NAMES: C-kit, D816V gene mutation
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 8389;, 83898 x 4; 83904 x 4; 83907; 83909 x 4; 83912
KAPPA/LAMBD L CHAINS

**SPECIMEN REQUIRED:** Serum at room temperature  
**TUBE OR CONTAINER:** Red or Gold  
**SPECIAL HANDLING:** Stable at room temperature for 7 days or longer if frozen at -20 C or lower  
**Patient should fast for 8 hrs prior to collection**  
**SPECIMEN VOLUME:** 0.5 ml  
**MINIMUM VOLUME:** 0.2 mL  
**TEST INCLUDES:** Quantitative kappa chains, lambda chains and kappa/lambda ratio  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3-4 days  
**REFERENCE RANGE:**  
Free Kappa light chains: 3.3-19.4 mg/L  
Free Lambda light chains: 5.71-26.30 mg/dl  
Kappa/Lambda free light chain ratio: 0.26-1.65  
**OTHER NAMES:** Free Light Chains; Kappa Free Light Chains; Kappa/Lambda Free Light Chains; Lambda Free Light Chains; FLC; sFLC; Freelite  
**METHODOLOGY:** Immunologic  
**CPT:** 83883 x 2

KAPPA/LAMBD L CHAINS UR

**SPECIMEN REQUIRED:** Urine at room temperature (random or 24 hr)  
**TUBE OR CONTAINER:** Urine Container or "P" container  
**SPECIAL HANDLING:** Stable at room temperature for 7 days or longer if frozen at -20 C or lower  
**SPECIMEN VOLUME:** 0.5 ml  
**MINIMUM VOLUME:** 0.2 mL  
**TEST INCLUDES:** Quantitative kappa chains, lambda chains and kappa/lambda ratio  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3-4 days  
**METHODOLOGY:** Nephelometry  
**CPT:** 83883 x 2

Fungal Prep (KOH)

**SPECIMEN REQUIRED:** Scrapings of skin, nail, or other vaginal secretions  
**COLLECTION:**  
**NAILS:** Cleanse area with 70% alcohol; With a sterile blade, take deep scrapings of the nail  
**SKIN:** Cleanse area with 70% alcohol; With a sterile blade, scrape the skin at the border of the active lesion and normal tissue  
**VAGINAL SECRETIONS:** Submit specimen in a tightly sealed sterile container  
**SPECIAL HANDLING:** Indicate specimen source  
**Submit specimen in sterile tightly capped**
container or between two microscope slides
(secure together with adhesive tape)
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 hours
REFERENCE RANGE: Negative for fungal elements
METHODOLOGY: Smear with direct examination
CLINICAL USE: Determine presence of fungi in skin, nails, hair,
and other sources containing cellular material
CPT: 87220

**[KRABBE] KRABBE DISEASE VIA GALC GENE**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 16; 83904 x 16; 83912

**[KRAS] K-ras GENE MUTATION DETECTION**

SPECIMEN REQUIRED: Unstained slides from paraffin block or
formalin-fixed paraffin embedded tissue block
at room temperature
TUBE OR CONTAINER: Slides or blocks
SPECIMEN VOLUME: 5 unstained slides and 1 H&E stained side at
10 uM or tissue block
TEST AVAILABILITY: Daily
METHODOLOGY: Amplification refractory mutation system (ARMS)
and real-time polymerase chain reaction using
Scorpions technology
CLINICAL USE: May indicate prognosis and drug response for many
new cancer therapies
CPT: 83890; 83898 x 2; 83904 x 5; 83907; 83912

**[KRASEQ] K-ras GENE (NOONAN/CFC/COSTELL)**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: AHI1 gene
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
OTHER NAMES: Noonan, CFC and Costello Syndromes via KRAS Gene
sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 4; 83904 x 4; 83912

**[KRT5-14] KRT5/KRT14 PAIRS-HOTSPOT MUT**
SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 6 weeks  
OTHER NAMES: Keratin gene testing in Epidermolysis Bullosa Simplex (EBS)  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83891 x 6; 83892 x 2; 83894 x 12; 83898 x 12; 83904 x 12; 83912

[KSTL] Stool Potassium

SPECIMEN REQUIRED: Liquid stool  
TUBE OR CONTAINER: Plastic container  
SPECIAL HANDLING: Stool must be in liquid form for analysis  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 24 hours  
REFERENCE RANGE: No established range  
METHODOLOGY: Indirect Potentiometry  
CPT: 84133

[KTM] UR POTASSIUM TIMED

SPECIMEN REQUIRED: Refrigerated aliquot of 24-hour urine  
TUBE OR CONTAINER: Plastic urine container  
SPECIAL HANDLING: Collect 24-hour urine in container "P" (no preservative)  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
REFERENCE RANGE: 25-125.0 mEq/24 hour  
METHODOLOGY: Indirect potentiometry  
CLINICAL USE: Evaluate electrolyte balance, acid-base balance, evaluate hypokalemia  
CPT: 84133

[KU] Urine Random Potassium

SPECIMEN REQUIRED: Refrigerated random urine  
TUBE OR CONTAINER: Plastic urine container  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
REFERENCE RANGE: None established  
METHODOLOGY: Indirect potentiometry  
CPT: 84133
### L1CAM L1CAM MUTATION

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Whole blood room temperature or buccal swab</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or swab</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 6 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Bi-directional sequence analysis</td>
</tr>
<tr>
<td>CPT: 83891 x 20; 83892 x 2; 83894 x 20; 83898 x 20; 83904 x 40;</td>
</tr>
<tr>
<td>83912 (male)</td>
</tr>
<tr>
<td>83891 x 22; 83892 x 2; 83894 x 20; 83898 x 20; 83904 x 40;</td>
</tr>
<tr>
<td>88386; 83912 (female)</td>
</tr>
</tbody>
</table>

### L3AFP AFP-L3% & TOTAL AFP

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated or frozen serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: Total Alpha-fetoprotein tumor marker, L3%-AFP</td>
</tr>
<tr>
<td>and an interpretation</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-4 days</td>
</tr>
<tr>
<td>METHODOLOGY: Immunoenzymatic/Liquid Phase Binding</td>
</tr>
<tr>
<td>CLINICAL USE: Distinguish between hepatocellular carcinoma and</td>
</tr>
<tr>
<td>chronic liver disease; Monitoring individuals</td>
</tr>
<tr>
<td>with hepatic cirrhosis from any etiology for</td>
</tr>
<tr>
<td>progression to hepatocellular carcinoma</td>
</tr>
<tr>
<td>CPT: 82107</td>
</tr>
</tbody>
</table>

### LACCSF CSF Lactic Acid

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated CSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Sterile container</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.4 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 hours</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.9-2.8 mmol/L</td>
</tr>
<tr>
<td>METHODOLOGY: Colorimetric endpoint</td>
</tr>
<tr>
<td>CPT: 83605</td>
</tr>
</tbody>
</table>

### LACD Plasma D-Lactate

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Frozen plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Gray (Sodium fluoride)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Centrifuge and separate immediately</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-5 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.0-0.25 mmol/L</td>
</tr>
<tr>
<td>METHODOLOGY: Enzymatic</td>
</tr>
</tbody>
</table>
CLINICAL USE: D-lactate is a product of bacterial overgrowth in the gastrointestinal tract. It should not be confused with L-lactate, which accumulates in some metabolic acidosis
CPT: 83605

<table>
<thead>
<tr>
<th>LACOS</th>
<th>Lacosamide Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum or plasma</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Lavender(EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Do NOT collect in gel barrier tube</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 ml</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 5-12 days</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Vimpat</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Monitor therapeutic values</td>
<td></td>
</tr>
<tr>
<td>CPT: 83789</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>LACT</th>
<th>Lactic Acid Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen plasma or whole blood on ice (venous)</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Gray (sodium fluoride)</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Do not use tourniquet when drawing due to build-up of high potassium and lactic acid from the arm muscle</td>
<td></td>
</tr>
<tr>
<td>Place specimen on ice; if testing not performed immediately; Centrifuge, separate and FREEZE plasma</td>
<td></td>
</tr>
<tr>
<td>Specimen WILL be rejected if not in ice</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.4 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 hours</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.4 - 2.0 mmol/L</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Lactate</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Colorimetric endpoint</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Evaluate metabolic acidosis, regional or diffuse tissue hypoperfusion, hypoxia, shock, congestive heart failure, dehydration, and operative complications</td>
<td></td>
</tr>
<tr>
<td>CPT: 83605</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>LACTO</th>
<th>Human Placental Lactogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Collect specimen Monday-Thursday only</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Thursday</td>
<td></td>
</tr>
</tbody>
</table>
OTHER NAMES: HPL; Human chorionic somatomammotropin
CLINICAL USE: Monitoring placental function
CPT: 83632

[LAD] LEUKOCYTE ADHESION DEFICIENCY
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Must arrive at performing lab within 48 hours
Specimen must arrive in lab before 1:30 p.m., Monday-Thursday only
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: CD11b and CD18
TEST AVAILABILITY: Monday-Thursday only
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Normal
METHODOLOGY: Flow Cytometry
CPT: 88184; 88185

[LAFORA] LAFORA DISEASE (EPM2A/EPM2B)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Store refrigerated; ship at room temperature
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 10 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 28 days
REFERENCE RANGE: No sequence variation detected
METHODOLOGY: DNA sequencing
CLINICAL USE: Detection of sequence variations in the EPM2A and EPM2B genes
CPT: 83891; 83898 x 7; 83904 x 7; 83909; 83912

[LAM] Lamotrigine (Lamictal) Level
SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Red, Dark Green (heparin) or Lavender(EDTA)
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 1 ml
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: Therapeutic: trough: 2.0 - 20.0 ug/mL
OTHER NAMES: Lamotrigine
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
CLINICAL USE: Monitor therapeutic values
CPT: 80299

[LAMA2] LAMA2 MEROSIN EXONS
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 64; 83904 x 64; 83912
(FULL SEQUENCING)

[LAMB2] LAMB2 DNA SEQUENCING
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 pm
Monday through Thursday only
Ship same day as collected
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2-3 weeks
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83898 x 32; 83904 x 32; 83909; 83912

[LAMP2] LAMP2 SEQUENCING
SPECIMEN REQUIRED: Whole blood room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 14 mL
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Daily
OTHER NAMES: Lysosomal-associated membrane protein 2' (LAMP2); CD107b
METHODOLOGY: Automatic fluorescent DNA sequencing
CPT: 83890; 83898 x 10; 83904 x 10; 83912

[LAP] Leukocyte Alkaline Phosphatase
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark Green (Heparin)
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Friday (must arrive in laboratory before 1:30 pm on Friday)
TURNAROUND TIME: 1-3 days
REFERENCE RANGE: 25-130
OTHER NAMES: LAP score
METHODOLOGY: Enzyme reaction with leukocyte alkaline phosphatase liberating naphthol or a substituted naphthol compound which then couples with fast blue RR or other chromogen to form an insoluble precipitate
CLINICAL USE: Aids in the differential diagnosis of chronic myelocytic leukemia (CML) vs. leukemoid reaction; aids in the evaluation of polycythemia vera,
myelofibrosis with myeloid metaplasia, and paroxysmal nocturnal hemoglobinuria
CPT: 85540

[LASA] Lipid Associated Sialic Acid
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: 0-20 mg/dL
OTHER NAMES: LASA; Lipid-Bound Sialic Acid
METHODOLOGY: Spectrophotometry
CLINICAL USE: Management of a variety of malignancies; generally used in conjunction with other tumor markers
CPT: 84275

[LAXU] LAXATIVE PANEL QUAL URINE
SPECIMEN REQUIRED: Frozen or refrigerated urine
TUBE OR CONTAINER: Urine container
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1.2 mL
TEST INCLUDES: Desacetyl Bisacodyl, Rhein, Emodin and Aloe-Emodin
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-10 days
METHODOLOGY: Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
CPT: 83788

[LC1] Liver Cytosol Antibody
SPECIMEN REQUIRED: Refrigerated or frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-9 days
REFERENCE RANGE: < 15
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Aid in the diagnosis of autoimmune hepatitis, type 2 (AIH-2)
CPT: 86376

[LCHAD] LONG CHAIN 3-OH ACYL-CoA DEHYD
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 2; 83898 x 20; 83904 x 40; 83912

[LCMAB] LYMPH CHORIOMEN VIRUS AB IFA
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Gold, Red, Green (heparin) or Lavender (EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST INCLUDES: LCM IgG and LCM IgM
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-6 days
REFERENCE RANGE: IgG: < 1:16
IgM: < 1:20
OTHER NAMES: LCM virus
METHODOLOGY: Immunofluorescent Antibody (IFA)
CPT: 86727 x 2

[LCMCSF] LYMPH CHORIOMEN VIRUS AB CSF
SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile capped tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST INCLUDES: LCM IgG and IgM
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: < 1:1
METHODOLOGY: Indirect fluorescent antibody (IFA)
CPT: 86727 x 2

[LDH] Lactate Dehydrogenase
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 0 Days: 50-600 U/L
1 month: 50-400 U/L
15 Years+: 90-190 U/L
METHODOLOGY: Enzymatic rate
CLINICAL USE: Aid in the diagnosis and treatment of liver
diseases such as acute viral hepatitis, cirrhosis
and metastatic carcinoma of the liver, cardiac
diseases such as myocardial infarction, and
tumors of the lung or kidneys
CPT: 83615

[LDHAS] Body Fluid Lactate Dehydrogenase
SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Enzymatic rate
CLINICAL USE: A fluid LD activity nearly equal to the plasma activity is usually associated with inflammatory processes
CPT: 83615

[LDHCSF] CSF Lactate Dehydrogenase
SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Enzymatic rate
CLINICAL USE: Lactate dehydrogenase (LD) is a normal component of CSF. Increased amounts may occur in association with ischemic necrosis, meningitis, leukemia, metastatic cancer of the CNS, and lymphoma
CPT: 83615

[LDHFL] Body Fluid Lactate Dehydrogenase
SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Enzymatic
CPT: 83615

[LDHISO] LACTIC DEHYDROGENASE ISOENZYME
SPECIMEN REQUIRED: Room temperature serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Separate serum from cells within 45 minutes of venipuncture
SPECIMAN VOLUME: 3 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Total serum LD and relative percentage of isoenzymes (LD1-LD5)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-3 days
REFERENCE RANGE: Total: 100-250 IU/L
LD1: 16% - 35%
LD2: 24% - 41%
LD3: 16% - 27%
LD4: 5% - 14%
LD5: 5% - 24%

METHODOLOGY: Electrophoresis
CLINICAL USE: Differential diagnosis of acute infarct of myocardium
CPT: 83615; 83625

### [LDHIV]  HIV (1&2) Antibody Rapid

- **SPECIMEN REQUIRED:** EDTA whole blood/plasma
- **TUBE OR CONTAINER:** Lavender(EDTA)
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 1 hour
- **REFERENCE RANGE:** Nonreactive
- **METHODOLOGY:** Rapid Immunoassay
- **CLINICAL USE:** Detect the presence of HIV-1/2 antibodies
- **CPT:** 86701

### [LDHPC]  Pericardial Fluid LDH

- **SPECIMEN REQUIRED:** Refrigerated fluid
- **TUBE OR CONTAINER:** Sterile container
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8 hours
- **REFERENCE RANGE:** None established
- **METHODOLOGY:** Enzymatic rate
- **CLINICAL USE:** A fluid LD activity nearly equal to the plasma activity is usually associated with inflammatory processes
- **CPT:** 83615

### [LDHPL]  Pleural Fluid LDH

- **SPECIMEN REQUIRED:** Refrigerated fluid
- **TUBE OR CONTAINER:** Sterile container
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8 hours
- **REFERENCE RANGE:** None established
- **METHODOLOGY:** Enzymatic rate
- **CLINICAL USE:** A fluid LD activity nearly equal to the plasma activity is usually associated with inflammatory processes
- **CPT:** 83615
**Peritoneal Fluid LDH**

SPECIMEN REQUIRED: Refrigerated fluid  
TUBE OR CONTAINER: Sterile container  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
REFERENCE RANGE: None established  
METHODOLOGY: Enzymatic rate  
CLINICAL USE: A fluid LD activity nearly equal to the plasma activity is usually associated with inflammatory processes  
CPT: 83615

**Synovial Fluid LDH**

SPECIMEN REQUIRED: Refrigerated fluid  
TUBE OR CONTAINER: Sterile container  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
REFERENCE RANGE: None established  
METHODOLOGY: Enzymatic rate  
CLINICAL USE: A fluid LD activity nearly equal to the plasma activity is usually associated with inflammatory processes  
CPT: 83615

**LDL Cholesterol Direct**

SPECIMEN REQUIRED: Refrigerated plasma or serum  
TUBE OR CONTAINER: Light Green (heparin) or Gold  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 1-3 days  
REFERENCE RANGE: 1-130 mg/dL  
OTHER NAMES: Low-Density Lipoprotein Cholesterol (Direct)  
METHODOLOGY: Timed Endpoint  
CLINICAL USE: Evaluate risk of developing coronary artery disease  
CPT: 83721

**Lead**

SPECIMEN REQUIRED: Room temperature whole blood  
TUBE OR CONTAINER: Lavender (EDTA) or Dark Green (heparin)  
SPECIMEN VOLUME: Adult 2 mL  
Pediatric 1 mL  
MINIMUM VOLUME: Adult 1 mL  
Pediatric 200 uL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 4-5 days
REFERENCE RANGE: 0 day: 0.0-9.0 mg/dL
21 Years+: 0.0-40.0 mg/dL
OTHER NAMES: Pb, Blood
METHODOLOGY: Graphite furnace
CLINICAL USE: Monitor environmental lead exposure
CPT: 83655

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<thead>
<tr>
<th>LEADTM</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Room temperature urine (24-hour collection)</td>
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<tr>
<td>TUBE OR CONTAINER: Plastic urine container</td>
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<tr>
<td>SPECIAL HANDLING: Collect 24-hour urine in &quot;P&quot; container (no preservative)</td>
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<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
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<tr>
<td>MINIMUM VOLUME: 1.4 mL</td>
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<tr>
<td>TEST INCLUDES: Urine lead, urine creatinine and ratio</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
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<tr>
<td>REFERENCE RANGE: Environmental exposure: METHODOLOGY: Atomic absorption spectrometry (AAS); inductively coupled plasma mass spectrometry (ICP-MS)</td>
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<tr>
<td>CLINICAL USE: Monitor exposure to lead or lead chelation therapy</td>
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<tr>
<td>CPT: 82570; 83655</td>
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</tbody>
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<table>
<thead>
<tr>
<th>LEADU</th>
<th>Urine Lead</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Urine at room temperature (random)</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Plastic urine container</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1.4 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
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<tr>
<td>REFERENCE RANGE: Environmental exposure: METHODOLOGY: Atomic absorption spectrometry (AAS); inductively coupled plasma mass spectrometry (ICP-MS)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Monitor exposure to lead or lead chelation therapy</td>
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<tr>
<td>CPT: 83655</td>
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<tr>
<th>LEBERS</th>
<th>LEBERS HEREDITARY OPTIC NEURO</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
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</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
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</tr>
<tr>
<td>SPECIMEN VOLUME: 10 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 ml</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 2 weeks</td>
<td></td>
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<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td>CPT: 83891; 83893 x 15; 83896 x 15; 83900; 83901 x2; 83912</td>
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<table>
<thead>
<tr>
<th>LEF</th>
<th>Leflunomide Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube;</td>
<td></td>
</tr>
</tbody>
</table>
Separate from cells within 45 minutes of collection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
OTHER NAMES: Arava; Teriflunomide; A77/1726
METHODOLOGY: Liquid Chromatography Tandem Mass Spectrometry (LCMSMS)
CLINICAL USE: Therapeutic drug monitoring
CPT: 82542

**[LEGDF] Legionella Direct FA (LAB)**

SPECIMEN REQUIRED: Refrigerated lung biopsy, lung exudate, pleural fluid, transtracheal aspirate, sputum, bronchial washing
TUBE OR CONTAINER: Sterile leakproof container
SPECIAL HANDLING: Specimen must be received in the laboratory before 1:30 p.m., Monday - Friday only
SPECIMEN VOLUME: 1 mL lung exudate or 1 cc lung biopsy
TEST AVAILABILITY: Monday-Thursday
REFERENCE RANGE: No Legionella pneumophila detected
METHODOLOGY: Direct fluorescent antibody (DFA)
CLINICAL USE: Determine the presence of Legionella pneumophila organisms in direct FA smear of specimen, providing rapid diagnosis
CPT: 87278

**[LEGGCSF] Legionella pneumophilia IgG Grp 1-6**

SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: CSF tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: < 1:128 Negative - No significant level of Legionella pneumophila Type 1-6 IgG antibody detected
1:128 Equivocal - Questionable presence of Legionella pneumophila Type 1-6 IgG antibody detected. Repeat testing in 10-14 days may be helpful.
1:256 or greater Positive - Presence of Legionella pneumophila Type 1-6 IgG antibody detected, suggestive of current or past infection.
METHODOLOGY: Indirect Fluorescent Antibody (IFA)
CLINICAL USE: Antibody detection for recent infection
CPT: 86713
### Legionella pneumophilia IgM Grp 1-6

- **Specimen Required:** Refrigerated CSF
- **Tube or Container:** CSF tube
- **Specimen Volume:** 1 mL
- **Minimum Volume:** 0.5 mL
- **Test Availability:** Daily
- **Turnaround Time:** 2-5 days
- **Reference Range:** < 1:16
- **Methodology:** Indirect Fluorescent Antibody (IFA)
- **Clinical Use:** Antibody detection for recent or current infection
- **CPT:** 86713

### Legionella pneumophilia S1-6 Abs

- **Specimen Required:** Serum at room temperature
- **Tube or Container:** Red or Gold
- **Specimen Volume:** 0.4 mL
- **Minimum Volume:** 0.2 mL
- **Test Availability:** Daily
- **Turnaround Time:** 2-3 days
- **Methodology:** Enzyme-linked immunosorbent assay (ELISA)
- **CPT:** 86713

### Legionella DNA (PCR)

- **Specimen Required:** Frozen respiratory specimen: sputum, lung washes, tracheal aspirates, nasopharyngeal swab, pleural fluid, bronchoalveolar lavage (BAL), bronchial brushings
- **Tube or Container:** Sterile container or viral transport media
- **Special Handling:** Specimen source must be provided
- **Specimen Volume:** 2 mL
- **Minimum Volume:** 1 mL
- **Test Availability:** Daily
- **Turnaround Time:** 2-3 days
- **Methodology:** Polymerase Chain Reaction
- **CPT:** 87541

### Urine Legionella pneumophilia Ag

- **Specimen Required:** Refrigerated urine
- **Tube or Container:** Plastic, screw-capped container
- **Specimen Volume:** 5 mL
- **Minimum Volume:** 2 mL
- **Test Availability:** Daily
- **Turnaround Time:** 3-5 days
- **Reference Range:** No Legionella pneumophila serogroup 1 antigen detected
- **Methodology:** Enzyme immunoassay (EIA)
- **Clinical Use:** Confirm the diagnosis of Legionella pneumophila infection
- **CPT:** 87449
**[LEP] Leptin**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Frozen serum (preferred) or plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Fasting specimen recommended</td>
</tr>
<tr>
<td>Separate and freeze within 1 hour</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 3-7 days</td>
</tr>
<tr>
<td>METHODOLOGY: Double antibody RIA</td>
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<tr>
<td>CPT: 83519</td>
</tr>
</tbody>
</table>

**[LEPAB] Leptospirosis Antibody**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Serum at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-6 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative</td>
</tr>
<tr>
<td>METHODOLOGY: Indirect hemagglutination (IHA)</td>
</tr>
<tr>
<td>CLINICAL USE: Aid in diagnosis of acute, febrile systemic illnesses as well as other milder manifestations caused by leptospiiral infections</td>
</tr>
<tr>
<td>CPT: 86720</td>
</tr>
</tbody>
</table>

**[LEPM] Leptospira IgM Antibody**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated serum or plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red, Gold or Green (heparin)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.3 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 3-7 days</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
</tr>
<tr>
<td>Negative: No significant level of antibody detected</td>
</tr>
<tr>
<td>Equivocal: Questionable presence detected. Repeat testing in 10-14 days may be helpful.</td>
</tr>
<tr>
<td>Positive: Presence of IgM antibody to Leptospira detected, suggestive of a current or recent infection.</td>
</tr>
<tr>
<td>OTHER NAMES: Canicola Fever; Ft Bragg Fever; Swamp Fever; Weil Disease</td>
</tr>
<tr>
<td>METHODOLOGY: ImmunoDot</td>
</tr>
<tr>
<td>CLINICAL USE: Detection of specific antibody of the IgM class to Leptospira genus specific antigen</td>
</tr>
<tr>
<td>CPT: 86720</td>
</tr>
</tbody>
</table>

**[LEPTOST] Leptospira Stain**

**[LEUC] Leucine Level**

| SPECIMEN REQUIRED: Frozen plasma |
**SPECIMEN REQUIRED:** Frozen plasma
**TUBE OR CONTAINER:** Green (heparin)
**SPECIAL HANDLING:** Centrifuge and freeze plasma immediately
**SPECIMEN VOLUME:** 4 mL
**MINIMUM VOLUME:** 1 mL
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 6-8 days
**REFERENCE RANGE:** < 1 month: 3.7 - 21 mol/dL
1 month - 16 yr: 4.3 - 20 mol/dL
>16 years: 6.1 - 20 mol/dL
**METHODOLOGY:** High-pressure liquid chromatography (HPLC)
**CPT:** 82131

**LEUKVWM** LEUKOENCEPH W/VWM (EIF2B5)

**SPECIMEN REQUIRED:** Whole blood at room temperature
**TUBE OR CONTAINER:** Lavender (EDTA)
**SPECIMEN VOLUME:** 5 mL
**MINIMUM VOLUME:** 2 mL
**TEST AVAILABILITY:** Daily
**OTHER NAMES:** EIF2B5 Sequencing; Leukoencephalopathy with Vanishing White Matter and Ovarioleukodystrophy
**METHODOLOGY:** Polymerase Chain Reaction (PCR)
**CPT:** 83890; 83891; 83894; 83898 x 12; 83904 x 12; 83912

**LEVO** Carbidopal Levodopa (Sinemet) Level

**SPECIMEN REQUIRED:** Frozen serum or plasma
**TUBE OR CONTAINER:** Red or Lavender (EDTA)
**SPECIAL HANDLING:** Do NOT collect specimen in gel tube
**SPECIMEN VOLUME:** 2 mL
**MINIMUM VOLUME:** 0.7 mL
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 3-8 days
**OTHER NAMES:** Sinemet; Atamet; Parcopa
**METHODOLOGY:** High Performance Liquid Chromatography (HPLC)
**CLINICAL USE:** Therapeutic drug monitoring
**CPT:** 80299

**LFS** Li-FRAUMENI SYNDROME (P53 GENE)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 14 mL
MINIMUM VOLUME: 6 mL
TEST INCLUDES: DNA testing for p53 gene mutations
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
REFERENCE RANGE: No mutation detected
METHODOLOGY: Direct sequencing of amplification products
CLINICAL USE: Confirmation of clinical diagnosis
CPT: 83890; 83894; 83898 x 5; 83904 x 5; 83912

[LGMD2A] LIMB GIRDLE MD TYPE 2A (CAPN3)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must be received in Laboratory by 1:30 pm, Monday through Thursday only
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 4-6 weeks
OTHER NAMES: Calpain 3 (CAPN3) Gene Sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83898 x 22; 83904 x 22; 83909; 83912

[LGMD2D] LIMB GIRDLE MD TYPE 2D (SGCA)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-5 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 8; 83904 x 8; 83912

[LGSFISH] LANGER-GIEDION SYNDROME-FISH
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark green (heparin)
SPECIMEN VOLUME: 5 mL (adult/child)
2 mL (newborn)
MINIMUM VOLUME: 3 mL (adult/child)
1 mL (newborn)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10 days
METHODOLOGY: Fluorescence in situ hybridization (FISH)
CPT: 88230; 88271 x 3; 88273; 88280

[LH] Luteinizing Hormone
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
PEDiatric TEST INFO: Order PEDLH for pediatric testing to be
performed by Esoterix
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 1-3 days
REFERENCE RANGE: Normally Menstruating Females
Follicular Phase 3.2 - 17.2
Mid-Cycle Peak 14.5 - 68.4
Luteal Phase 1.6 - 13.1
Postmenopausal Females 2.3 - 70.0
Males 2.3 - 7.1
METHODOLOGY: Chemiluminescence
CLINICAL USE: Aid in evaluating the normalcy of hypothalamic-
pituitary-gonadal axis
CPT: 83002

**[LHRH]** Luteinizing Hormone-Releasing Hormone
SPECIMEN REQUIRED: Frozen plasma with 0.25 ml Trasylol added
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Separate as soon as possible after collection
Freeze immediately after separation
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-17 days
OTHER NAMES: Gonadotropin Releasing Hormone (GnRH)
METHODOLOGY: HPLC, Tandem Mass Spectrometry
CPT: 83727

**[LIDDLE]** LIDDLE SYNDROME (SCNN1B/SCNN1G)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Ship overnight to arrive at performing lab
within 36 hours of collection. Refrigerate if
shipment delayed
SPECIMEN VOLUME: 6 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83898 x 4; 83904 x 8; 83909 x 8; 83912

**[LIDOP]** LIDOCAINE
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Therapeutic: 1.5-6.0 ug/mL
Potentially toxic: > 6.0 ug/mL
OTHER NAMES: Xylocaine
METHODOLOGY: Immunoassay
CLINICAL USE: Monitor therapeutic drug level and assess toxicity
CPT: 80176

[LINCL] LINCL (CLN2 GENE)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING:
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 weeks
OTHER NAMES: Late Infantile Neuronal Ceroid Lipofuscinosis; CLN2 gene sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83894 x 5; 83898 x 12; 83904 x 12; 83912

[LIP] Lipase
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 8 - 57 U/L
METHODOLOGY: Panteghini
CLINICAL USE: Diagnosis and treatment of pancreatic disorders
CPT: 83690

[LIPFL] Body Fluid Lipase
SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Panteghini
CPT: 83690

[LIPID] LIPID PANEL
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIAL HANDLING: For most valid results, specimen should be
collected following an overnight (or 12-14 hour) fast
NOTE: Ratio cannot be calculated on patients
with triglyceride values >400
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Cholesterol, serum; Triglycerides, serum; HDL;
LDL, calculated; HDL/LDL ratio.
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: See individual tests
METHODOLOGY: See individual tests
CLINICAL USE: Evaluate hyperlipidemia as an index to CAD
CPT: 80061

[LIPAO] Lipoprotein (a)
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold, or Lavender (EDTA)
SPECIAL HANDLING: Separate from cells within 2 hours
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: 0-30 mg/dL; values >30 mg/dL may indicate independent risk factor for CHD.
Desirable: Borderline high risk: 20-30 mg/dL
High risk: 31-50 mg/dL
Very high risk: >50 mg/dL
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CPT: 83695

[LIPU] Urine Lipase
SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
CPT: 83690

[LIS1] LISSENCEPHALY (PAFAH1B1/LIS)
SPECIMEN REQUIRED: Whole blood room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
OTHER NAMES: Classic Lissencephaly via PAFAH1B1/LIS Gene Sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 10; 83904 x 10; 83912
### [LISTAB] Listeria Antibody
- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-5 days
- **REFERENCE RANGE:** < 1:8
- **METHODOLOGY:** Complement Fixation
- **CPT:** 86723

### [LISTCSF] CSF Listeria Antibody
- **SPECIMEN REQUIRED:** Refrigerated CSF
- **TUBE OR CONTAINER:** Sterile capped tube
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-5 days
- **REFERENCE RANGE:** < 1:1
- **METHODOLOGY:** Complement Fixation (CF)
- **CLINICAL USE:** Detection of intrathecally-produced Listeria antibodies in CSF
- **CPT:** 86723

### [LITAF] LITAF/SIMPLE DNA SEQUENCING
- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Yellow (ACD)
- **SPECIMEN VOLUME:** 10 mL
- **MINIMUM VOLUME:** 6 mL
- **TEST AVAILABILITY:** Monday - Thursday
- **TURNAROUND TIME:** 14-21 days
- **REFERENCE RANGE:** No sequence variation detected
- **OTHER NAMES:** Lipopolysaccharide-induced TNF factor
- **METHODOLOGY:** Polymerase Chain Reaction (PCR) and DNA sequencing
- **CLINICAL USE:** Detects sequence variations in the LITAF/SIMPLE gene
- **CPT:** 83891; 83898 x 3; 83904 x 3; 83909 x 3; 83912

### [LITH] Lithium Level
- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Gold or Red
- **SPECIAL HANDLING:** Plasma is NOT an acceptable specimen
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 24 hours
- **REFERENCE RANGE:** Therapeutic: 0.5-1.5 mmol/L
  Potentially toxic: >1.5
- **OTHER NAMES:** Lithobid; Eskalith
CLINICAL USE: Monitor therapeutic drug levels; evaluate coma
CPT: 80178

[LITHU] Urine Lithium Level
SPECIMEN REQUIRED: Urine at room temperature (random)
TUBE OR CONTAINER: Urine container
SPECIAL HANDLING: Refrigerate if stored longer than 3 days
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
OTHER NAMES: Lithobid; Eskalith
METHODOLOGY: Inductively Coupled Plasma/Mass Spectrometry (ICP-MS)
CLINICAL USE: Monitor therapeutic drug level
CPT: 80178

[LKMAB] Liver/Kidney Microsomal Titer
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10 days
REFERENCE RANGE: Negative: 0.0-20.0
Equivocal: 20.1-24.9
Positive: >24.9
OTHER NAMES: LKM; LKM-1 Antibodies; Liver-Kidney Microsomal Ab
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CLINICAL USE: Aid in the diagnosis of autoimmune hepatitis, type 2 (AIH-2)
CPT: 86376

[LMNADNA] LMNA GENE MUTATION
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 13; 83904 x 13; 83912

[LOP] HIV Lopinavir Resistance
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
Must be separated within 45 minutes of collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
OTHER NAMES: Kaletra
METHODOLOGY: High-Pressure Liquid chromatography (HPLC)
CLINICAL USE: Monitor lopinavir/ritonavir (Kaletra) therapy
CPT: 80299

[LOR]  **Lorazepam (Ativan) Level**

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-9 days
REFERENCE RANGE: 50.0 - 240.0 ng/mL
OTHER NAMES: Ativan
METHODOLOGY: High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80154

[LORAT]  **LORATADINE & METABOLITES**

SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Descarboethoxyloratadine and Loratadine
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-7 days
OTHER NAMES: Claritin; Alavert; Dimetapp
METHODOLOGY: Gas Chromatography (GC)
CLINICAL USE: Therapeutic drug monitoring
CPT: 82492

[LOWE]  **LOWE SYNDROME (OCRL SEQUENCING)**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 14 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 12; 83904 x 23; 83909 x 66; 83912

[LOXA]  **Loxapine Level**

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 3 mL
**MINIMUM VOLUME:** 0.7 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-4 days  
**OTHER NAMES:** Loxitane  
**METHODOLOGY:** High-pressure liquid chromatography (HPLC)  
**CLINICAL USE:** Therapeutic drug monitoring  
**CPT:** 82492

**[LPE] LIPOPROTEIN ELECTROPHORESIS**

**SPECIMEN REQUIRED:** Refrigerated serum  
**TUBE OR CONTAINER:** Red or Gold  
**SPECIAL HANDLING:** Collect specimen from a fasting patient; Separate from cells within 45 minutes  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 1 mL  
**TEST INCLUDES:** Cholesterol; Triglycerides; HDL cholesterol; VLDL Cholesterol; LDL cholesterol; electrophoresis  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-3 days  
**METHODOLOGY:** Electrophoretic with Frederickson phenotyping criteria  
**CLINICAL USE:** Evaluate hyperlipidemia to determine abnormal lipoprotein distribution and concentration  
**CPT:** 80061; 83700

**[LPIN1] PAROX PARALYTIC RHABDO (LPIN1)**

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 2 mL  
**TURNAROUND TIME:** 2-3 weeks  
**OTHER NAMES:** Paroxysmal Paralytic Rhabdomyolysis, Autosomal recessive via LPIN1 gene sequencing, Childhood Recurrent Acute Myoglobinuria  
**METHODOLOGY:** Polymerase chain reaction (PCR)  
**CPT:** 83890; 83891; 83894; 83898 x 21; 83904 x 21; 83912

**[LPPLA2] Lipoprotein-Assoc Phospholipase A2**

**SPECIMEN REQUIRED:** Frozen serum or plasma  
**TUBE OR CONTAINER:** Red, Gold, Green (Heparin) or Lavender (EDTA)  
**SPECIMEN VOLUME:** 0.5 mL  
**MINIMUM VOLUME:** 0.2 mL  
**TEST AVAILABILITY:** Daily  
**REFERENCE RANGE:** Male: 131-199 ng/mL  
Female: 120-199 ng/mL  
Low risk: Moderate risk: 200-235 ng/mL  
High risk: >235 ng/mL  
**METHODOLOGY:** Immunoturbidimetric  
**CPT:** 83698
### [LQTS] LONG QT SYNDROME

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 18 mL
- **MINIMUM VOLUME:** 8 mL
- **TEST AVAILABILITY:** Daily
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83891; 83898 x 73; 83904 x 73; 83909 x 73; 83912

### [LRP5] FAM VITREORETINOPATHY (LRP5)

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8-10 weeks
- **OTHER NAMES:** Familial Exudative Vitreoretinopathy (FEVR) via LRP5 gene
- **METHODOLOGY:** Bi-directional sequence analysis
- **CPT:** 83891 x 23; 83892 x 2; 83894 x 23; 83898 x 46; 83904 x 46; 83912

### [LRS1] LARSEN SYNDROME (FLNB)

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **OTHER NAMES:** FLNB Gene
- **METHODOLOGY:** Polymerase chain reaction (PCR)
- **CPT:** 83890; 83894 x 12; 83898 x 12; 83904 x 12; 83912

### [LSPG] LS RATIO/PG

- **SPECIMEN REQUIRED:** Amniotic fluid protected from light
- **TUBE OR CONTAINER:** Sterile container
- **SPECIAL HANDLING:** Must be received in the laboratory by 11:00 a.m for same day results; Specimens received after 12:00 p.m. will report on the following work day
- **SPECIMEN VOLUME:** 4 mL
- **MINIMUM VOLUME:** 3 mL
- **TEST INCLUDES:** L:S ratio; qualitative determination for the presence of PG
- **TEST AVAILABILITY:** Monday-Friday
- **TURNAROUND TIME:** 1-2 days
- **REFERENCE RANGE:** L:S ratio: \( \geq 2.0 \) indicates maturity
- **METHODOLOGY:** Chromatography
- **CLINICAL USE:** Evaluate fetal pulmonary maturation
- **CPT:** 84081; 83661
**[LUPCONF] LUPUS ANTICOAGULANT PANEL**

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Blue (Citrate)  
SPECIAL HANDLING: Draw 3 FULL citrate tubes; tube MUST be filled to the fill line to ensure proper anticoagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma  
SPECIMEN VOLUME: 3 full tubes  
Testing volume: 3 transport tubes with 1 ml plasma each  
MINIMUM VOLUME: 2 full tubes  
Testing volume: 2 transport tubes with 1 ml plasma each  
TEST INCLUDES: Activated partial thromboplastin time (PTT-LA); PTT mixing study (if needed); Russell's viper venom time; hexagonal phase phospholipid (if needed); Beta-2 glycoprotein IgG and IgM and interpretation  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 7-10 days  
REFERENCE RANGE: See individual test  
METHODOLOGY: See individual test  
CLINICAL USE: Diagnose the presence of a lupus anticoagulant, while eliminating confusion due to the presence of a factor deficiency of heparin contamination  
CPT: 85730; 85732 (if needed); 85613; 85598; 86146 x 2

**[LUPHEX] Hexagonal Phospholipid Neutralization**

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Blue (Citrate)  
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be FULL to ensure proper anticoagulant to blood ratio  
Invert gently 3-4 times to prevent clotting; centrifuge immediately and freeze plasma  
SPECIMEN VOLUME: 2 ml  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-3 days  
REFERENCE RANGE: < 3 seconds  
METHODOLOGY: Clot detection  
CLINICAL USE: Qualitative detection of lupus anticoagulants in plasma by the use of hexagonal H-phase phospholipid molecules  
CPT: 85598

**[LYMEABS] AB LYME DISEASE**

SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Quantitative (index) results for total antibodies and IgM
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 Days
OTHER NAMES: Borrelia burgdorferi antibodies
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Aid in diagnosis of acute or chronic infection with the Lyme disease agent
CPT: 86618 x 2

[LYMECSF] AB LYME CSF IGG/IGM
SPECIMEN REQUIRED: Frozen CSF
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST INCLUDES: Borrelia burgdorferi IgG and IgM
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: IgG: < 1:4
    IgM: < 1:1
OTHER NAMES: Borrelia antibodies
METHODOLOGY: Immunofluorescence Assay (IFA)
CPT: 86618 x 2

[LYMEPCR] Lyme Disease DNA (PCR)
SPECIMEN REQUIRED: Room temperature whole blood; refrigerated or frozen fresh CSF and synovial fluid
TUBE OR CONTAINER: Yellow (ACD) or sterile tube
SPECIMEN VOLUME: 1 mL CSF/Fluid or 5 mL Blood
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-7 days
METHODOLOGY: Polymerase chain reaction (PCR) amplification and
CLINICAL USE: Detect Borrelia burgdorferi (Lyme disease)
CPT: 87476

[LYMEWB] AB LYME WESTERN BLOT IGG/IGM
SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Western blot analysis and interpretations for IgG and IgM specific antibodies
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative
OTHER NAMES: Borrelia burgdorferi antibodies
METHODOLOGY: Western blot
CLINICAL USE: Detect antibodies specific for B. burgdorferi
CPT: 86617 x 2

<table>
<thead>
<tr>
<th>LYMEWBCSF</th>
<th>AB LYME WESTERN BLOT CSF</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated CSF</td>
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<tr>
<td>TUBE OR CONTAINER: Plastic tube</td>
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<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
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<tr>
<td>MINIMUM VOLUME: 1 mL</td>
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<tr>
<td>TEST INCLUDES: Analysis and interpretation for IgG-specific and IgM-specific antibodies</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
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<tr>
<td>REFERENCE RANGE: POSITIVE: Five of the following Borrelia-specific bands: P18, P23, P28, P30, P39, P41, P45, P58, P66, P93</td>
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<tr>
<td>NEGATIVE: No bands or banding patterns that do not meet positive criteria</td>
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<tr>
<td>METHODOLOGY: Western blot</td>
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<tr>
<td>CPT: 86617 x 2</td>
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<tr>
<th>LYMEWBFLD</th>
<th>AB LYME WESTERN BLOT FLUID</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Synovial Fluid at room temperature</td>
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<tr>
<td>TUBE OR CONTAINER: Green (heparin)</td>
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<td>SPECIMEN VOLUME: 2 mL</td>
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<td>MINIMUM VOLUME: 1 mL</td>
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<tr>
<td>TEST INCLUDES: Analysis and interpretation for IgG-specific and IgM-specific antibodies</td>
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<td>TEST AVAILABILITY: Daily</td>
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<tr>
<td>REFERENCE RANGE: POSITIVE: Five of the following Borrelia-specific bands: P18, P23, P28, P30, P39, P41, P45, P58, P66, P93</td>
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<tr>
<td>NEGATIVE: No bands or banding patterns that do not meet positive criteria</td>
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<td>METHODOLOGY: Western blot</td>
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<table>
<thead>
<tr>
<th>LYMPHAG</th>
<th>Lymphocyte Blastogenesis Antigen</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Dark Green (Heparin)</td>
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<tr>
<td>SPECIAL HANDLING: Specimen must arrive in Laboratory by 1:30 p.m., Monday-Thursday only</td>
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<tr>
<td>SPECIMEN VOLUME: 10 mL</td>
<td></td>
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<tr>
<td>MINIMUM VOLUME: 3 mL</td>
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<tr>
<td>TEST AVAILABILITY: Monday-Thursday</td>
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<tr>
<td>TURNAROUND TIME: 7-14 days</td>
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<tr>
<td>METHODOLOGY: Flow Cytometry</td>
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<td>CPT: 86353</td>
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<table>
<thead>
<tr>
<th>LYMPHMIT</th>
<th>Lymph Blastogenesis Mitogens</th>
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<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
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<tr>
<td>TUBE OR CONTAINER: Dark Green (Heparin)</td>
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<tr>
<td><strong>LYSENZ</strong></td>
<td>Lysosomal Enzyme Screen Interpret</td>
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</tr>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
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<tr>
<td>TUBE OR CONTAINER: Dark Green (heparin)</td>
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<tr>
<td>SPECIAL HANDLING: A clinical history must accompany the sample; Specimen must arrive in laboratory by 1:30 Monday-Thursday only; ship same day as collected</td>
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<tr>
<td>SPECIMEN VOLUME: 8-10 mL</td>
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<td>MINIMUM VOLUME: 2 mL</td>
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<td>TEST AVAILABILITY: Monday-Thursday</td>
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<td>METHODOLOGY: Spectrophotometry</td>
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<td>CPT: 82657; 82658</td>
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<tr>
<th><strong>LYSOZ</strong></th>
<th>Lysozyme</th>
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<tr>
<td>SPECIMEN REQUIRED: Frozen serum</td>
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<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
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<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
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</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL</td>
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</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
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<tr>
<td>TURNAROUND TIME: 3 days</td>
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<tr>
<td>REFERENCE RANGE: Male: 3.0-12.8 ug/mL</td>
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</tr>
<tr>
<td>Female: 2.5-12.9 ug/mL</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Muramidase</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Enzymatic</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Differential diagnosis of leukemia</td>
<td></td>
</tr>
<tr>
<td>CPT: 85549</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>LYSOZU</strong></th>
<th>Urine Lysozyme</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen urine (random)</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Plastic urine container</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 4 days</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: Male: 0-2.1 g/mL</td>
<td></td>
</tr>
<tr>
<td>Female: 0-2.9 g/mL</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Muramidase</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Enzymatic</td>
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<tr>
<td>CLINICAL USE: Differential diagnosis of leukemia</td>
<td></td>
</tr>
<tr>
<td>CPT: 85549</td>
<td></td>
</tr>
</tbody>
</table>
[LYTEBF]  BODY FLUID ELECTROLYTES
SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Fluid sodium; fluid potassium; fluid chloride
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
CPT: 82438; 84132; 84295

[LYTES]  ELECTROLYTES PANEL
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Sodium, potassium, chloride, carbon dioxide
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: See individual tests
METHODOLOGY: See individual tests
CPT: 80051

[LYTESTL]  STOOL ELECTROLYTES
SPECIMEN REQUIRED: Watery liquid stool
TUBE OR CONTAINER: Plastic container
SPECIAL HANDLING: Must be watery liquid for analysis; specimen will be rejected if not in liquid form
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Sodium, Potassium, and Chloride
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: None established
METHODOLOGY: See individual test
CPT: 82438; 84133; 84302

[LYTESU]  UR ELECTROLYTES
SPECIMEN REQUIRED: Refrigerated random urine
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Sodium, Potassium, and Chloride
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: No range established
METHODOLOGY: Indirect potentiometry
CPT: 82436; 84133; 84300
**[MACAMY] MACROAMYLASE**

Specimen Required: Refrigerated serum
Tube or Container: Red or gold
Specimen Volume: 3 mL (Divide into 2-1.5 mL aliquots)
Minimum Volume: 1 mL (Divide into 2-0.5 mL aliquots)
Test Includes: Total amylase and macroamylase
Test Availability: Daily
Turnaround Time: 2-4 days
Reference Range: Total amylase: 0-30 days: 0-6 U/L
31-182 days: 1-17 U/L
183-365 days: 6-44 U/L
1-3 years: 8-79 U/L
4-17 years: 21-110 U/L
≥ 18 years: 26-102 U/L
Macroamylase: Not found
Methodology: Colorimetric and Exclusion Column Chromatography
CPT: 82150 x 2

**[MAG] Magnesium Level**

Specimen Required: Refrigerated plasma or serum
Tube or Container: Light Green (heparin) or Gold
Specimen Volume: 1 mL
Minimum Volume: 0.5 mL
Test Availability: Daily
Turnaround Time: 8 hours
Reference Range: 0 Day: 1.2-2.2 mg/dL
1 Month: 1.7-2.2 mg/dL
20 Years+: 1.6-2.6 mg/dL
Methodology: Timed-endpoint
CPT: 83735

**[MAGDUAL] MAG ANTIBODY DUAL ELISA**

Specimen Required: Serum at room temperature
Tube or Container: Red or Gold
Specimen Volume: 1 mL
Minimum Volume: 0.5 mL
Test Availability: Daily
Turnaround Time: 2-6 days
Methodology: Indirect immunofluorescence assay (IFA)
Clinical Use: Detect antibodies associated with neuropathic diseases
CPT: 83520

**[MAGFLD] Body Fluid Magnesium**

Specimen Required: Refrigerated body fluid
Tube or Container: Sterile tube
Special Handling: Specify source of fluid
Specimen Volume: 1 mL
Minimum Volume: 0.5 mL
<table>
<thead>
<tr>
<th>Test</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Special Handling</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Reference Range</th>
<th>Methodology</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MAGGEN</strong> M RED CELL AG GENOTYPING</td>
<td>Frozen CSF</td>
<td>Sterile capped tube</td>
<td></td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>Daily</td>
<td>8 hours</td>
<td>None established</td>
<td>Timed endpoint</td>
<td>83735</td>
</tr>
<tr>
<td><strong>MAGMCSF</strong> Myelin Assoc Glycoprotein IgM Ab</td>
<td>Frozen CSF</td>
<td>Sterile capped tube</td>
<td></td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>Daily</td>
<td>6-10 days</td>
<td>Negative</td>
<td>Indirect Immunofluorescence (IFA)</td>
<td>83520 x 2</td>
</tr>
<tr>
<td><strong>MAGSTLTM</strong> STOOL MAGNESIUM TIMED</td>
<td>Frozen liquid stool (random or 24 hour)</td>
<td>Plastic container</td>
<td>Must be in liquid form; Indicate total time and weight</td>
<td>20 mL</td>
<td>10 mL</td>
<td>Daily</td>
<td>3-5 days</td>
<td>Negative</td>
<td>Spectrophotometry</td>
<td>83735</td>
</tr>
<tr>
<td><strong>MAGTM</strong> UR MAGNESIUM TIMED</td>
<td>Aliquot of 24-hour urine at room temperature</td>
<td>Plastic urine container</td>
<td>Collect 24-hour urine in &quot;P&quot; container (no preservative) and maintain at room temperature</td>
<td>10 mL</td>
<td>1 mL</td>
<td>Daily</td>
<td>8 hours</td>
<td>24-255 mg/ 24 hour</td>
<td>Timed endpoint</td>
<td>83735</td>
</tr>
<tr>
<td><strong>MAGUR</strong> Urine Random Magnesium</td>
<td>Room temperature random urine</td>
<td>Plastic urine container</td>
<td></td>
<td>10 mL</td>
<td>1 mL</td>
<td>Daily</td>
<td></td>
<td></td>
<td></td>
<td>83735</td>
</tr>
</tbody>
</table>
**MALA**  MALARIAL SMEAR

- **SPECIMEN REQUIRED:** Whole blood and 4 freshly prepared blood
  smears
- **TUBE OR CONTAINER:** Lavender (EDTA) and 4 Smears
- **SPECIMEN VOLUME:** 3 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST INCLUDES:** Thick smear, thin smear; malaria identification
- **TEST AVAILABILITY:** Monday-Friday
- **TURNAROUND TIME:** 48 hours
- **REFERENCE RANGE:** Negative
- **METHODOLOGY:** Smear with interpretation; Giemsa Stain
- **CPT:** 87207

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**MANG**  Manganese Level

- **SPECIMEN REQUIRED:** Room temperature plasma
- **TUBE OR CONTAINER:** Royal Blue (EDTA) or Lavender (EDTA)
- **SPECIAL HANDLING:** Centrifuge and separate immediately
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 0.6 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** Environmental exposure: METHODOLOGY: Inductively coupled plasma-mass spectrometry (ICP-MS)
- **CLINICAL USE:** Evaluate industrial exposure
- **CPT:** 83785

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**MANGU**  Manganese Urine

- **SPECIMEN REQUIRED:** Urine at room temperature (random)
- **TUBE OR CONTAINER:** Plastic urine container
- **SPECIAL HANDLING:** No preservative
- **SPECIMEN VOLUME:** 20 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST INCLUDES:** Urine manganese; urine creatinine; manganese:creatinine ratio
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** Environmental exposure: 0.0-2.9 ug/L
- **METHODOLOGY:** Inductively coupled plasma-mass spectrometry (ICP-MS)
- **CLINICAL USE:** Confirm manganese exposure, toxicity, or poisoning by documenting excessive urine excretion of the metal
- **CPT:** 82570; 83785

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**MARFAN**  FBN1 GENE FOR MARFAN SYNDROME
SPECIMEN REQUIRED: Whole blood on cool pack or cultured fibroblasts
TUBE OR CONTAINER: Lavender (EDTA) or T25 flasks
SPECIMEN VOLUME: 10 mL for adults and children over 10 years old
3-5 mL - pediatric
4-confluent flasks for fibroblasts
MINIMUM VOLUME: 1 mL (newborn)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83900; 83901 x 33; 83904 x 2; 83909; 83912

[MAS] MCCUNE-ALBRIGHT SYNDROME
SPECIMEN REQUIRED: Whole blood or biopsy sample at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or transport media/saline
SPECIAL HANDLING: Preferred sample - biopsy tissue from affected site
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 weeks
OTHER NAMES: GNAS gene sequencing
METHODOLOGY: Site-specific PCR, restriction enzyme digestion and DNA sequencing
CPT: 83890; 83892 x 12; 83894 x 2; 83898 x 8; 83904 x 8; 83912

[MATAAB] MATA ANTIBODY
SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Ship same day as collected (can be refrigerated and shipped next day, but serum only stable for 3 days)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 7-14 days
REFERENCE RANGE: Negative
METHODOLOGY: Western blot
CPT: 84182

[MATCONT] MATERNAL CELL CONTAMINATION
SPECIMEN REQUIRED: Whole blood or buccal swabs at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Buccal swab
SPECIMEN VOLUME: 5 mL or 4 swabs
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
METHODOLOGY: PCR analysis of multiple short tandem repeat (STR)
loci
CLINICAL USE: Ensure accurate molecular prenatal diagnostic
test results
CPT: 83898 x 2; 83903 x 2

[MAVIUMDNA]  Mycobacterium avium Complex (LAB)
SPECIMEN REQUIRED: Fresh frozen tissue, paraffin embedded
tissue, lower respiratory or sterile body
fluid
TUBE OR CONTAINER: Sterile container
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-10 days
REFERENCE RANGE: Not detected
METHODOLOGY: Real-time Polymerase Chain Reaction (RT-PCR)
CPT: 87561

[MAX]  Hydrochlorothiazide Level
SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Red or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
REFERENCE RANGE: < 200 ng/mL
OTHER NAMES: Diuril; Hydrodiuril
METHODOLOGY: High Performance Liquid Chromatography with
Ultraviolet Detection (HPLC-UV)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

[MBC]  MBC (Min Bactericidal Conc)

[MBLP]  Mannose Binding Protein
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
METHODOLOGY: Enzyme immunoassay (EIA)
CPT: 83520

[MC4R]  EARLY ONSET OBESITY (MC4R)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING: Specimen must arrive at Athena within 24
hours of collection
Specimen must arrive in Lab by 2:00 pm
Monday-Thursday
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2-8 weeks
REFERENCE RANGE: No mutation detected
METHODOLOGY: Polymerase Chain Reaction (PCR), DNA sequencing of entire protein coding region of gene
CLINICAL USE: Detects mutation in the coding sequences of the melanocortin 4 receptor gene
CPT: 83891, 83898 x 3, 83904 x 3, 83909 x 3; 83912

[MCAD] MED CHAIN ACYL-COENZYME ADEHY
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Dark green (heparin)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 2-3 days
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83920; 83901 x 10; 83904; 83909 x 2; 83912

[MCARDLE] GSD TYPE 5 (MCARDLE DISEASE)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 4-6 weeks
OTHER NAMES: PYGM Gene Sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 2; 83904 x 2; 83912 (TIER 1)

[MCCC1] 3-METHYLCROT-CoA CARBOXYLASE
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
OTHER NAMES: 3-Methylcrotonyl-CoA Carboxylase Deficiency (MCCC1) Gene Sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 17; 83904 x 17; 83912

[MCCC2] 3-METHYLCROT-CoA CARBOXYLASE
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
<table>
<thead>
<tr>
<th>Test Code</th>
<th>Condition</th>
<th>Specimen</th>
<th>Container</th>
<th>Volume</th>
<th>Minimum Volume</th>
<th>Availability</th>
<th>Methodology</th>
<th>CPT Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>[MCEE]</td>
<td>METHYLAMALONIC ACIDEMIA-MCEE</td>
<td>Whole blood</td>
<td>Lavender (EDTA)</td>
<td>5 mL</td>
<td>2 mL</td>
<td>Daily</td>
<td>Polymerase Chain Reaction (PCR)</td>
<td>83890; 83891; 83894; 83898 x 19; 83904 x 19; 83912</td>
</tr>
<tr>
<td>[MCOLN1]</td>
<td>MUCOLIPIDOSIS IV (MCOLN1)</td>
<td>Whole blood</td>
<td>Lavender (EDTA) or Yellow (ACD)</td>
<td>5 mL</td>
<td>1 mL</td>
<td>Daily</td>
<td>Polymerase chain reaction (PCR)</td>
<td>83891 x 5; 83892 x 2; 83894 x 5; 83898 x 5; 83904 x 5; 83912</td>
</tr>
<tr>
<td>[MCPDNA]</td>
<td>MEMBRANE COFACTOR PROTEIN GENE</td>
<td>Whole blood</td>
<td>Lavender (EDTA)</td>
<td>4 mL</td>
<td>2 mL</td>
<td>Daily</td>
<td>Polymerase Chain Reaction (PCR)</td>
<td>83891; 83894; 83898 x 13; 83904 x 13; 83912</td>
</tr>
<tr>
<td>[MCT8]</td>
<td>ALLAN-HERNDON-DUDLEY (MCT8)</td>
<td>Whole blood</td>
<td>Lavender (EDTA)</td>
<td>10 mL</td>
<td>1 mL</td>
<td>Daily</td>
<td>Polymerase chain reaction (PCR)</td>
<td>83891; 83894; 83898 x 7; 83904 x 14; 83909 x 14; 83912</td>
</tr>
<tr>
<td>[MDM]</td>
<td>MYOTONIC MUSCULAR DYSTROPHY</td>
<td>Whole blood</td>
<td>Lavender (EDTA)</td>
<td>5 mL</td>
<td>2 mL</td>
<td>Daily</td>
<td>Polymerase chain reaction (PCR)</td>
<td>83890; 83891; 83894; 83898 x 19; 83904 x 19; 83912</td>
</tr>
</tbody>
</table>
**[MDM1] MYOTONIC MUSC DYSTROPHY TYPE 1**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 15 - 21 days  
METHODOLOGY: Polymerase chain reaction (PCR), Fragment analysis and Southern blot  
CLINICAL USE: Detects CTG repeat expansions in the muscle protein kinase (DMPK) gene  
CPT: 83890; 83896 x 2; 83897 x 2; 83903 x 5; 83912

**[MDM2] MYOTONIC MUSC DYSTROPHY TYPE 2**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIAL HANDLING: Must arrive in lab by 1:00 pm Monday-Thursday only  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 5 mL  
TEST AVAILABILITY: Monday - Thursday only  
TURNAROUND TIME: 21 - 28 days  
REFERENCE RANGE: Normal: Less than 177 base pairs  
METHODOLOGY: Polymerase chain reaction (PCR), Fragment analysis and Southern blot  
CLINICAL USE: Detects CCTG repeat expansions in the Zinc Finger Protein 9 (ZNF9) gene  
CPT: 83891; 83898; 83909; 83912

**[MEASGCSF] CSF Rubeola (Measles) IgG Antibody**

SPECIMEN REQUIRED: Refrigerated or frozen CSF  
TUBE OR CONTAINER: Sterile Container  
SPECIMEN VOLUME: 0.5 mL  
MINIMUM VOLUME: 0.2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-4 days  
REFERENCE RANGE: 0.89 AU or less: Negative  
0.90-1.10 AU: Equivocal
1.11 AU or greater: Positive
METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA)
CPT: 86765

<table>
<thead>
<tr>
<th>[MEASMCSF] CSF Rubeola (Measles) IgM Antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated or frozen CSF</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile Container</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-7 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.79 AU or less: Negative</td>
</tr>
<tr>
<td>0.80-1.20 AU: Equivocal</td>
</tr>
<tr>
<td>1.21 AU or greater: Positive</td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA)</td>
</tr>
<tr>
<td>CPT: 86765</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[MED12] MED12 ASSOC SYNDROMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 10 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-6 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83890; 83898 x 4; 83904 x 3; 83909; x 3; 83912 (tier 1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[MED12T2] MED12 ASSOC SYNDROMES TIER 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 10 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-6 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83890; 83898 x 10; 83904 x 5; 83909; x 5; 83912 (tier 2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[MEGALO] ANEMIA PROFILE MEGALOBLASTIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum or plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red, Gold or Green (heparin)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Centrifuge and separate within 1 hour of collection</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: Cystathionine, homocysteine, 2-methylcitric acid, methylmalonic acid</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 10-12 days</td>
</tr>
<tr>
<td>METHODOLOGY: Gas chromatography/mass spectrometry (GC/MS) and liquid chromatography/tandem mass spectrometry</td>
</tr>
</tbody>
</table>
CLINICAL USE: Diagnose megaloblastic anemia. Elevated levels of methylmalonic acid provide an early indication of cobalamin (B12) deficiency
CPT: 82131; 83090; 83921 x 2

[MELAS] MELAS DNA MUTATION

[MELAT] Melatonin Assay

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must be protected from light.
SPECIMEN VOLUME: 1.5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Radioimmunoassay (RIA)
CPT: 83519

[MEMCSF] MENINGOENCEPHALITIS PANEL CSF

SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: California Encephalitis (LaCrosse Virus) Ab, Eastern Equine Encephalitis Ab Panel, HSV 1/2 Ab, HSV 1/2 IgM Panel, LCM IgG/IgM, Mumps IgG/IgM, St. Louis Encephalitis Ab, Western Equine Encephalitis Ab Panel
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
METHODOLOGY: Indirect fluorescent antibody (IFA)
CPT: 86651 x 2; 86652 x 2; 86695 x 2; 86696 x 2; 86727 x 2; 86735 x 2; 86653 x 2; 86654 x 2

[MEN1] MULTIPLE ENDOCRINE NEOPLASIA

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-8 weeks (new patient)
2 weeks (family member of identified mutation)
METHODOLOGY: Bi-directional sequence analysis
CPT: 83891 x9; 83892 x2; 83894 x9; 83898 x9; 838904 x18; 83912

[MEP] Meperidine (Demerol) Level

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Dark Green (heparin), or Lavender (EDTA)
SPECIAL HANDLING: Collect specimen immediately prior to next dose unless otherwise specified
Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Therapeutic: 70-500 ng/mL
Potentially toxic: >1000 ng/mL
OTHER NAMES: Demerol
METHODOLOGY: Liquid chromatography mass spectrometry (LC-MS)
CLINICAL USE: Therapeutic drug monitoring
CPT: 83925

<table>
<thead>
<tr>
<th>MEPHOP</th>
<th>MEPHOBARBITAL (MEBARAL) PROFIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum or plasma</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red, Dark Green (heparin) or Lavender (EDTA)</td>
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</tr>
<tr>
<td>SPECIAL HANDLING: Do NOT collect in gel-barrier tube</td>
<td></td>
</tr>
<tr>
<td>Collect specimen immediately prior to next dose unless specified otherwise</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
<td></td>
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<tr>
<td>MINIMUM VOLUME: 0.6 mL</td>
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<tr>
<td>TEST INCLUDES: Mephobarbital &amp; metabolite (Phenobarbital)</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: Therapeutic: Phenobarbital: 15-40 mg/mL; Mephobarbital: 8-15 mg/mL</td>
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<tr>
<td>OTHER NAMES: Mebaral</td>
<td></td>
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<tr>
<td>METHODOLOGY: Phenobarbital Immunoassay; Mephobarbital: Gas chromatography (GC)</td>
<td></td>
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<tr>
<td>CLINICAL USE: Therapeutic drug monitoring</td>
<td></td>
</tr>
<tr>
<td>CPT: 82205</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>MERC</th>
<th>Mercury Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Room temperature whole blood</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Royal-blue (EDTA) or Royal-blue (Na-heparin) LAV (EDTA) also acceptable</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: If specimen is collected for industrial monitoring purposes, sample should be taken at the end of the last shift of the workweek</td>
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<tr>
<td>Submit specimen in original tube</td>
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<tr>
<td>SPECIMEN VOLUME: 7 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.6 mL</td>
<td></td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
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<tr>
<td>TURNAROUND TIME: 4 days</td>
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<tr>
<td>REFERENCE RANGE: Environmental exposure: 0.0-8.0 g/L individuals consuming large quantities of seafood may have values as high as 200.0 g/L Occupational exposure: BEI : inorganic mercury (sampling time is end of shift at end of work week): 15.0 g/L</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Inductively coupled plasma-mass spectrometry (ICP-MS)</td>
<td></td>
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<tr>
<td>CLINICAL USE: Monitor exposure to mercury</td>
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<tr>
<td>Test</td>
<td>Description</td>
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<tr>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>[MERCAP] Mercaptopurine Level</td>
<td>Frozen serum or plasma</td>
</tr>
<tr>
<td>[MERCTM] UR MERCURY TIMED</td>
<td>Urine at room temperature (random or 24 hour)</td>
</tr>
<tr>
<td>[MERRF] MYOCLOMNIC EPILEPSY &amp; RAGGED RD</td>
<td></td>
</tr>
<tr>
<td>[MET] Metronidazole Level</td>
<td>Refrigerated serum or plasma</td>
</tr>
<tr>
<td>[METFORM] Metformin (Glucophage) Level</td>
<td>Refrigerated serum or plasma</td>
</tr>
</tbody>
</table>
[METH]  Methadone Level

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Dark Green (heparin), or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Therapeutic: 100-400 ng/mL
Potentially toxic: >2000 ng/mL
OTHER NAMES: Dolophine
METHODOLOGY: Liquid chromatography mass spectrometry (LC-MS)
CLINICAL USE: Therapeutic drug monitoring
CPT: 83840

[METHALB]  Methemalbumin

SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-10 days
METHODOLOGY: Spectrophotometry (SP)
CPT: 83857

[METHAMPH]  METHAMPHETAMINE & METABOLITE

SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Gray (sodium fluoride)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Methamphetamine and Amphetamine
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
REFERENCE RANGE: Methamphetamine: 10 - 100 ng/ml
Amphetamine: 10 - 100 ng/ml
OTHER NAMES: D-desoxyephedrine; Desoxyn; Methedrine
METHODOLOGY: Gas Chromatography/Mass Spectrometry (GC/MS)
CPT: 82145

[METHAQ]  Methaqualone Level

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIAL HANDLING: Centrifuge and separate within 2 hours of collection; Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.7 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-8 days
Methodology: Gas Chromatography/Mass Spectrometry (GC/MS)
CPT: 82491

[METHBCO] Methemoglobin

SPECIMEN REQUIRED: Whole blood on ice
TUBE OR CONTAINER: Lt/Dk Green (heparin) or Heparinized syringe
SPECIAL HANDLING: Keep specimen on ice and transport to lab immediately; do NOT open
Test should be performed within 2 hours
REASON FOR REJECTION: Specimen at room temp >20 minutes or on ice longer than 2 hours
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 hour
REFERENCE RANGE: 0.0-1.0%
METHODOLOGY: Spectrophotometry
CLINICAL USE: Evaluate cyanosis
CPT: 83050

[METHEMRED] Methemoglobin Reductase

SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: ACD solution-B (yellow)
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 0.5 mL (pediatric)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: 8.2-19.2 IU/g Hb
OTHER NAMES: Cytochrome B reductase; Diaphorase; Ferrihemoglobin Reductase
METHODOLOGY: Kinetic Spectrophotometry (KS)
CPT: 82657

[METHION] Methionine Level

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Light Green (heparin)
SPECIAL HANDLING: Separate and freeze plasma within 1 hour of collection
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-8 days
METHODOLOGY: High Performance Liquid Chromatography (HPLC)
CPT: 82131

[METHIOU] Urine Methionine
SPECIMEN REQUIRED: Frozen urine (random)
TUBE OR CONTAINER: Urine container
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
METHODOLOGY: High-pressure liquid chromatography (HPLC)
CLINICAL USE: Evaluate amino acid metabolism
CPT: 82131

[METHM] Methylmalonic Acid
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold, or Light Green (heparin)
SPECIAL HANDLING: Separate within 1 hour of collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
REFERENCE RANGE: 73-376 nmol/L
METHODOLOGY: Gas chromatography/mass spectrometry (GC/MS)
CLINICAL USE: Diagnose megaloblastic anemia
CPT: 83921

[METHS] METHSUXIMIDE (CELONTIN)
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Lavender (EDTA) or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.8 mL
TEST INCLUDES: Methsuximide & Normethsuximide
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-6 days
REFERENCE RANGE: Methsuximide: < 1 g/mL
Normethsuximide: 10-40 g/mL
Total: 10-40 g/mL
OTHER NAMES: Celontin
METHODOLOGY: Gas Chromatography (GC)
CLINICAL USE: Therapeutic drug monitoring
CPT: 83858

[METHX] Methotrexate Level
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold or Light Green (heparin)
SPECIAL HANDLING: Protect specimen from light and send to lab
STAT
SPECIMEN VOLUME: 1 mL
**[METPHE] Methylphenidate (Ritalin) Level**

- SPECIMEN REQUIRED: Frozen plasma or serum
- TUBE OR CONTAINER: Red, Dark green (heparin) or Lavender (EDTA)
- SPECIAL HANDLING: Collect as a peak level 1-2 hours after dosing
  Do NOT collect in gel barrier tube
- SPECIMEN VOLUME: 3 mL
- MINIMUM VOLUME: 1.1 mL
- TEST AVAILABILITY: Daily
- REFERENCE RANGE: Therapeutic: 5.0-20.0 ng/mL
  Potentially toxic: >40.0 ng/mL
- OTHER NAMES: Ritalin
- METHODOLOGY: Gas chromatography/nitrogen-phosphorus detector (GC-NPD)
- CLINICAL USE: Therapeutic drug monitoring
- CPT: 80299

**[METPL] METANEPHERINE PLASMA**

- SPECIMEN REQUIRED: Frozen plasma
- TUBE OR CONTAINER: EDTA (lavender)
- SPECIAL HANDLING: Patient should be fasting overnight (water and non-caffeinated soft drinks are permissible)
  The patient should be in a supine position
  for at least 15 minutes before and during sample collection
  It is preferable, but not essential, to draw the sample without a tourniquet
- SPECIMEN VOLUME: 2 mL
- MINIMUM VOLUME: 1.5 mL
- TEST INCLUDES: Metanephrine; normetanephrine
- TEST AVAILABILITY: Daily
- REFERENCE RANGE: Normetanephrine: 0-145 pg/mL
  Metanephrine: 0-62 pg/mL
- OTHER NAMES: Metanephrine; Normetanephrine; Plasma Metanephrines
- METHODOLOGY: High-pressure liquid chromatography (HPLC)
- CLINICAL USE: Diagnose pheochromocytoma, a catecholamine-secreting tumor of the adrenal medulla
- CPT: 83835

**[METSCR] METANEPHRINE PHEOCHROMOCYTOMA**
SPECIMEN REQUIRED: Refrigerated urine (random collection)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect first morning urine specimen and adjust pH to 1-3 with 6N HCl
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2.5 mL
TEST INCLUDES: Creatinine; metanephrine; metanephrine:creatinine ratio
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
METHODOLOGY: Metanephrines: high-pressure liquid chromatography (HPLC); creatinine: alkaline picric acid
CLINICAL USE: Diagnose presence of a pheochromocytoma, neuroblastoma, and ganglioneuroblastoma
CPT: 82570, 83835

[METSULFHGB] METHEMOGLOBIN & SULFHEMOGLOBIN

SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must arrive in laboratory Monday-Thursday by 1:30 pm
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Methemoglobin and Sulfhemoglobin
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2 days
REFERENCE RANGE: METHEMOGLOBIN: 0.0-1.5% of total hemoglobin
SULFHEMOGLOBIN: 0.0-1.0% of total hemoglobin
METHODOLOGY: Spectrophotometry (SP)
CLINICAL USE: Diagnose methemoglobinemia and sulfhemoglobinemia
CPT: 83050; 83060

[METTM] UR METANEPHRINES TIMED

SPECIMEN REQUIRED: Refrigerated urine aliquot (24-hour collection)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect urine in "P" or "D" container (30mLs 6N HCL) Refrigerate during collection; Patient should avoid caffeine before or during collection; Final pH must be 1-3
SPECIMEN VOLUME: 25 mL
MINIMUM VOLUME: 2.5 mL
TEST INCLUDES: Metanephrine; normetanephrine
TEST AVAILABILITY: Daily
REFERENCE RANGE: Age specific
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
CLINICAL USE: Evaluate the presence of abnormal catecholamine production, may be elevated when VMA and catecholamines are within normal limits; diagnose pheochromocytoma, neuroblastoma, and
**[MEVU] Urine Mevalonic Acid**

SPECIMEN REQUIRED: Frozen urine (24-hour or random)  
TUBE OR CONTAINER: Urine container  
SPECIMEN VOLUME: 25 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 7-9 days  
METHODOLOGY: Gas Chromatography/Mass Spectrometry (GC/MS)  
CPT: 82543

**[MEX] Mexiletine Level**

SPECIMEN REQUIRED: Refrigerated serum or plasma  
TUBE OR CONTAINER: Red, Dark green (heparin) or Lavender (EDTA)  
SPECIAL HANDLING: Do NOT collect in gel barrier tube  
SPECIMEN VOLUME: 3 mL  
MINIMUM VOLUME: 1.1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 48 hours  
REFERENCE RANGE: Therapeutic: 0.5-2.0 ug/mL  
Potentially toxic: >2.0 ug/mL  
OTHER NAMES: Mexitil  
METHODOLOGY: High Pressure Liquid Chromatography (HPLC)  
CLINICAL USE: Therapeutic monitoring and toxicity assessment  
CPT: 80299

**[MFN2] MFN2 DNA SEQUENCING**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Yellow (ACD) or Lavender (EDTA)  
SPECIAL HANDLING: Must be received in laboratory by 2:00 pm on day collected  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 6 mL  
TEST AVAILABILITY: Monday - Thursday  
TURNAROUND TIME: 3-4 weeks  
REFERENCE RANGE: No sequence variation detected  
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA sequencing  
CLINICAL USE: Detects sequence variations in the MFN2 gene  
CPT: 83891; 83898 x 15; 83904 x 15; 83909 x 15; 83912

**[MGMT] MGMT GENE METHYLATION ASSAY**

SPECIMEN REQUIRED: Formalin-fixed, paraffin-embedded tissue block or 4 unstained slides at room temperature  
TUBE OR CONTAINER: Tissue block or slides  
SPECIAL HANDLING: Protect paraffin block from excessive. Ship in cooled container during summer months  
SPECIMEN VOLUME: Four unstained slides at 5 uM or FFPE tissue
block
MINIMUM VOLUME: Two unstained slides at 5 uM
TEST AVAILABILITY: Daily
METHODOLOGY: Quantitative methylation-specific polymerase chain reaction (PCR)
CPT: 83891; 83896 x 2; 83898 x 2; 83907; 83912

[MGRBC] Red Blood Cell Magnesium
SPECIMEN REQUIRED: Refrigerated red blood cells
TUBE OR CONTAINER: Lavender (EDTA) or Dark Green (heparin)
SPECIAL HANDLING: Centrifuge tube within 45 minutes of collection; discard plasma; submit only the RBC's in original tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: 4.2 - 6.8 mg/dL
METHODOLOGY: Atomic absorption spectrometry (AAS); inductively coupled plasma-mass spectrometry (ICP-MS)
CLINICAL USE: Evaluate magnesium deficiency
CPT: 83735

[MHATP] Treponema pallidum Antibody (MHA)
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)
SPECIMEN VOLUME: 1 ml
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative: < 0.8
Equivocal: 0.8 - 1.2
Positive: > 1.2
METHODOLOGY: Enzyme Immunoassay (EIA)
CLINICAL USE: Confirmatory serology test for syphilis
CPT: 86780

[MIAA] UR N-METHYL HISTAMINE
SPECIMEN REQUIRED: Refrigerated urine (24-hour)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect 24-hour urine in "P" container (no preservative); random samples are accepted
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
REFERENCE RANGE: 0-5 years: 120-510 ug/g creatinine
6-16 years: 70-330 ug/g creatinine
>16 years: 30-200 ug/g creatinine
METHODOLOGY: Liquid chromatography-tandem mass spectrometry (LC-MS/MS)
<table>
<thead>
<tr>
<th>Test Description</th>
<th>Details</th>
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<tbody>
<tr>
<td><strong>[MICACI] MIC, ACINETOBACTER SPP.</strong></td>
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<tr>
<td><strong>[MICACIGN4F] MIC, Acinetobacter GN4F TREK</strong></td>
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<tr>
<td><strong>[MICADDL] MIC, ADDITIONAL ANTIBIOTICS</strong></td>
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<tr>
<td><strong>[MICALB24HR] UR MICROALBUMIN 24HR</strong></td>
<td>SPECIMEN REQUIRED: Refrigerated urine (24-hour aliquot) TUBE OR CONTAINER: Plastic urine container SPECIAL HANDLING: Collect a 24-hour urine in &quot;P&quot; container (no preservative) SPECIMEN VOLUME: 15 mL MINIMUM VOLUME: 1 mL TEST AVAILABILITY: Monday-Friday TURNAROUND TIME: 1 day REFERENCE RANGE: &lt; 30 mg/24 hours METHODOLOGY: Turbidimetric CLINICAL USE: Management of patients with relatively early diabetes mellitus to assist in avoiding or delaying the onset of diabetic renal disease CPT: 82043</td>
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<tr>
<td><strong>[MICBAC] MIC, BACILLUS SPP.</strong></td>
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<tr>
<td><strong>[MICBCEP] MIC, B.CEPACIA</strong></td>
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<tr>
<td><strong>[MICBCGN4F] MIC, B.cepacia GN4F TREK</strong></td>
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<tr>
<td><strong>[MICCORYNE] MIC, CORYNEFORM GPRS</strong></td>
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<td><strong>[MICENTC] MIC, ENTEROCOCCUS</strong></td>
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<tr>
<td><strong>[MICGN4F] MIC, GRAM NEG GN4F TREK</strong></td>
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<tr>
<td><strong>[MICGNR] MIC, ENTERIC GRAM NEGATIVE ROD</strong></td>
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<td><strong>[MICHACEK] MIC, HACEK</strong></td>
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<td><strong>[MICHAEM] MIC, HAEMOPHILUS</strong></td>
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<tr>
<td><strong>[MICHPB] MIC, HAEMOPHILUS TREK</strong></td>
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<tr>
<td><strong>[MICLIST] MIC, LISTERIA</strong></td>
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<tr>
<td><strong>[MICMCAT] MIC, M.CATARRHALIS</strong></td>
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</tbody>
</table>
**[MICMISC] Miscellaneous Microbiology**

This order is to be used to enter test requests which do not currently exist in Meditech. Please call the Microbiology Laboratory at 271-4006 to verify if the test needed does not have an order code.

If MISCMIC is required to enter the order, please be specific regarding the order requested, including specimen information. Use only one MISCMIC order per specimen.

**[MICMISCNR]** MIC, MISCELLANEOUS GNR

**[MICNF]** MIC, NON-FERMENTERS

**[MICNFGN4F]** MIC, Non-fermenters GN4F TREK

**[MICNMEN]** MIC, N.MENINGITIDIS

**[MICNOC]** MIC, NOCARDIA

**[MICNOCREF]** MIC, NOCARDIA REFERRED

**[MICNVS]** MIC, NUTRITION.VARIANT STREP

**[MICPA]** MIC, PSEUDOMONAS AERUGINOSA

**[MICPAGN4F]** MIC, P.aeruginosa GN4F TREK

**[MICPAST]** MIC, PASTURELLA SPP.

**[MICRAB]** Thyroid Antimicrosomal Antibody

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-3 Days
- **OTHER NAMES:** Antimicrosomal Ab; Antithyroid Microsomal Ab; Thyroid Peroxidase Autoantibodies; TPO Antibodies
- **METHODOLOGY:** Immunochemiluminometric assay (ICMA)
- **CLINICAL USE:** Differential diagnosis of hypothyroidism and thyroiditis
- **CPT:** 86376

**[MICRCAF]** MIC, RAPID-GROWING AFB

**[MICRCAFREF]** MIC, RAPID-GROWER AFB REFERRED
[MICROB2U] Urine Beta-2-Microglobulin

SPECIMEN REQUIRED: Refrigerated random urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Have patient void and discard sample, then
drink a large glass of water and collect a
urine sample in one hour; Adjust final pH to
6-8 with 1 mol/L NaOH
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: < 300 ug/L
METHODOLOGY: Immunochemiluminometric assay (ICMA)
CLINICAL USE: Evaluate renal disease; monitor certain types of
malignancies and AIDS
CPT: 82232

[MICROCRE] MICROALBUMIN/CREATININE RATIO

SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 30 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Urine microalbumin; urine creatinine and ratio
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Ratio: 0-30 ug/mg creatinine
METHODOLOGY: Creatinine: Kinetic; Microalbumin: Turbidimetric
CLINICAL USE: Aid in management of patients with relatively
early diabetes mellitus to assist in avoiding or
delaying the onset of diabetic renal disease
CPT: 82044; 82570

[MICROTOM] UR MICROALBUMIN TIMED

SPECIMEN REQUIRED: Refrigerated urine (24-hour aliquot)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect a 24-hour urine in "P" container (no
preservative)
SPECIMEN VOLUME: 15 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 1 day
REFERENCE RANGE: < 30 mg/24 hours
METHODOLOGY: Turbidimetric
CLINICAL USE: Management of patients with relatively early
diabetes mellitus to assist in avoiding or
delaying the onset of diabetic renal disease
CPT: 82043

[MICSPNEU] MIC, STREP PNEUMONIAE
**[MICSPOR] Microsporidium Smear**

- **SPECIMEN REQUIRED:** Stool
- **TUBE OR CONTAINER:** Sterile container or O&P transport
- **ORDERING MODULE:** MIC
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2 days
- **REFERENCE RANGE:** Negative
- **METHODOLOGY:** Microscopy
- **CLINICAL USE:** Detection of microsporidium spores
- **CPT:** 87207

**[MICSS] MIC, SALMONELLA OR SHIGELLA**

**[MICSTA] MIC, STAPHYLOCOCCUS**

**[MICSTEN] MIC, S. MALTOPHILIA**

**[MICSTENOGN4F] MIC, S. maltophilia GN4F TREK**

**[MICSTR] MIC, STREP (not pneumo)**

**[MICVANR] MIC, INTRINSIC VAN RESIST GP**

**[MICYO9] MIC, YEAST TREK YO9**

**[MILKPREC] MILK PRECIPITIN PANEL**

- **SPECIMEN REQUIRED:** Serum at room temperature
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST INCLUDES:** Alpha Lactalbumin, Beta Lactoglobulin, Casein, Cow Milk (whole) and Bovine serum albumin
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4-7 days
- **REFERENCE RANGE:** Negative
- **METHODOLOGY:** Gel diffusion (Ouchterlony)
- **CPT:** 86331 x 5

**[MIRAS] MIRAS-SPECIFIC POLG1 DNA**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIAL HANDLING:** Specimen must arrive in laboratory by 1:30 pm Monday through Thursday only; Ship within 24 hours of collection
- **SPECIMEN VOLUME:** 10 mL
- **MINIMUM VOLUME:** 5 mL
- **TEST AVAILABILITY:** Monday-Thursday
| **TURNAROUND TIME:** 3-4 weeks  | **OTHER NAMES:** Mitochondrial recessive ataxis syndrome (MIRAS) |
| **METHODOLOGY:** Polymerase Chain Reaction (PCR) |
| CPT: 83891; 83898 x 3; 83904 x 3; 83909 x 3; 83912 |

### [MISNHL] MAT INH SENSORIN HEARING LOSS

| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIMEN VOLUME: 10 mL |
| MINIMUM VOLUME: 2 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 3 weeks |
| METHODOLOGY: Polymerase Chain Reaction (PCR) |
| CPT: 83891; 83898 x 4; 83904 x 4; 83912 |

### [MITO] Mitotane Level

| SPECIMEN REQUIRED: Frozen serum or plasma |
| TUBE OR CONTAINER: Red or Dark Green (heparin) |
| SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube |
| SPECIMEN VOLUME: 2 mL |
| MINIMUM VOLUME: 1 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 3-6 days |
| OTHER NAMES: Lysodren |
| METHODOLOGY: Gas Chromatography/Flame Ionization Detection (GC/FID) |
| CLINICAL USE: Therapeutic drug monitoring |
| CPT: 80299 |

### [MITOMET] Mito/Met OLIGO CGH ANALYSIS

| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIMEN VOLUME: 14 mL |
| MINIMUM VOLUME: 6 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 4 weeks |
| METHODOLOGY: Polymerase Chain Reaction (PCR) |
| CPT: 83891; 83896 x 3; 83903 x 2; 83912 |

### [MMA-A] METHYLMALONIC ACIDEMIA MMA-A

| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD) |
| SPECIMEN VOLUME: 5 mL |
| MINIMUM VOLUME: 1 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 4-6 weeks |
| METHODOLOGY: Polymerase Chain Reaction (PCR) |
| CPT: 83891; 83894 x 12; 83898 x 12; 83904 x 12; 83912 |

### [MMA-B] METHYLMALONIC ACIDEMIA MMA-B
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 16; 83904 x 16; 83912

[MMA-CHC] MMA ACIDEMIA & HOMOCYSTINURIA

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
OTHER NAMES: Methylmalonic aciduria and homocystinuria, cblC type; MMA-CHC gene sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 8; 83904 x 4; 83912

[MMACSF] Methylmalonic Acid

SPECIMEN REQUIRED: Frozen CSF
TUBE OR CONTAINER: Sterile tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-8 days
CPT: 83921

[MMA-MUT] METHYLIMALONIC ACIDEMIA MMA-MUT

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 24; 83904 x 24; 83912

[MNGIE] mt NEUROGAST ENCEPH (MNGIE)

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 14 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 weeks
OTHER NAMES: TYMP (ECGF1 gene)
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 2, 83904 x 4; 83912
**MODY**  MONOGENIC DIABETES EVAL (MODY)

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)  
SPECIAL HANDLING: Must ship same day as collected; Must arrive in laboratory by 1:30 pm Monday-Thursday only  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Monday-Thursday  
TURNAROUND TIME: 2-3 weeks  
REFERENCE RANGE: No mutation detected  
METHODOLOGY: Polymerase Chain Reaction (PCR), DNA sequencing of entire protein coding regions of genes  
CPT: 83891; 83898 x 43; 83904 x 43; 83912

**MODY3**  MODY3 DNA (TCF1)

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)  
SPECIAL HANDLING: Must ship same day as collected; Must arrive in laboratory by 1:30 pm Monday-Thursday only  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Monday-Thursday  
TURNAROUND TIME: 2-8 weeks  
REFERENCE RANGE: No sequence variation or deletion detected  
METHODOLOGY: Polymerase Chain Reaction (PCR), DNA sequencing  
CPT: 83891; 83896 x 11; 83898 x 10; 83900; 83901 x 9; 83904 x 10; 83909 x 11; 83914 x 11; 83912

**MOLY**  Molybdenum Level

SPECIMEN REQUIRED: Frozen serum or plasma  
TUBE OR CONTAINER: Lavender (EDTA), Royal blue (EDTA) or Royal blue (no preservative)  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-7 days  
REFERENCE RANGE: < 3.0 ng/mL  
METHODOLOGY: Inductively Coupled Plasma/Mass Spectrometry (ICP/MS)  
CLINICAL USE: Exposure monitoring  
CPT: 83018

**MONO**  Monoscreen

SPECIMEN REQUIRED: Refrigerated serum or plasma  
TUBE OR CONTAINER: Gold, Red, Green (heparin) or Lavender (EDTA)  
SPECIMEN VOLUME: 0.5 mL  
MINIMUM VOLUME: 0.3 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Negative
METHODOLOGY: RAPID EIA
CLINICAL USE: Detect heterophile antibody related to infectious mononucleosis
CPT: 86308

[MORTOT]  Morphine Level
SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Red or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-7 days
REFERENCE RANGE: 70 - 70 ng/mL
OTHER NAMES: Astramorph; Duramorph; MS Contin; Roxanol
METHODOLOGY: Gas Chromatography/Mass Spectrometry (GC/MS)
CPT: 83925

[MOTORSP]  MOTOR NEUROPATHY
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: AsialoGM1 Antibody; GD1a Antibody Panel; GD1b Antibody; GM1 Antibody; MAG Antibody, Dual
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-6 days
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CPT: 83520 x 9

[MOTSENS]  MOTOR & SENSORY NEUROPATHY
SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1.5 mL
TEST INCLUDES: Anti-Neuronal Nuclear Antibody (ANNA) IFA/WB; AsialoGM1 Antibody; GD1a Antibody Panel; GD1b Antibody; GM1 Antibody; MAG Antibody, Dual
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-6 days
METHODOLOGY: Immunofluorescent antibody (IFA); Enzyme-linked immunosorbent assay (ELISA)
CPT: 83520 x 10; 86255

[MPS1]  MPS TYPE 1 (IDUA GENE)
SPECIMEN REQUIRED: Whole blood room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 weeks
OTHER NAMES: IDUA Gene Sequencing; Mucopolysaccharidosis Type I
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 14; 83904 x 14; 83912

[MPS3A] Mucopolysaccharidoses Screen
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark Green (heparin)
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-7 days
REFERENCE RANGE:
METHODOLOGY: Enzyme analysis
CPT: 82657

[MPS3D] Mucopolysaccharidoses Screen
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark Green (heparin)
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-7 days
REFERENCE RANGE:
METHODOLOGY: Enzyme analysis
CPT: 82657

[MPV17] MPV17 SEQUENCING
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
OTHER NAMES: Infantile Hepatic Mitochondrial DNA depletion
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83894 x 2; 83898 x 7; 83904 x 14; 83912

[MPZDNA] MYELIN PROTEIN ZERO SEQUENCING
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Must be received in laboratory by 2:00 pm on day collected
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday - Thursday
TURNAROUND TIME: 3 weeks
REFERENCE RANGE: No sequence variation detected
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA sequencing
CLINICAL USE: Detects sequence variations in the MPZ gene
CPT: 83891; 83898 x 6; 83904 x 6; 83909; 83912

**[MRD] CLL Minimum Residual Disease**

SPECIMEN REQUIRED: Bone marrow at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
METHODOLOGY: Flow Cytometry
CPT: 88184; 88185 per each additional marker

**[MRSA] MRSA Screen Culture**

SPECIMEN REQUIRED: Swab from infected area
TUBE OR CONTAINER: Culture swab
SPECIAL HANDLING: Orders MUST be approved by Epidemiology before processing
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CPT: 87081

**[MRSAS] MRSA Surveillance Screen**

SPECIMEN REQUIRED: Swab of right & left nares
TUBE OR CONTAINER: BBL CultureSwab (or equivalent)
SPECIAL HANDLING: Surveillance cultures will be performed on identified high-risk patient populations. Any patient with positive results will be placed in Contact Precautions. Initiate MRSA Surveillance Screen at pre-op or during first 24 hours following admission. Refer to OUMC Infection Control policy IC-15

ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 days
REFERENCE RANGE: No MRSA detected
METHODOLOGY: Culture

**[MRSASH] MRSA Screen Workup**

**[MSIIHC] HNPCC-MSI IHC STAIN**

SPECIMEN REQUIRED: Paraffin block at room temperature
TUBE OR CONTAINER: Tissue block
SPECIMEN VOLUME: 10 slides
MINIMUM VOLUME: 6 slides
TEST INCLUDES: Antibody clone for hMLH1, hMSH2, hMSH6, and hPMS2
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-7 days
METHODOLOGY: Immunohistochemistry (IHC)
CPT: 88342 x 4

[MSNBC34] MS GRAM NEG BP COMBO 34

[MSPC29] MS POS COMBO 29

[MSPC33] MS POS COMBO 33

[MSPMIC20] MS POS MIC 20

[MSSTREP] MS MICROSTREP

[MTBETOX] MITOCHONDRIAL BETA OXIDATION
SPECIMEN REQUIRED: Fibroblasts at room temperature
TUBE OR CONTAINER: T-25 flask
SPECIAL HANDLING: Samples must be received in the laboratory by 1:30 pm, Monday through Wednesday only
SPECIMEN VOLUME: 2 flasks
MINIMUM VOLUME: 1 flask
TEST AVAILABILITY: Monday-Wednesday
TURNAROUND TIME: 4-6 weeks
METHODOLOGY: Probe assay
CPT: 83789; 84157; 88233 x 2; 83900; 83901; 83912

[MTDNA] mtDNA MUTATION SCREEN
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 14 mL
MINIMUM VOLUME: 3 mL
TEST INCLUDES: Mutational analysis of the point mutations or large DNA deletions in the mitochondrial genome
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
OTHER NAMES: Mitochondrial DNA Mutations
METHODOLOGY: Multiplex PCR/ASO method and quantified by real time ARMS quantitative PCR
CPT: 83891; 83892 x 2; 83893 x 20; 83894 x 2; 83896 x 20; 83897 x 2; 83900; 83901 x 3; 83912

[MTDNA16] mtDNA 16 COMMON MUTATIONS
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: 16 common Mitochondrial DNA point mutations
**MTDNADD** | mtDNA Duplication/Deletion
---|---
**Specimen Required:** Whole blood at room temperature
**Tube or Container:** Lavender (EDTA)
**Specimen Volume:** 10 mL
**Minimum Volume:** 2 mL
**Test Includes:** Mitochondrial DNA deletion/duplication
**Test Availability:** Daily
**Turnaround Time:** 3-4 weeks
**Other Names:** Mitochondrial DNA Mutations
**Methodology:** Real-time ARMS quantitative PCR
**CPT:** 83891; 83900; 83901 x 28; 83909 x 2; 83912

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**MTHFCSF** | CSF 5-Methyltetrahydrofolate
---|---
**Specimen Required:** Frozen CSF
**Tube or Container:** Special collection containers; contact Lab
**Special Handling:** Must be in Lab Monday-Thursday by 2:00 pm
**Specimen Volume:** 0.5 mL (each tube)
**Test Availability:** Monday-Thursday only
**Turnaround Time:** 1 week
**Methodology:** HPLC with electrochemical detection
**CPT:** 82491

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**MTHFR** | MTHFR
---|---
**Specimen Required:** Whole blood at room temperature or refrigerated
**Tube or Container:** Lavender (EDTA) or Yellow (ACD)
**Specimen Volume:** 5 mL
**Minimum Volume:** 2 mL
**Test Availability:** Daily
**Turnaround Time:** 5-7 days
**Other Names:** Hyperhomocysteinemia, C677T and A1298C Mutations; Methylene tetrahydrofolate Reductase
**Methodology:** Polymerase chain reaction (PCR) amplification and restriction enzyme digestion
**Clinical Use:** Follow-up evaluation in individuals with hyperhomocysteinemia; evaluation of patients with venous thrombosis
**CPT:** 83890; 83898 x 2; 83904 x 2; 83912

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**MTTS1** | Hereditary Hearing Loss-MTTS-1
---|---
**Specimen Required:** Room temperature whole blood
**Tube or Container:** Lavender (EDTA)
**Specimen Volume:** 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10-12 days
METHODOLOGY: PCR amplification of the mitochondrial DNA
CLINICAL USE: Determine whether a hearing defect in a child is hereditary; Evaluation of progressive hearing loss in adults; Determine the genetic basis for hearing loss in an affected individual; Evaluate the risk of having a child with hearing loss
CPT: 83890; 83894; 83898 x 4; 83904 x 6; 83912

|MUCIN| Synovial Fluid Mucin Clot

SPECIMEN REQUIRED: Refrigerated synovial fluid
TUBE OR CONTAINER: Green (heparin) or Lavender (EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Firmed clot formed
METHODOLOGY: Precipitation
CLINICAL USE: Differential diagnosis of joint disease
CPT: 83872

|MULLAB| Anti-Mullerian Hormone

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-16 days
REFERENCE RANGE: Males: 0-13 d: 15.5-48.7 ng/mL
14d-11m: 39.1-91.1 ng/mL
12m-6y: 48.0-83.2 ng/mL
7-8y: 33.8-60.2 ng/mL
Adult: 3.0-5.4 ng/mL
Females: 0-8y: 0.0-7.1 ng/mL
Adult: 0.0-6.9 ng/mL
OTHER NAMES: AMH
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CPT: 83520

|MUMPG| Mumps Virus IgG Antibody

SPECIMEN REQUIRED: Room temperature serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Monday, Thursday
TURNAROUND TIME: 1-5 days
REFERENCE RANGE: Negative: Equivocal 0.35-0.49
Positive: >0.49
METHODOLOGY: Enzyme Linked Fluorescent Assay (ELFA)
CLINICAL USE: Determine immunity to mumps virus
CPT: 86735

**[MUMPGCSF] CSF Mumps Virus IgG Antibody**
- SPECIMEN REQUIRED: Frozen CSF
- TUBE OR CONTAINER: Sterile tube
- SPECIMEN VOLUME: 0.5 mL
- MINIMUM VOLUME: 0.3 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2-4 days
- REFERENCE RANGE: 0.90 - 1.09 IV: Equivocal
  > 1.10 IV: Positive
- METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA)
- CPT: 86735

**[MUMPM] Mumps Virus IgM Antibody**
- SPECIMEN REQUIRED: Refrigerated serum
- TUBE OR CONTAINER: Red or Gold
- SPECIMEN VOLUME: 1 mL
- MINIMUM VOLUME: 0.5 mL
- TEST AVAILABILITY: Daily
- REFERENCE RANGE: Negative: Borderline: 0.80 - 1.20
  Positive: >1.20
- METHODOLOGY: Enzyme immunoassay (EIA)
- CLINICAL USE: Aid in the diagnosis of acute mumps infection
- CPT: 86735

**[MUMPMCSF] CSF Mumps Virus IgM Antibody**
- SPECIMEN REQUIRED: Frozen CSF
- TUBE OR CONTAINER: Sterile tube
- SPECIMEN VOLUME: 0.5 mL
- MINIMUM VOLUME: 0.2 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2-7 days
- REFERENCE RANGE: 0.91 - 1.09 IV: Equivocal
  > 1.10 IV: Positive
- METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA)
- CPT: 86735

**[MUNC13-4] MUNC13-4 GENE (FHL)**
- SPECIMEN REQUIRED: Room temperature whole blood
- TUBE OR CONTAINER: Lavender (EDTA)
- SPECIMEN VOLUME: 10 mL
- MINIMUM VOLUME: 5 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 6 weeks
- OTHER NAMES: Familial Hemophagocytic Lymphohistiocytosis type 3
- METHODOLOGY: Polymerase Chain Reaction (PCR)
- CPT: 83890; 83891 x 22; 83894 x 5 ;83898 x 22; 83904 x 44; 83912
### Murine Typhus (R. typhi) IgG Ab

- **Specimen Required**: Serum at room temperature
- **Tube or Container**: Red or Gold
- **Specimen Volume**: 0.4 mL
- **Minimum Volume**: 0.2 mL
- **Test Availability**: Daily
- **Reference Range**: Negative (limit of detection): Present or past infection: 1:16-1:64
  - Recent infection: \( \geq 1:128 \)
- **Methodology**: Indirect fluorescent antibody (IFA)
- **Clinical Use**: Detect antibodies following infection with murine typhus
- **CPT**: 86317

### MuSK Antibody

- **Specimen Required**: Room temperature serum; Refrigerate if not shipped same day as drawn
- **Tube or Container**: Red or Gold
- **Specimen Volume**: 2 mL
- **Minimum Volume**: 1 mL
- **Test Availability**: Daily
- **Turnaround Time**: 7-14 days
- **Reference Range**: Absence of MuSK antibodies
- **Methodology**: RIA Immunoprecipitation
- **Clinical Use**: Evaluates the presence of antibodies to muscle-specific receptor tyrosine kinase (MuSK)
- **CPT**: 83519

### Methyllumononyl CoA Mutase (MUT)

- **Specimen Required**: Whole blood at room temperature
- **Tube or Container**: Lavender (EDTA) or Yellow (ACD)
- **Specimen Volume**: 10 mL
- **Minimum Volume**: 1 mL
- **Test Availability**: Daily
- **Turnaround Time**: 3-4 weeks
- **Methodology**: Polymerase Chain Reaction (PCR)
- **CPT**: 83891; 83898 x 12; 83904 x 24; 83912

### MYBPC3 - Hypertrophic Cardiomyopathy

- **Specimen Required**: Whole blood at room temperature
- **Tube or Container**: Lavender (EDTA) or Yellow (ACD)
- **Specimen Volume**: 5 mL
- **Minimum Volume**: 2 mL
- **Test Availability**: Daily
- **Turnaround Time**: 2-3 weeks
- **Other Names**: Hypertrophic Cardiomyopathy via MYBPC3 gene
- **Methodology**: Polymerase chain reaction (PCR)
- **CPT**: 83890; 83891; 83894; 83898 x 31; 83904 x 31; 83912

### AB Mycoplasma IGG/IGM Panel

- **Specimen Required**: Serum at room temperature
**[MYCOABCSF] AB MYCOPLASMA IGG/IGM CSF**

- **Specimen Required:** Refrigerated CSF
- **Tube or Container:** Sterile capped tube
- **Specimen Volume:** 0.5 mL
- **Minimum Volume:** 0.2 mL
- **Test Includes:** M. pneumoniae IgG and IgM
- **Test Availability:** Daily
- **Turnaround Time:** 2-5 days
- **Methodology:** Enzyme-Linked Immunosorbent Assay (ELISA)
- **CPT:** 86738 x 2

**[MYCOGAB] Mycoplasma pneumoniae IgG Antibody**

- **Specimen Required:** Serum at room temperature
- **Tube or Container:** Red or Gold
- **Specimen Volume:** 1 mL
- **Minimum Volume:** 0.5 mL
- **Test Availability:** Daily
- **Turnaround Time:** 3-8 days
- **Reference Range:** Negative: < 100 units/mL
- **Methodology:** Enzyme immunoassay (EIA)
- **Clinical Use:** Aid in the diagnosis of atypical pneumonia
- **CPT:** 86738

**[MYCOMAB] Mycoplasma pneumoniae IgM Antibody**

- **Specimen Required:** Serum at room temperature
- **Tube or Container:** Red or Gold
- **Specimen Volume:** 1 mL
- **Minimum Volume:** 0.5 mL
- **Test Availability:** Daily
- **Turnaround Time:** 3-8 days
- **Reference Range:** Negative: METHODOLOGY: Enzyme immunoassay (EIA)
- **Clinical Use:** Aid in the diagnosis of atypical pneumonia and Stevens-Johnson syndrome by providing laboratory support for a Mycoplasma pneumoniae infection
- **CPT:** 86738

**[MYCOPCR] Mycoplasma pneumoniae DNA (PCR)**

- **Specimen Required:** Refrigerated throat or NP swab in ViroMed
transport media;
Frozen BAL, pleural fluid, sputum or aspirate;
Lung tissue at room temperature

**TUBE OR CONTAINER:** Sterile container
**SPECIMEN VOLUME:** 3 mL BAL, pleural fluid or sputum
250 mg tissue;
**MINIMUM VOLUME:** 1 mL BAL, pleural fluid or sputum
100 mg tissue;
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 2-5 days
**METHODOLOGY:** Polymerase Chain Reaction (PCR)
**CPT:** 87581

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### [MYCOPHEN] MYCOPHENOLIC ACID

**SPECIMEN REQUIRED:** Refrigerated serum or plasma
**TUBE OR CONTAINER:** Red or Lavender (EDTA)
**SPECIAL HANDLING:** Do NOT collect specimen in gel tube
**SPECIMEN VOLUME:** 1.2 mL
**MINIMUM VOLUME:** 0.3 mL (This volume does not allow for repeat testing)
**TEST INCLUDES:** Myophenolic acid and Mycophenolic acid glucuronide
**TEST AVAILABILITY:** Daily
**REFERENCE RANGE:**
- MPA = 1.0 - 3.5 ug/mL
- MPA-G = 35 - 100 ug/mL
**OTHER NAMES:** Mofetil; MPAG; Myfortic; Cellcept
**METHODOLOGY:** Liquid Chromatography/tandem mass spectrometry (LC/MS-MS)
**CLINICAL USE:** Monitor Therapeutic Levels; Evaluate toxicity
**CPT:** 80299

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### [MYCOPNCSF] Mycoplasma pneumoniae DNA (PCR)

**SPECIMEN REQUIRED:** Frozen CSF
**TUBE OR CONTAINER:** Sterile container
**SPECIMEN VOLUME:** 0.5 mL
**MINIMUM VOLUME:** 0.2 mL
**TEST AVAILABILITY:** Daily
**REFERENCE RANGE:** None detected
**METHODOLOGY:** Polymerase Chain Reaction
**CPT:** 87581

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### [MYCUREAPCR] Mycoplasma/Ureaplasma (RT-PCR)

**SPECIMEN REQUIRED:** Refrigerated urine, tissue or semen
**TUBE OR CONTAINER:** Sterile container or swab
**SPECIMEN VOLUME:** 10 ml (urine)
> 250 mg (tissue)
**MINIMUM VOLUME:** 1 mL (urine)
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 2-4 days
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 87801

<table>
<thead>
<tr>
<th>MYELAB</th>
<th>Anti-Myeloperoxidase Ab (p-ANCA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 0.6 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.3 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.0 - 9.0 units/mL</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Anti-MPO Antibodies; MPO; pANCA-Specific Antibody</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme immunoassay (EIA)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Diagnosis and monitoring inflammatory activity in primary systemic small vessel vasculitides</td>
<td></td>
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<tr>
<td>CPT: 86021</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>MYELCSF</th>
<th>CSF Myelin Basic Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen CSF</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile tube</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.4 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.0-4.0 mcg/L</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Diagnose multiple sclerosis w/in 5 days of onset of symptoms; determine whether an MS patient is having an active demyelinating episode; determine whether active demyelination is occurring in patients being treated by intrathecal chemotherapy or radiation therapy for neoplastic diseases involving the CNS; diagnose acute brain tissue destruction in children, including newborns</td>
<td></td>
</tr>
<tr>
<td>CPT: 83873</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>MYGRAVB</th>
<th>MYASTHENIA GRAVIS PANEL B</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
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<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL (this volume does not allow for repeat testing)</td>
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</tr>
<tr>
<td>TEST INCLUDES: Acetylcholine receptor antibodies; antistriated muscle antibodies, quantitative</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
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<tr>
<td>REFERENCE RANGE: See individual tests</td>
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<tr>
<td>METHODOLOGY: Acetylcholine receptor antibodies: Radioimmunoassay (RIA)</td>
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<tr>
<td>Antimuscle: Indirect Fluorescent Antibody (IFA)</td>
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</tr>
<tr>
<td>REFLEX TEST INFORMATION: If the Acetylcholine Receptor Antibody is &lt; 0.30, The AcHR Modulating antibody will be performed</td>
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</tr>
<tr>
<td>Test</td>
<td>Clinical Use</td>
</tr>
<tr>
<td>------</td>
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<tr>
<td>MYGRAVE</td>
<td>MYASTHENIA GRAVIS COMPLETE</td>
</tr>
<tr>
<td>MYH</td>
<td>MYH ASSOCIATED POLYPOSIS</td>
</tr>
<tr>
<td>MYH3</td>
<td>MYH3-DISTAL ARTHROGRYPOSIS</td>
</tr>
<tr>
<td>MYH7</td>
<td>MYH7-HYPERTROPHIC CARDIOMYOP</td>
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</tbody>
</table>
OTHER NAMES: Hypertrophic Cardiomyopathy and other MYH7-Related Disorders via MYH7 gene sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 36; 83904 x 36; 83912

[MYOAB]  AB ANTI MYOCARDIAL PROFILE
SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.2 mL
TEST INCLUDES: Anti-intermyofibrillar Ab and Anti-sarcolemma
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative: < 1:20
OTHER NAMES: Antisarcolemma; Intermyofibrillar Antibodies
METHODOLOGY: Indirect fluorescent antibody (IFA)
CLINICAL USE: Diagnose myocardiopathies
CPT: 86256 x 2

[MYOC]  JUV OPEN ANGLE GLAUCOMA-MYOC
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 6 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 8-10 weeks
OTHER NAMES: Juvenile Open Angle Glaucoma; GLC1A gene
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83898 x 5; 83904 x 5; 83912

[MYOG]  Myoglobin
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TURNAROUND TIME: 2 Hours
REFERENCE RANGE: 0.0-110.0 ng/mL
METHODOLOGY: Chemiluminescence
CLINICAL USE: Diagnose skeletal or myocardial muscle injury
CPT: 83874

[MYOGQLU]  Urine Myoglobin
SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Negative
CPT: 83874
[MYOGTX] MYOGLOBINURIA PANEL-TISSUE

SPECIMEN REQUIRED: Frozen muscle tissue
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 250 mg
TEST AVAILABILITY: Daily
TURNAROUND TIME: 14-28 days
CPT: 82379; 83614, 82657 x 7

[MYOGU] Urine Myoglobin, Quantitative

SPECIMEN REQUIRED: Frozen urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect early morning specimen or immediately after exercise
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: 0 - 5 ng/mL
METHODOLOGY: Immunochemiluminometric (ICMA)
CPT: 83874

[MYOS] MYOSITIS PROFILE

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Ab JO-1; Ab PL-7; Ab PL-12; Ab EJ; Ab OJ; Ab MI-2; Ab SRP; Ab PM-SCL; Ab KU; Ab U1RNP; Ab U2RNP; Ab RO; Unidentified antibody
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-12 weeks
REFERENCE RANGE: Negative
METHODOLOGY: Enzyme immunoassay (EIA)
CPT: 86235 x 10

[MYPEROX] Periph Blood Myeloperoxidase Stain

[NA] Sodium Level

SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1.0 mL
MINIMUM VOLUME: 0.4 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 134-144 mEq/L
METHODOLOGY: Indirect potentiometry
CLINICAL USE: Diagnosis and treatment of aldosteronism, diabetes insipidus, adrenal hypertension, Addison's disease dehydration, inappropriate antidiuretic hormone
secretion or other diseases involving electrolyte imbalance
CPT: 84295

**[NAADG]** N-Acetyl-alpha-D-Glucosaminidase

SPECIMEN REQUIRED: Frozen plasma, whole blood or fibroblasts at room temperature
TUBE OR CONTAINER: Dark green (heparin) or T-25 flasks
SPECIMEN VOLUME: 4 mL (plasma); 10 mL (whole blood) or 2 flasks
MINIMUM VOLUME: 2 mL (plasma) or 5 mL (whole blood)
TEST AVAILABILITY: Daily
OTHER NAMES: Sanfilippo syndrome type B
CPT: 82657

**[NAADGAL]** N-ACETYL-D-GALACTOSAMINIDASE

SPECIMEN REQUIRED: Frozen plasma, whole blood or fibroblasts at room temperature
TUBE OR CONTAINER: Dark green (heparin) or T-25 flasks
SPECIMEN VOLUME: 4 mL (plasma); 10 mL (whole blood) or 2 flasks
MINIMUM VOLUME: 2 mL (plasma) or 5 mL (whole blood)
TEST AVAILABILITY: Daily
OTHER NAMES: Schindler disease
CPT: 82657

**[NABF]** Body Fluid Sodium

SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Sterile tube
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Indirect potentiometry
CPT: 84295

**[NABFER]** AB NEUTRALIZING BETA INTERFERO

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Sample should be collected at least 8 hours after interferon injection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-9 days
REFERENCE RANGE: < 1:20
METHODOLOGY: Tissue culture/Neutralization
CLINICAL USE: Detection of neutralizing antibodies to interferonB-1
CPT: 86382
### NACETYL  N-Acetylaspartic Acid

| SPECIMEN REQUIRED: Frozen urine (random) |
| TUBE OR CONTAINER: Plastic urine container |
| SPECIMEN VOLUME: 10 mL |
| MINIMUM VOLUME: 5 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 5-8 days |
| REFERENCE RANGE: 19.7 +/- 10.8 mg/g creatinine |
| METHODOLOGY: Gas Chromatography/Mass Spectrometry (GC/MS) |
| CPT: 82543 |

### NAG  NEUTROPHIL AG GENOTYPING

| SPECIMEN REQUIRED: Whole blood at room temperature or refrigerated amniotic fluid |
| TUBE OR CONTAINER: Lavender (EDTA), Pink (EDTA) or sterile container |
| SPECIMEN VOLUME: 10 mL (whole blood)  
  15 mL (amniotic fluid)  
  7 mL (amniotic fluid) |
| TEST INCLUDES: NA1, NA2, SH antiens |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 7-9 days |
| METHODOLOGY: Polymerase chain reaction (PCR) |
| CPT: 83890; 83894; 83898 x 3; 83912 |

### NAGS  N-ACETYLGLUTAMATE SYNTHASE DEF

| SPECIMEN REQUIRED: Room temperature whole blood |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIMEN VOLUME: 5 mL |
| MINIMUM VOLUME: 3 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 4 weeks |
| METHODOLOGY: Polymerase Chain Reaction (PCR) |
| CPT: 83890; 83891; 83894; 83898 x 6; 83904 x 6; 83912 |

### NARP  NARP DNA MUTATION

| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIMEN VOLUME: 5 mL |
| MINIMUM VOLUME: 1 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 9-12 days |
| OTHER NAMES: Neurogenetic muscle weakness, ataxia, retinitis pigmentosa (NARP); ATP6 synthase |
| METHODOLOGY: Polymerase chain reaction (PCR) |
| CPT: 83890; 83892 x 2; 83894; 83898 x 3; 83912 |

### NASTL  Stool Sodium
SPECIMEN REQUIRED: Liquid stool  
TUBE OR CONTAINER: Plastic container  
SPECIAL HANDLING: Stool must be in liquid form for analysis  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 24 hours  
REFERENCE RANGE: No established range  
METHODOLOGY: Indirect Potentiometry  
CPT: 84302

**[NAT] NEONATAL ALLOIMMUNE THROMBOCYT**

SPECIMEN REQUIRED: Refrigerated whole blood from the mother and father + refrigerated serum from mother  
TUBE OR CONTAINER: Yellow (ACD) and Red or Gold  
SPECIMEN VOLUME: 30 mL whole blood + 10 mL serum (mother)  
30 mL whole blood (father)  
MINIMUM VOLUME: 20 mL whole blood + 5 mL serum (mother)  
20 mL whole blood (father)  
TEST INCLUDES: Platelet antigen genotyping and maternal platelet antibody detection and identification  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 10 days  
METHODOLOGY: Flow Cytometry and Enzyme linked immunosorbent assay (ELISA)  
CPT: 83891 x 2; 83896 x 32; 83898 x 16; 86022 x 16; 83912

**[NATM] UR SODIUM TIMED**

SPECIMEN REQUIRED: Refrigerated aliquot of 24-hour urine  
TUBE OR CONTAINER: Plastic container  
SPECIAL HANDLING: Collect 24-hour urine in container "P" (no preservative)  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 24 hours  
REFERENCE RANGE: 40-220 mEq/24 hour  
METHODOLOGY: Indirect potentiometry  
CLINICAL USE: Diagnose acromegaly; evaluate hypopituitarism and hypothalamic lesions in children  
CPT: 84300

**[NAU] Urine Random Sodium**

SPECIMEN REQUIRED: Refrigerated random urine  
TUBE OR CONTAINER: Plastic urine container  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 24 hours  
REFERENCE RANGE: None established
METHODOLOGY: Indirect potentiometry
CLINICAL USE: Work up for volume depletion, acute renal failure, acute oliguria, and differential diagnosis of hypnonatremia
CPT: 84300

**[NDM] NEONATAL DIABETES EVALUATION**
- SPECIMEN REQUIRED: Whole blood at room temperature
- TUBE OR CONTAINER: Lavender (EDTA)
- SPECIAL HANDLING: Specimen must arrive in laboratory before 2:00 pm, Monday through Thursday only
- Must arrive at performing lab within 24 hours of collection
- SPECIMEN VOLUME: 10 mL
- MINIMUM VOLUME: 2 mL
- TEST INCLUDES: DNA Sequencing for ABCC8, GCK, INS, IPF1 and KCNJ11
- TEST AVAILABILITY: Monday-Thursday
- TURNAROUND TIME: 2-8 weeks
- METHODOLOGY: Polymerase Chain Reaction (PCR)
- CPT: 83891; 83898 x 38; 83904 x 38; 83904; 83912

**[NEBGENE] NEBULIN GENE-NEMALINE MYOPATHY**
- SPECIMEN REQUIRED: Whole blood at room temperature or buccal swabs
- TUBE OR CONTAINER: Lavender (EDTA) or Buccal swabs
- SPECIAL HANDLING: Specimen can be refrigerated for up to 3 days before shipping; Ship on cool pack during hot weather
- SPECIMEN VOLUME: 5 mL or 2 swabs
- MINIMUM VOLUME: 1 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 5 weeks (new patient)
- OTHER NAMES: Nebulin Gene Analysis of exon 55
- METHODOLOGY: Polymerase Chain Reaction (PCR)
- CLINICAL USE: Confirmation of clinical diagnosis; Genetic counseling and prenatal diagnosis
- CPT: 83891 x 2; 83892 x 2; 83894 x 2; 83898 x 2; 83904 x 2; 83904 x 4;

**[NEIAG] N.meningitidis Antigens**

**[NEMAL] NEMALINE MYOPATHY (ALPHA-ACTIN)**
- SPECIMEN REQUIRED: Whole blood at room temperature or buccal swabs
- TUBE OR CONTAINER: Lavender (EDTA) or Buccal swabs
- SPECIMEN VOLUME: 5 mL or 2 swabs
- MINIMUM VOLUME: 2 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 3-4 weeks
- OTHER NAMES: ACTA1 Gene
METHODOLOGY: Polyermase Chain Reaction (PCR)
CLINICAL USE: Confirmation of clinical diagnosis; Genetic counseling and prenatal diagnosis
CPT: 83890; 83891; 83894; 83898 x 6; 83904 x 6; 83912

[NEOENCEPH] NEOENCEPH PARANEOPLAST ATHENA
SPECIMEN REQUIRED: Serum (preferred) or whole blood
TUBE OR CONTAINER: Red or Gold (preferred) or lavender (EDTA)
VOLUME: 2 mLs serum or 8.5 mLs whole blood
REFERENCE RANGE: Negative
TURN-AROUND-TIME: 8-16 days
METHODOLOGY: Western blot, ELISA

[NEOGENSCRN] NEO-GEN NEWBORN SCREEN
SPECIMEN REQUIRED: Dried blood spot
TUBE OR CONTAINER: PKU card
SPECIMEN VOLUME:
MINIMUM VOLUME:
TEST AVAILABILITY:
TURNAROUND TIME:
REFERENCE RANGE:
METHODOLOGY:
CLINICAL USE:
CPT: 82379; 83789

[NEOHIV] NEONATAL HIV SCREENING PANEL
SPECIMEN REQUIRED: EDTA
TUBE OR CONTAINER: Lavender (EDTA) or Green (Heparin)
SPECIAL HANDLING: Collect 1 Lavender or 1 Green
SPECIMEN VOLUME: 1 mL whole blood or plasma
MINIMUM VOLUME: 0.5 mL whole blood or plasma
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 hour
REFERENCE RANGE: Negative
METHODOLOGY: Enzyme Immunoassay (EIA)
REFLEX TEST INFORMATION: Confirmatory Western Blot testing will be added at an additional charge
CLINICAL USE: Detect antibodies to HIV 1/2
CPT: 86703

[NEOP] Neopterin
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Gold, Red or Lavender (EDTA)
SPECIAL HANDLING: Protect specimen from light
SPECIMEN VOLUME: 0.8 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Adults: METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Increased levels of neopterin are found during impaired renal function and viral infection in
transplant patients. Elevated levels are also indicators for conditions related to impaired cellular immunity
CPT: 83520

[NEOPCSF] Neopterin

[NEPHSYN] NEPHROTIC SYNDROME EVALUATION

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must be shipped within 24 hours of collection; specimen must arrive in the lab by 2:00 p.m. on the day it is collected
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2-3 weeks
REFERENCE RANGE: No mutation detected
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Detects sequence variations in the LAMB2, NPHS1, NPHS2 and WT1 genes
CPT: 83891; 83898 x 71; 83904 x 71; 83909; 83912

[NEURENZ] NEUROLOGIC ENZYME PANEL

SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: ACD (yellow)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST INCLUDES: Phosphofructokinase, Phosphoglycerate Kinase, Triosephosphate Isomerase, Pyrimidine 5’ Nucleotidase, Glutathione and interpretation
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 10 days
METHODOLOGY: Kinetic Spectrophotometry (KS)
CPT: 82657 x 4; 82978

[NEURMETCSF] NEUROTRANSMITTER METAB/AMINES

SPECIMEN REQUIRED: Frozen CSF
TUBE OR CONTAINER: Special collection containers; contact Lab
SPECIAL HANDLING: Must be in Lab Monday-Thursday by 2:00 pm
Samples must be frozen promptly in special collection kit
SPECIMEN VOLUME: 0.5 mL in each container
TEST INCLUDES: 5HIAA, HVA and 3OMD
TEST AVAILABILITY: Monday-Thursday only
TURNAROUND TIME: 7-14 days
METHODOLOGY: Chromatography
CPT: 82492

[NEUROKA] Neurokinin A (Substance K)
<table>
<thead>
<tr>
<th>Test Code</th>
<th>Test Name</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Pediatric Test Info</th>
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<tbody>
<tr>
<td></td>
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<td></td>
<td><strong>[NEUTAB2] NEUTROPHIL AB LEVEL 2</strong></td>
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<td></td>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
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<td></td>
<td>TUBE OR CONTAINER: Red or Gold</td>
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<td></td>
<td>SPECIAL HANDLING: Specimen must be less than 7 days old unless sample has been frozen</td>
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<td>SPECIMEN VOLUME: 5 mL</td>
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<td>MINIMUM VOLUME: 2 mL</td>
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<td></td>
<td>PEDIATRIC TEST INFO: Neutrophil antibody identification and HLA antibody screen</td>
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<td></td>
<td>TEST INCLUDES: Neutrophil antibody screen and HLA antibody screen</td>
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<td>TEST AVAILABILITY: Daily</td>
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<td>TURNAROUND TIME: 7-10 days</td>
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<td>METHODOLOGY: Flow Cytometry</td>
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<td>CPT: 86021 x 2; 88184</td>
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<td><strong>[NEUTAB3] NEUTROPHIL AB LEVEL 3</strong></td>
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<td></td>
<td>TUBE OR CONTAINER: Red or Gold</td>
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<td></td>
<td>SPECIAL HANDLING: Specimen must be less than 7 days old unless sample has been frozen</td>
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<td>SPECIMEN VOLUME: 5 mL</td>
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<td>MINIMUM VOLUME: 2 mL</td>
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<td>PEDIATRIC TEST INFO: Neutrophil antibody identification and HLA antibody screen</td>
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<td>TEST INCLUDES: Neutrophil antibody identification and HLA antibody screen</td>
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<td>TEST AVAILABILITY: Daily</td>
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<td></td>
<td></td>
<td>TURNAROUND TIME: 7-10 days</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>METHODOLOGY: Flow Cytometry</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>CPT: 86021 x 2; 88184</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td><strong>[NEUTCAB] AB ANTI NEUTROPHIL CYTOPLASMIC</strong></td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>SPECIMEN REQUIRED: Room temperature serum</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>MINIMUM VOLUME: 0.5 mL (this volume does not allow for repeat testing)</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>TEST INCLUDES: Detection of cytoplasmic autoantibodies exhibiting p-ANCA or c-ANCA patterns</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>REFERENCE RANGE: Negative: 1:20</td>
</tr>
</tbody>
</table>
OTHER NAMES: ANCA; MPO-ANCA; PR3-ANCA
METHODOLOGY: Indirect Fluorescent Antibody
CLINICAL USE: Diagnosis and monitoring inflammatory activity in primary systemic small vessel vasculitides
CPT: 86256 x 2

[NEUTFUN] NEUTROPHIL FUNCTION
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Must arrive in Laboratory by 2:00 pm, Monday through Thursday only
Ship same day as collected
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2-5 days
METHODOLOGY: Flow Cytometry (FC)
CLINICAL USE: Useful in diagnosis of chronic granulomatous disease and in overall metabolic integrity of phagocytizing neutrophils
CPT: 88184

[NEUTRAB] Anti-Neutrophil Antibody

[NF1] NEUROFIBROMATOSIS TYPE 1
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83900; 83901 x 25; 83904 x 5; 83909 x 32; 83912

[NF2] NEUROFIBROMATOSIS TYPE 2 DNA
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 21; 83904 x 21; 83912

[NFL] NEUROFILAMENT LIGHT DNA
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Yellow (ACD) or Lavender (EDTA)
SPECIAL HANDLING: Must be received in laboratory by 2:00 pm on day collected
SPECIMEN VOLUME: 10 mL
TEST AVAILABILITY: Monday - Thursday
TURNAROUND TIME:
REFERENCE RANGE: No sequence variation detected
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA sequencing
CLINICAL USE: Detects sequence variations in the NFL gene
CPT: 83891; 83898 x 6; 83904 x 6; 83909; 83912

[NICK] Nickel
SPECIMEN REQUIRED: Plasma at room temperature
TUBE OR CONTAINER: Royal-blue (EDTA) or Royal-blue (Na-heparin)
LAV (EDTA) also acceptable
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 Days
REFERENCE RANGE: Environmental exposure: 0.6-7.5 g/L
Occupational exposure: Levels of 3.0-11.0 g/L may be seen in refinery workers
METHODOLOGY: Inductively coupled plasma-mass spectrometry (ICP-MS)
CLINICAL USE: Monitor exposure to nickel
CPT: 83885

[NICP] NICOTINE PANEL
SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Red, Dark green (heparin) or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect specimen in gel separator tube
SPECIMEN VOLUME: 1 ml
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Nicotine and its metabolite cotinine
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 days
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
CLINICAL USE: Rule out use of nicotine products
CPT: 83887

[NICUQNT] UR NICOTINE & METABOLITE QUANT
SPECIMEN REQUIRED: Room temperature urine (random)
TUBE OR CONTAINER: Urine container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
CLINICAL USE: Rule out use of nicotine products
CPT: 83887

[NIEMC] NIEMANN-PICK TYPE C DETECTION
<table>
<thead>
<tr>
<th>Test Name</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED</strong>: Cultured fibroblasts at room temperature</td>
<td></td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER</strong>: T-75 or T-25 flasks</td>
<td></td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME</strong>: 1 T-75 flasks or 2 T-25 flask</td>
<td><strong>TEST AVAILABILITY</strong>: Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME</strong>: 2-3 months</td>
<td></td>
</tr>
<tr>
<td><strong>REFERENCE RANGE</strong>: Negative</td>
<td></td>
</tr>
<tr>
<td><strong>METHODOLOGY</strong>: Radiolabeled Lipid Extraction using Thin Layer Chromatography (TLC)</td>
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</tr>
<tr>
<td><strong>CLINICAL USE</strong>: Detection of a unique form of type C Niemann-Pick disease</td>
<td></td>
</tr>
<tr>
<td><strong>CPT</strong>: 82658; 88233; 88240</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>[NIEMANN-PICK SEQUENCING]</strong></td>
</tr>
<tr>
<td><strong>SPECIMEN REQUIRED</strong>: Whole blood at room temperature</td>
<td></td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER</strong>: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME</strong>: 5 mL</td>
<td></td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME</strong>: 2 mL</td>
<td></td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY</strong>: Daily</td>
<td></td>
</tr>
<tr>
<td><strong>TURNAROUND TIME</strong>: 4-5 weeks</td>
<td></td>
</tr>
<tr>
<td><strong>METHODOLOGY</strong>: Polymerase Chain Reaction</td>
<td></td>
</tr>
<tr>
<td><strong>OTHER NAMES</strong>: Autosomal Dominant Hereditary Spastic Paraplegia</td>
<td></td>
</tr>
<tr>
<td><strong>CLINICAL USE</strong>: Detects mutations in the NIPA1 gene</td>
<td></td>
</tr>
<tr>
<td><strong>CPT</strong>: 83891; 83898 x 6; 83904 x 6; 83909; 83912</td>
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<tr>
<td></td>
<td><strong>[NIPA1]  HSP-NIPA1 GENE (SPG6)</strong></td>
</tr>
<tr>
<td><strong>SPECIMEN REQUIRED</strong>: Whole blood at room temperature</td>
<td></td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER</strong>: Lavender (EDTA) or Yellow (ACD)</td>
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<tr>
<td><strong>SPECIAL HANDLING</strong>: Specimen must be received in laboratory by 1:30 pm Monday-Thursday only</td>
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<tr>
<td><strong>Ship within 24 hours of collection</strong></td>
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<tr>
<td><strong>SPECIMEN VOLUME</strong>: 10 mL</td>
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<tr>
<td><strong>MINIMUM VOLUME</strong>: 3 mL</td>
<td></td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY</strong>: Monday-Thursday</td>
<td></td>
</tr>
<tr>
<td><strong>TURNAROUND TIME</strong>: 4-6 weeks</td>
<td></td>
</tr>
<tr>
<td><strong>REFERENCE RANGE</strong>: No mutation detected</td>
<td></td>
</tr>
<tr>
<td><strong>METHODOLOGY</strong>: Polymerase Chain Reaction (PCR) and DNA sequencing</td>
<td></td>
</tr>
<tr>
<td><strong>CLINICAL USE</strong>: Detects mutations in the NIPA1 gene</td>
<td></td>
</tr>
<tr>
<td><strong>CPT</strong>: 83891; 83898 x 9; 83904 x 9; 83912 x 6; 83912 (SEQUENCING)</td>
<td></td>
</tr>
<tr>
<td><strong>CPT</strong>: 83891; 83900; 83912 (DUPLICATION/DELETION)</td>
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<tr>
<td></td>
<td><strong>[NIPBL]  NIPBL-CORNELIA de LANGE SYNDR</strong></td>
</tr>
<tr>
<td><strong>SPECIMEN REQUIRED</strong>: Whole blood at room temperature</td>
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<tr>
<td><strong>TUBE OR CONTAINER</strong>: Lavender (EDTA)</td>
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<tr>
<td><strong>SPECIMEN VOLUME</strong>: 10 mL</td>
<td></td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME</strong>: 3 mL</td>
<td></td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY</strong>: Monday-Thursday only</td>
<td></td>
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<tr>
<td><strong>TURNAROUND TIME</strong>: 4 weeks</td>
<td></td>
</tr>
<tr>
<td><strong>METHODOLOGY</strong>: Polymerase Chain Reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td><strong>CPT</strong>: 83891; 83898 x 9; 83904 x 9; 83912 (SEQUENCING)</td>
<td></td>
</tr>
<tr>
<td><strong>CPT</strong>: 83891; 83900; 83912 (DUPLICATION/DELETION)</td>
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<tr>
<td></td>
<td><strong>[NKFUNC]  Natural Killer Cell Functional Assy</strong></td>
</tr>
<tr>
<td><strong>SPECIMEN REQUIRED</strong>: Whole blood at room temperature</td>
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</tr>
</tbody>
</table>
TUBE OR CONTAINER: Dark green (heparin)
SPECIAL HANDLING: Must arrive in lab by 1:30 pm Monday-Thursday only; Must be shipped same day as collected
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday
METHODOLOGY: Flow Cytometry
CPT: 86849

[NKH]  NON-KETOTIC HYPERGLYCINEMIA
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2-3 weeks
REFERENCE RANGE: No mutation detected
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 60; 83898 x 30; 83904 x 60; 83912

[NMDAG]  N-METHYL-D-ASPARTATE REC IGG
SPECIMEN REQUIRED: Frozen or refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-10 days
REFERENCE RANGE: Negative
OTHER NAMES: N-methyl-D-aspartate Receptor antibody, IgG
METHODOLOGY: Indirect Immunofluorescence (IFA)
CLINICAL USE: Associated with autoimmune limbic encephalitis
CPT: 86255

[NMENAB]  N. MENINGITIDIS TYPES A/C/W/Y
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST INCLUDES: IgG antibody to N. meningitidis (Serogroups A, C, W-135 and Y)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-10 days
REFERENCE RANGE: 0.9 g/mL or less: Antibody concentration not protective
1.0-2.0 = Equivocal
> 2.1 = Antibody detected. Suggestive of protection
METHODOLOGY: Multi-Analyte Fluorescent Detection
CPT: 86741 x 4
### [NMOG] Neuromyelitis Optica IgG Antibody

- **SPECIMEN REQUIRED:** Frozen serum  
- **TUBE OR CONTAINER:** Red or Gold  
- **SPECIAL HANDLING:** Separate from cells ASAP  
- **SPECIMEN VOLUME:** 1 mL  
- **MINIMUM VOLUME:** 0.2 mL  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 2-4 days  
- **REFERENCE RANGE:** 0-3.0 U/mL = Negative  
  3.1-5.0 = Indeterminate (Please submit another sample in six to eight weeks.)  
  >5.1 = Positive  
- **OTHER NAMES:** Neuromyelitis Optica immunoglobulin G (NMO-IgG); Aquaporin-4  
- **METHODOLOGY:** Enzyme-linked immunosorbent assay (ELISA)  
- **CPT:** 86256

### [NMOGCSF] Neuromyelitis Optica Ab Marker

- **SPECIMEN REQUIRED:** Refrigerated CSF  
- **TUBE OR CONTAINER:** Sterile tube  
- **SPECIMEN VOLUME:** 2 mL  
- **MINIMUM VOLUME:** 1 mL  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 2-4 days  
- **REFERENCE RANGE:** Negative  
- **METHODOLOGY:** Indirect Immunofluorescence (IFA)  
- **CPT:** 86256

### [NMYC] N-MYC AMPLIFICATION BY FISH

- **SPECIMEN REQUIRED:** Paraffin-embedded, formalin-fixed tissue block room temperature  
- **TUBE OR CONTAINER:** Sterile container  
- **SPECIMEN VOLUME:** 3 mL  
- **MINIMUM VOLUME:** 1 ml  
- **TEST AVAILABILITY:** Monday-Friday  
- **TURNAROUND TIME:** 5-13 days  
- **METHODOLOGY:** Fluorescent in situ hybridization (FISH)  
- **CPT:** 88368 x 2

### [NODAL] HETEROTAXY SYNDROME (NODAL)

- **SPECIMEN REQUIRED:** Whole blood at room temperature  
- **TUBE OR CONTAINER:** Lavender (EDTA)  
- **SPECIMEN VOLUME:** 5 mL  
- **MINIMUM VOLUME:** 2 mL  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 2-4 weeks  
- **OTHER NAMES:** Heterotaxy Syndrome via NODAL gene Sequencing  
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)  
- **CPT:** 83891; 83898 x 3; 83904 x 6; 83912
### [NOMAR] Nomarski Prep

### [NORDIAZ] Nordiazepam Level

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated serum or plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red, Dark Green (heparin) or Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Do NOT collect in gel barrier tube</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.4 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE: Therapeutic: 0.5-2.0 g/mL</td>
</tr>
<tr>
<td>Potentially toxic: &gt;5.0 g/mL</td>
</tr>
<tr>
<td>OTHER NAMES: Clorazepate; Tranxene</td>
</tr>
<tr>
<td>METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)</td>
</tr>
<tr>
<td>CLINICAL USE: Monitor therapeutic levels and evaluate toxicity</td>
</tr>
<tr>
<td>CPT: 80154</td>
</tr>
</tbody>
</table>

### [NOROSTL] Stool/Emesis Norovirus (PCR)

| SPECIMEN REQUIRED: Frozen stool |
| TUBE OR CONTAINER: Plastic container |
| SPECIMEN VOLUME: 5 mL |
| MINIMUM VOLUME: 1 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 2-5 days |
| OTHER NAMES: Human Calicivirus; Norwalk Virus |
| METHODOLOGY: Reverse transcription polymerase chain reaction (RT-PCR) |
| CLINICAL USE: Tests for the identification and diagnosis of Norovirus genogroup 1 (ie, Norwalk virus) and Norovirus genogroup 2 (ie, Snow Mountain agent) infections |
| CPT: 87798 |

### [NORRIE] NORRIE DISEASE DNA

| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIAL HANDLING: Draw Monday-Thursday only; must arrive in lab by 1:00 pm; ship same day as collected |
| SPECIMEN VOLUME: 20 mL |
| MINIMUM VOLUME: 10 mL |
| TEST AVAILABILITY: Monday-Thursday only |
| TURNAROUND TIME: 8 weeks |
| REFERENCE RANGE: No mutation detected |
| METHODOLOGY: Polymerase Chain Reaction (PCR) |
| CPT: 83891; 83898 x 3; 83904 x 3; 83912 |

### [NORT] Nortriptyline (Aventyl) Level

| SPECIMEN REQUIRED: Refrigerated serum or plasma |
| TUBE OR CONTAINER: Red, Dark green (heparin) or Lavender (EDTA) |
SPECIAL HANDLING: Collect immediately prior to next dose
Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 48 hours
REFERENCE RANGE: Therapeutic: 50-150 ng/mL
Potential toxicity: >500 ng/mL
OTHER NAMES: Aventyl; Pamelor
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
CLINICAL USE: Monitor therapeutic drug level and assess toxicity
CPT: 80182

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<tr>
<th>NPHP1</th>
<th>NPHP1 SEQUENCING</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-5 weeks</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Joubert Syndrome and Nephronophthisis via NPHP1 Gene sequencing</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase chain reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td>CPT: 83890; 83891; 83894; 83898 x 20; 83904 x 20; 83912</td>
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<table>
<thead>
<tr>
<th>NPHP1DEL</th>
<th>NPHP1 DELETION</th>
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</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
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</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
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</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-5 weeks</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Homozygous Deletion testing for Joubert Syndrome and Nephronophthisis</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase chain reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td>CPT: 83890; 83891; 83894; 83898 x 2; 83912</td>
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<table>
<thead>
<tr>
<th>NPHP2</th>
<th>NEPHRONOPHTHISIS VIA NPHP2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-5 weeks</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Nephronophthisis via INVS/NPHP2 Gene Sequencing</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase chain reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td>CPT: 83890; 83891; 83894; 83898 x 17; 83904 x 17; 83912</td>
<td></td>
</tr>
</tbody>
</table>

| NPHS2 | NPHS2 SEQUENCING |
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 pm
Monday through Thursday only
Ship within 24 hours
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 3 weeks
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83898 x 8; 83904 x 8; 83909; 83912

[NPM1] NPM1 MUTATION

SPECIMEN REQUIRED: Refrigerated whole blood or bone marrow
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-8 days
METHODOLOGY: Polymerase Chain Reaction (PCR)/ Fragment Analysis
CPT: 83890; 83898; 83904; 83912

[NPS] NAIL-PATELIA SYNDROME (LMX1B)

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
OTHER NAMES: LMX1B Gene Sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83894; 83898 x 7; 83904 x 15; 83909 x 15; 83912

[NR5A1] NR5A1 GENE (46,XY DISORDER)

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
OTHER NAMES: 46,XY Disorder of Sex development via NR5A1 gene
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891 x 12; 83892 x 2; 83894 x 12; 83898 x 12; 83904 x 12; 83912

[NROB1] NROB1 GENE (X-LINKED AHC)

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
OTHER NAMES: X-linked Adrenal Hypoplasia Congenita (AHC) via NROB1 gene
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891 x 5; 83892 x 2; 83894 x 5; 83898 x 10; 83904 x 10; 83912

[NSE] Neuron Specific Enolase
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
REFERENCE RANGE: 0.0 - 12.5 ng/mL
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Adjunct in the monitoring of patients with small cell lung cancer (SCLC)
CPT: 86316

[NTX] CROSSLINKED TEOLOPEPTIDE/NTX
SPECIMEN REQUIRED: Refrigerated random urine
TUBE OR CONTAINER: Urine container
SPECIAL HANDLING: Collect the second void of the morning
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Adults: Male: 3-51 mM BCE/mmol creatinine, Female: 5-65 mM BCE/mmol creatinine
Pediatrics: age-specific
OTHER NAMES: Collagen Cross-Linked N-Telopeptide; N-Telopeptide; Osteomark
METHODOLOGY: Enzyme Immunoassay
CLINICAL USE: Evaluation of osteoporosis and assessment of antiresorptive therapy
CPT: 82523; 82570

[NTXSER] N-Telopeptide
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Serum must be separated immediately after clot formation and centrifugation
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.3 mL (This volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
REFERENCE RANGE:
Male: mean: 14.8 nM BCE/L, range: 5.4-24.2 nM BCE/L
Female: mean: 12.6 nM BCE/L, range: 6.2-19.0 nM BCE/L
OTHER NAMES: N-Telopeptide crosslinks
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Monitor antiresorptive therapy with estrogen and calcium supplementation as well as drug therapy
CPT: 82523

[NUC5] 5'-Nucleotidase
SPECIMEN REQUIRED: Refrigerated or frozen serum or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: 2-10 IU/L
METHODOLOGY: Kinetic - 340 nm
CLINICAL USE: Liver related enzyme used to work up cholestatic/biliary obstruction and investigate the origin of increased serum alkaline phosphatase
CPT: 83915

[O2HBCO] Oxyhemoglobin Percent
SPECIMEN REQUIRED: Whole blood on ice
TUBE OR CONTAINER: Green Tube (Heparin) or Heparinized syringe
SPECIAL HANDLING: Keep specimen on ice and transport to lab immediately; do NOT open
Test should be performed within 8 hours
Do not use EDTA
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 hour
REFERENCE RANGE: 94-97 %
METHODOLOGY: Spectrophotometry
CPT: 84311

[O2SATCO] O2 Saturation
SPECIMEN REQUIRED: Heparinized whole blood
TUBE OR CONTAINER: Dark Green (heparin) or Heparinized syringe
SPECIAL HANDLING: Transport to lab immediately; Do Not open
Test should be performed within 30 minutes
SPECIMEN VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
METHODOLOGY: Spectrophotometry
CPT: 82810

[OBP.] OBSTETRICS PANEL W/O TYPE/SCRN
SPECIMEN REQUIRED: Refrigerated whole blood and serum
TUBE OR CONTAINER: Gold and Lavender
SPECIMEN VOLUME: 4 mL each
<table>
<thead>
<tr>
<th>Code</th>
<th>Test Name</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Methodology</th>
<th>CPT Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>[OCA2]</td>
<td>OCULO-CUTANEOUS ALBINISM TYPE2</td>
<td>Whole blood</td>
<td>Lavender (EDTA) or Yellow (ACD)</td>
<td>10 mL</td>
<td>Monday-Thursday</td>
<td>Polymerase Chain Reaction (PCR)</td>
<td>83891; 83894 x 2; 83898 x 4; 83912</td>
</tr>
<tr>
<td>[OCA4]</td>
<td>OCULO-CUTANEOUS ALBINISM TYPE4</td>
<td>Whole blood</td>
<td>Lavender (EDTA) or Yellow (ACD)</td>
<td>10 mL</td>
<td>Monday-Thursday</td>
<td>Polymerase Chain Reaction (PCR)</td>
<td>83891; 83894 x 18; 83898 x 18; 83904 x 1883912</td>
</tr>
<tr>
<td>[OCAT]</td>
<td>TYROSINASE SEQUENCING FOR OCA1</td>
<td>Whole blood</td>
<td>Lavender (EDTA)</td>
<td>10 mL (2 tubes)</td>
<td>Monday-Thursday</td>
<td>Polymerase Chain Reaction (PCR)</td>
<td>83891; 83894 x 18; 83898 x 9; 83904 x 18; 83912</td>
</tr>
<tr>
<td>[OCCBLD]</td>
<td>Fecal Occult Blood</td>
<td>Fresh stool or hemoccult slide</td>
<td>Tightly sealed container or hemoccult slide</td>
<td></td>
<td>Daily</td>
<td>Detection of gastrointestinal bleeding</td>
<td>82272</td>
</tr>
</tbody>
</table>

MINIMUM VOLUME: 2 mL each
TEST INCLUDES: CBC, RPR, HBsAg, Rubella Screen
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 24 hours
REFERENCE RANGE: See individual test
METHODOLOGY: See individual test
CPT: 85025; 86592; 86762; 87340
### [OCCBLDG] Gastric Occult Blood

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Gastric contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Tightly sealed plastic container</td>
</tr>
<tr>
<td>Ordering Module:</td>
<td>MIC</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time:</td>
<td>4 hours</td>
</tr>
<tr>
<td>Reference Range:</td>
<td>Negative</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Guaiac</td>
</tr>
<tr>
<td>Clinical Use:</td>
<td>Detection of gastrointestinal bleeding</td>
</tr>
<tr>
<td>CPT:</td>
<td>82271</td>
</tr>
</tbody>
</table>

### [OCMD] Oculopharyngeal Muscular Dyst

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Refrigerated whole blood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>Special Handling:</td>
<td>Must arrive in Lab Monday-Thursday by 1:00 p.m.</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>10 mL (2 tubes)</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>5 mL</td>
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<tr>
<td>Test Availability:</td>
<td>Monday-Thursday</td>
</tr>
<tr>
<td>Turnaround Time:</td>
<td>7-14 days</td>
</tr>
<tr>
<td>Reference Range:</td>
<td>Normal: 6 GCG trinucleotide repeats</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Polymerase Chain Reaction (PCR) and Fragment Analysis by Capillary Electrophoresis</td>
</tr>
<tr>
<td>Clinical Use:</td>
<td>Detects GCG trinucleotide expansions in the PABP2 gene</td>
</tr>
<tr>
<td>CPT:</td>
<td>83891; 83894; 83898; 83912</td>
</tr>
</tbody>
</table>

### [O-CRESOL] Ur O-Cresol (Toluene Metab)

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Random urine at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Plastic urine container</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>15 mL</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>6 mL</td>
</tr>
<tr>
<td>Test Includes:</td>
<td>Creatinine, o-cresol, o-cresol/creatinine ratio</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Reference Range:</td>
<td>None detected</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Colorimetry &amp; Gas chromatography (GC)</td>
</tr>
<tr>
<td>Clinical Use:</td>
<td>Monitor toluene exposure</td>
</tr>
<tr>
<td>CPT:</td>
<td>82570; 84600</td>
</tr>
</tbody>
</table>

### [OCTREO] Octreotide

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Serum or plasma at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Gold or Lavender (EDTA)</td>
</tr>
<tr>
<td>Special Handling:</td>
<td>Serum or plasma should be separated from cells within 2 hours of collection</td>
</tr>
<tr>
<td></td>
<td>Refrigerate or freeze for storage longer than 3 days</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>3 mL</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>1 mL</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Direct radioimmunoassay (RIA)</td>
</tr>
</tbody>
</table>
### [OHCORT18] 18-OH-Corticosterone

**SPECIMEN REQUIRED:** Frozen serum  
**TUBE OR CONTAINER:** Red or Gold  
**SPECIAL HANDLING:** Separate within 45 minutes of collection  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 1 mL (this volume does not allow for repeat testing)  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 4-10 days  
**REFERENCE RANGE:** Age-Specific  
**METHODOLOGY:** Mass Spectrometry  

CPT: 83519

### [OLANZ] Olanzapine (Zyprexa) Level

**SPECIMEN REQUIRED:** Frozen serum or plasma  
**TUBE OR CONTAINER:** Red or Lavender (EDTA)  
**SPECIMEN HANDLING:** Do NOT collect specimen in gel barrier tube  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 1.2 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-6 days  
**OTHER NAMES:** Zyprexa  
**METHODOLOGY:** Gas Chromatography (GC)  
**CLINICAL USE:** Therapeutic drug monitoring  

CPT: 80154

### [OLIGGLYC] OLIGOSACCHARIDES/GLYCAN SCREEN

**SPECIMEN REQUIRED:** Frozen urine  
**TUBE OR CONTAINER:** Plastic urine container  
**SPECIAL HANDLING:** First voided specimen preferred, but random accepted  
**SPECIMEN VOLUME:** 10 mL  
**MINIMUM VOLUME:** 5 mL  
**TEST INCLUDES:** Screening for urinary Oligosaccharides and free glycans  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 8-12 days  
**METHODOLOGY:** Matrix-Assisted Laser Desorption/Ionization-Time of flight/Time of flight (MALDI-TOF/TOF)  

CPT: 82544, 82570, 84377

### [OLIGP] CSF OLIGOCLONAL BAND PROFILE

**SPECIMEN REQUIRED:** Frozen CSF and serum  
**TUBE OR CONTAINER:** Red or Gold AND Sterile container (CSF)  
**SPECIAL HANDLING:** CSF and serum collected at the same time are required to complete testing  
**SPECIMEN VOLUME:** 0.5 mL CSF AND 0.5 mL serum  
**MINIMUM VOLUME:** 0.1 mL CSF AND 0.1 mL serum
TEST INCLUDES: CSF and serum oligoclonal bands
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 days
REFERENCE RANGE: None found
METHODOLOGY: Isoelectric focusing (IEF) on agarose gel
CLINICAL USE: Diagnose diseases of the central nervous system including meningitis, tumor, syphilis, and multiple sclerosis
CPT: 83916

**[OliguAA] Urine Oligosaccharides**
- SPECIMEN REQUIRED: Frozen urine
- TUBE OR CONTAINER: Urine transport container
- SPECIAL HANDLING: No preservative needed
- SPECIMEN VOLUME: 3 mL
- MINIMUM VOLUME: 0.5 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 2-4 days
- METHODOLOGY: Thin-Layer Chromatography (TLC)
- CPT: 84376

**[Op] Ova & Parasite Exam**
- SPECIMEN REQUIRED: Collect fresh stool specimen; transfer to Para-Pak Zn-PVA (gray top) and Formalin (pink top) transport media
- TUBE OR CONTAINER: Para-Pak Zn-PVA and Formalin set
- SPECIAL HANDLING: Avoid contamination of specimen by barium or urine
- TEST INCLUDES: O&P concentration, O&P trichrome stain
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 24 hours
- CLINICAL INFORMATION: Aids in establishing a diagnosis of parasitic infection
- CPT: 87177; 88313

**[Opant] O&P Antigens Giardia/Cryptosp**
- SPECIMEN REQUIRED: Raw stool
- TUBE OR CONTAINER: Para-Pak Formalin (pink top)
- ORDERING MODULE: MIC
- SPECIMEN VOLUME: 5 mL
- TEST INCLUDES: Giardia antigen and Cryptosporidium antigen
- TEST AVAILABILITY: Monday-Friday
- TURNAROUND TIME: 3 days
- REFERENCE RANGE: Negative
- METHODOLOGY: Enzyme immunoassay (EIA)
- CLINICAL USE: Diagnosis of infection with Giardia and/or Cryptosporidium
- CPT: 87328; 87329

**[Opdir] Ova & Parasites, Direct Prep**
SPECIMEN REQUIRED: Liquid stool, suspected worm or parasitic insect
TUBE OR CONTAINER: Tightly sealed container
TEST AVAILABILITY: Monday-Friday
TURN-AROUND-TIME: 72 hours
METHODOLOGY: Microscopy and/or visual exam

[OPFREE] OPIATES-FREE (ACTIVE)
SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Red, Dark green (heparin) or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1.2 mL
TEST INCLUDES: 6-Monoacetylmorphine Free, Codeine Free, Dihydrocodeine/Hydrocodol Free, Hydrocodone Free, Hydromorphone Free, Morphine Free, Oxycodone Free, Oxymorphone Free
TURNAROUND TIME: 4-7 days
METHODOLOGY: Gas Chromatography/Mass Spectrometry (GC/MS)
CLINICAL USE: Identification and Quantitation
CPT: 83925

[OPTB1] OSTEOPETROSIS (OPTB1/4/5)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83894 x 72; 83898 x 72; 83904 x 80; 83912

[OPTB2] OSTEOPETROSIS (OPTB2)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Daily
OTHER NAMES: TNFSF11 gene sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83894 x 5; 83898 x 5; 83904 x 10; 83912

[OPTB7] OSTEOPETROSIS (OPTB2)TNFRSF11A
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Daily
OTHER NAMES: TNFSF11A gene sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83894 x 12; 83898 x 12; 83904 x 20; 83912
**ORGQNT** | **ORGANIC ACIDS QUANTITATIVE**
---
**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Green (heparin)  
**SPECIAL HANDLING:** Transfer plasma to plastic tube within 1 hr of collection  
**URINE** is the Preferred sample type to screen for metabolic disorders  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 2 mL (Pediatric)  
**TEST INCLUDES:** Lactic acid, Pyruvic acid, Succinic Acid, 3-OH-Butyric Acid, Acetoacetic Acid, 2-Keto-3 Methylvaleric Acid, 2-Ketoisocaproic Acid, 2-Ketoisovaleric Acid, Citric Acid and an interpretation  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 4-16 days  
**METHODOLOGY:** Gas Chromatography/Mass Spectrometry (GC/MS)  
**CLINICAL USE:** Screen for metabolic disorders  
**CPT:** 83918

**ORGSCRN** | **UR ORGANIC ACIDS SCREEN**
---
**SPECIMEN REQUIRED:** Frozen urine (random)  
**TUBE OR CONTAINER:** Plastic urine container  
**SPECIMEN VOLUME:** 10 mL  
**MINIMUM VOLUME:** 3 mL  
**TEST AVAILABILITY:** Daily  
**METHODOLOGY:** Gas chromatography/mass spectrometry (GC/MS)  
**CLINICAL USE:** Diagnosis and monitoring of patients with inborn errors of organic cycle metabolism, inborn errors of amino acid metabolism, urea cycle defects, and defects of the mitochondrial respiratory chain  
**CPT:** 83919

**ORGUQL** | **Ur Organic Acids Screen Interpret**
---
**SPECIMEN REQUIRED:** Frozen urine (random)  
**TUBE OR CONTAINER:** Plastic urine container  
**SPECIMEN VOLUME:** 20 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3-4 days  
**METHODOLOGY:** Gas chromatography/Mass spectrometry (GC/MS)  
**CLINICAL USE:** Diagnosis and monitoring of patients with inborn errors of organic acid metabolism, inborn errors of amino acid metabolism, urea cycle defects, and defects of the mitochondrial respiratory chain  
**CPT:** 83919

**OROTUP** | **OROTIC ACID URINE**
---
**SPECIMEN REQUIRED:** Frozen urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect urine with no preservative
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7 days
REFERENCE RANGE: Orotic Acid: 0.3 - 2.82 mmol/mol creatinine
Orotidine: 0.06 - 2.02 mmol/mol creatinine
METHODOLOGY: High pressure liquid chromatography (HPLC) and tandem mass spectrometry
CPT: 82570; 83789; 83921

[OSFRAG] OSMOTIC FRAGILITY PROFILE
SPECIMEN REQUIRED: Refrigerated whole blood from patient and a normal unrelated person (label CONTROL)
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must arrive in laboratory by 2:00 p.m on the day it is collected (Ship Mon-Fri only)
A Control specimen must be included
Specimen must arrive at performing lab within 72 hours of collection
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST INCLUDES: Immediate and 24 hour incubation
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 72 hours
REFERENCE RANGE: Normal
METHODOLOGY: Osmotic lysis
CLINICAL USE: Useful for suspected hereditary spherocytosis
CPT: 85557

[OSMO] Serum Osmolality
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Gold, Red or Light Green (heparin)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: 280-300 mOsm/kg
METHODOLOGY: Freezing point depression
CLINICAL USE: Evaluate electrolyte balance, hyperosmolar status and hydration status
CPT: 83930

[OSMOSTL] Stool Osmolality
SPECIMEN REQUIRED: Watery Liquid stool
TUBE OR CONTAINER: Plastic container
SPECIAL HANDLING: Stool must be in watery liquid form; specimen will be rejected if NOT liquid
SPECIMEN VOLUME: 5 mL
[OSMOU] Urine Osmolality

MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: No established range
METHODOLOGY: Freezing point depression
CLINICAL USE: Distinction of osmotic from nonosmotic secretory diarrhea
CPT: 89240

SPECIMEN REQUIRED: Random urine
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: 300-900 mOsm/kg
METHODOLOGY: Freezing point depression
CLINICAL USE: Evaluate concentration ability of kidneys; evaluate electrolyte balance
CPT: 83935

[OSTEOC] Osteocalcin

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Centrifuge and freeze immediately
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
OTHER NAMES: BGP; Bone GLA Protein
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CLINICAL USE: Evaluate bone disease
CPT: 83937

[OTC] Ornithine Transcarbamylase

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 weeks
OTHER NAMES: Hyperammonemia via OTC gene
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 9; 83904 x 9; 83912

[OVALFAT] Urine Oval Fat Bodies

[OXAL] Plasma Oxalate

SPECIMEN REQUIRED: Frozen acidified plasma
<table>
<thead>
<tr>
<th>Test Code</th>
<th>Test Name</th>
<th>Specimen Required</th>
<th>TUBE OR CONTAINER</th>
<th>Special Handling</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Reference Range</th>
<th>Methodology</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>[OXALTM]</td>
<td>UR OXALATE TIMED</td>
<td>Refrigerated urine (24-hour collection)</td>
<td>Plastic urine container</td>
<td>Collect 24 hour urine in a &quot;D&quot; container (30 mLs 6N HCl); avoid vitamin C 24 hours prior to collection; Adjust final pH to &lt; 2</td>
<td>10 mL</td>
<td>2.5 mL</td>
<td>Daily</td>
<td>2-4 days</td>
<td>&lt; 7 years: not established</td>
<td>7-14 years: 13-38 mg/24 hours; Adults: Male: 7-44 mg/24 hours; Female: 4-31 mg/24 hours</td>
<td>Enzymatic</td>
</tr>
<tr>
<td>[OXALURAN]</td>
<td>Urine Oxalate</td>
<td>Refrigerated urine (random)</td>
<td>Urine cup</td>
<td>Acidify with HCL to a pH of 2-3</td>
<td>15 mL</td>
<td>10 mL</td>
<td>Daily</td>
<td>2-4 days</td>
<td></td>
<td>Spectrometry</td>
<td>83945</td>
</tr>
<tr>
<td>[OXCARB]</td>
<td>Oxcarbazepine Level</td>
<td>Refrigerated serum or plasma</td>
<td>Red or Lavender (EDTA)</td>
<td>Do NOT collect specimen in gel barrier tube</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>Daily</td>
<td>2-4 days</td>
<td>10-35 ug/mL</td>
<td>Liquid Chromatography/Tandem Mass Spectrometry</td>
<td>83945</td>
</tr>
<tr>
<td>Test Description</td>
<td>Specimen Required</td>
<td>Tube or Container</td>
<td>Special Handling</td>
<td>Minimum Volume</td>
<td>Test Availability</td>
<td>Turnaround Time</td>
<td>CPT Code</td>
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</tr>
<tr>
<td>[OXYCOD] OXYCODONE + METABOLITES</td>
<td>Refrigerated serum or plasma</td>
<td>Red, Lavender(EDTA), or Gray(Sodium fluoride)</td>
<td>Do NOT collect specimen in gel barrier tube</td>
<td>3 mL</td>
<td>Daily</td>
<td>4-7 days</td>
<td>80299</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[P155] p155/140 ANTIBODY</td>
<td>Refrigerated serum</td>
<td>Gold or Red</td>
<td></td>
<td>1 mL</td>
<td>Daily</td>
<td></td>
<td>83516</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[P50] O2 DISSOCIATION-P50</td>
<td>Refrigerated whole blood</td>
<td>Light green (heparin)</td>
<td>Transport immediately</td>
<td>5 mL</td>
<td>Daily</td>
<td>1 hour</td>
<td>82820</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[PAI-1] PLASMINOGEN ACTIVATOR INHIBIT</td>
<td>Room temperature whole blood</td>
<td>Lavender (EDTA) or Yellow (ACD)</td>
<td>Refrigerate if &gt; 1 day delay</td>
<td>5 mL</td>
<td>Monday-Friday</td>
<td>5-7 days</td>
<td>83925</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Enzyme digestion

**CLINICAL USE:** Deep vein thrombosis (DVT) and coronary artery disease (CAD) are associated with increased PAI-1 levels. Elevated PAI-1 levels may help predict risk of reinfarction in survivors of myocardial infarction, particularly in young individuals.

CPT: 83890; 83898; 83904; 83912

### [PAI1ACT] Plasminogen Activat Inhib-1 Activity

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Blue (citrate)  
**SPECIAL HANDLING:** Draw 1 FULL citrate tube; tube MUST be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma  
**SPECIMEN VOLUME:** 1 full tube  
**Testing volume:** 1 mL of PLASMA  
**MINIMUM VOLUME:** 1 full tube  
**Testing volume:** 0.5 mL of PLASMA  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3-8 days  
**REFERENCE RANGE:** 0 - 14 IU/mL  
**METHODOLOGY:** Enzyme-linked immunosorbent assay (ELISA)  
**CLINICAL USE:** May help predict risk of reinfarction in survivors of myocardial infarction, particularly in young individuals. Deficiency of PAI-1, an extremely rare and difficult diagnosis to make, has been associated with a bleeding diathesis  
CPT: 85415

### [PANCPAN] Pancreatitis (CFTR, PRSS1, SPINK)

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)  
**SPECIAL HANDLING:** Ship within 5 days of collection  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 3 mL  
**TEST AVAILABILITY:** Daily  
**METHODOLOGY:** Polymerase Chain Reaction (PCR)  
CPT: 83891; 83894 x 2; 83898 x 65; 83903 x 30; 83904 x 2; 83909 x 2; 83912

### [PANCRE] Pancreastatin

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Z tube  
**SPECIAL HANDLING:** Specimen must be collected in special Z-tube; Call laboratory to order tube  
**SPECIMEN VOLUME:** 10 mL  
**MINIMUM VOLUME:** 1 mL
[PANK2]  HALLERVORDEN-SPATZ (PANK2 GENE)

SPECIMEN REQUIRED: Whole blood; amniotic fluid or cultured cells at room temperature
TUBE OR CONTAINER: Lavender (EDTA); sterile container; T25 flasks
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
METHODOLOGY: PCR-based sequencing
CPT: 83891, 83898 x 4, 83904 x 5, 83912

[PANPOLY]  Pancreatic Polypeptide

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Patients should fast for 10 hours prior to specimen collection
Freeze specimen within 4 hours of collection
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
REFERENCE RANGE: 0.0-418.0 pg/mL
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: Support a diagnosis of pancreatic endocrine tumors
CPT: 83519

[PAPA1]  PAPA SYNDROME (PSTPIP1) TIER 1

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 weeks
OTHER NAMES: Pyogenic Sterile Arthritis, Pyoderma Gangrenosum, and Acne (PAPA) Syndrome; PSTPIP1 gene analysis
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891 x 5; 83892 x 2; 83894 x 5; 83898 x 5; 83904 x 5; 83912 (tier 1)

[PAPPHOS]  Prostatic Acid Phosphatase

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 0.0-1.2 U/L
METHODOLOGY: Immunochemiluuminometric (ICMA)
CLINICAL USE: Aid in diagnosing and monitoring prostate cancer
CPT: 84066

**[PARACT] Parathyroid Hormone (C-Terminal)**
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold, or Lavender (EDTA)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-10 days
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: Evaluate hypercalcemia and differential diagnosis of primary hyperparathyroidism
CPT: 83970

**[PARAIN] AB PARAINFLUENZA**
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Antibodies to Type 1, 2 & 3
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-4 days
OTHER NAMES: Paramyxovirus antibodies; PIV antibodies
METHODOLOGY: Complement fixation (CF)
CLINICAL USE: Aid in diagnosis of parainfluenza viral infections
CPT: 86790 x 3

**[PARAL] PARALDEHYDE/ACETALDEHYDE**
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIAL HANDLING: Separate serum or plasma from cells within 45 minutes of collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.7 mL
TEST INCLUDES: Paraldehyde and Acetaldehyde
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 days
METHODOLOGY: Gas Chromatography (GC)
CPT: 82000

**[PARANEO] PARANEOPLASTIC AUTOANTIBODIES**
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Anti-Neuronal Nuclear Antibody (ANNA), and
and Purkinje Cell Cytoplasmic Antibody (PCCA)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-7 days
METHODOLOGY: Immunoflourescence antibody (IFA)
CLINICAL USE: Investigating neurological symptoms that appear in
the course of, or after, cancer therapy, and are
not explainable by metastasis
CPT: 83519 x 5; 83520; 86256 X 9

[PARATHR] Parathyroid Hormone Related Protein

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Collect specimen in chilled EDTA (lavender)
tube. OPTIONAL: Add 0.25 mL Trasylol (to be
performed in lab); separate and freeze plasma
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 Days
REFERENCE RANGE: < 2.0 pmol/L
OTHER NAMES: PTH-Related Peptide (PTH-rP); Parathyroid
Hormone-related Peptide
METHODOLOGY: Electrochemiluminescence (ECL)
CLINICAL USE: PTH-r is the principle mediator of humoral
hypercalcemia of malignancy
CPT: 82397

[PARIAH] Anti-Parietal Cell Antibody

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: Negative: 0.0-20.0
Equivocal: 20.1-24.9
Positive: >24.9
OTHER NAMES: APCA; Gastric Parietal Cell Antibodies
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CLINICAL USE: Differential diagnosis of pernicious anemia
CPT: 86256

[PARKIN] PARKIN DNA

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 pm
Monday through Thursday only
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 5 mL
[PAROX] Paroxetine Level

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 1.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-5 days
REFERENCE RANGE: 20 - 200 ng/mL
OTHER NAMES: Paxil
METHODOLOGY: Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

[PARVCSF] PARVOVIRUS B19 IGG/IGM CSF

SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile CSF container
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.2 mL
TEST INCLUDES: Human parvovirus B19 IgG and B19 IgM
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: Negative: 0.89 or less
Equivocal: 0.90-1.10 IV
Positive: 1.11 or greater
METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA)
CPT: 86747 x 2

[PARVO] PARVOVIRUS B19 PANEL

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Human parvovirus B19 IgG and B19 IgM
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: Negative: < 0.9
OTHER NAMES: Human Parvovirus B19, IgG, IgM
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Differential diagnosis of acute or recent infection from past infection with human parvo-virus associated with erythema infectiosum (fifth disease), aplastic crisis & fetal infection
CPT: 86747 x 2
### Parvovirus B19 DNA (PCR)

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Required: Frozen serum, body fluids or urine</th>
<th>Whole blood or bone marrow at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube/Container</td>
<td>Red or Gold (serum), Lavender or Yellow (bone marrow); or Sterile Container (fluids, urine)</td>
<td></td>
</tr>
<tr>
<td>Specimen Volume</td>
<td>2 mL</td>
<td></td>
</tr>
<tr>
<td>Minimum Volume</td>
<td>1 mL</td>
<td></td>
</tr>
<tr>
<td>Test Availability</td>
<td>Daily</td>
<td></td>
</tr>
<tr>
<td>Turnaround Time</td>
<td>2-6 days</td>
<td></td>
</tr>
<tr>
<td>Reference Range</td>
<td>Not detected</td>
<td></td>
</tr>
<tr>
<td>Methodology</td>
<td>Polymerase Chain Reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td>Clinical Use</td>
<td>Detects the presence of parvovirus B19 DNA</td>
<td></td>
</tr>
</tbody>
</table>

CPT: 87798

### Parvovirus B19 DNA (PCR)

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Frozen Amniotic fluid; uncentrifuged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube/Container</td>
<td>Sterile plastic tube</td>
</tr>
<tr>
<td>Specimen Volume</td>
<td>10 mL</td>
</tr>
<tr>
<td>Minimum Volume</td>
<td>2 mL</td>
</tr>
<tr>
<td>Test Availability</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time</td>
<td>2-5 days</td>
</tr>
<tr>
<td>Reference Range</td>
<td>Not detected</td>
</tr>
<tr>
<td>Methodology</td>
<td>Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>Clinical Use</td>
<td>Associated with still-birth, arthritis, aplastic crisis and fifth disease</td>
</tr>
</tbody>
</table>

CPT: 87798

### Parvovirus B19 DNA (PCR)

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Whole blood or amniotic fluid at room temperature; frozen CSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube/Container</td>
<td>Lavender or Sterile Container (fluids)</td>
</tr>
<tr>
<td>Specimen Volume</td>
<td>5 mL</td>
</tr>
<tr>
<td>Minimum Volume</td>
<td>3 mL</td>
</tr>
<tr>
<td>Test Availability</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time</td>
<td>2-3 days</td>
</tr>
<tr>
<td>Methodology</td>
<td>Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>Clinical Use</td>
<td>Detects the presence of parvovirus B19 DNA, track the course of infection and monitor response to treatment</td>
</tr>
</tbody>
</table>

CPT: 87799

### PAX3 GENE ANALYSIS

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube/Container</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>Specimen Volume</td>
<td>4 mL</td>
</tr>
<tr>
<td>Minimum Volume</td>
<td>1 mL</td>
</tr>
<tr>
<td>Test Code</td>
<td>Test Name</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>[PAX6]</td>
<td>PAX6 Gene in Aniridia</td>
</tr>
<tr>
<td>[PBG]</td>
<td>Serum Porphobilinogen</td>
</tr>
<tr>
<td>[PBGD]</td>
<td>Porphobilinogen Deaminase (UT)</td>
</tr>
<tr>
<td>[PBSM]</td>
<td>Peripheral Blood Smear Consult</td>
</tr>
</tbody>
</table>

**NOTE:** Specimens over 24 hours of age which are received without accompanying unstained smears.
cannot be reliably evaluated
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: CBC with differential & pathologist consult
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 24 hours
OTHER NAMES: CBC with Pathologist Review
METHODOLOGY: Automated cell counter; microscopic
CPT: 85027; 85007

[Differential Comment]

[PROPYONYL CoA CARBOXYLASE]
SPECIMEN REQUIRED: Fibroblasts at room temperature
TUBE OR CONTAINER: T24 flasks
SPECIMEN VOLUME: 2 flasks
TEST AVAILABILITY: Monday-Thursday
METHODOLOGY: Radioactive assay
CPT: 82657; 88233

[PYRUVATE CARBOXYLASE FIBROBLAS]
SPECIMEN REQUIRED: Fibroblasts at room temperature
TUBE OR CONTAINER: T24 flasks
SPECIMEN VOLUME: 2 flasks
TEST AVAILABILITY: Monday-Thursday
METHODOLOGY: Radioactive assay
CPT: 82658; 88233

[Pneumocystis DFA]
SPECIMEN REQUIRED: Refrigerated bronchial washings, brushings, lavages or induced sputums
TUBE OR CONTAINER: Tightly sealed sterile container
SPECIAL HANDLING: Indicate specimen source; Expectorated sputum and suctioned respiratory secretions will NOT be accepted
Do NOT add CytoLyt
Deliver to lab ASAP
ORDERING MODULE: MIC
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 4 hours
REFERENCE RANGE: Negative
METHODOLOGY: Direct fluorescent antibody (DFA)
CLINICAL USE: Determine presence of Pneumocystis
CPT: 87281

[PHENCYCLIDINE(PCP) GC/MS BLOOD]
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Gray (sodium fluoride)
SPECIMEN VOLUME: 12 mL
MINIMUM VOLUME: 4 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Gas chromatography/mass spectrometry (GC/MS)
CPT: 83992

[PCRBORD] Bordetella PCR

SPECIMEN REQUIRED: Nasopharyngeal swab
Collection instructions: Specimens must be obtained with a
dacron swab on a flexible wire which is passed gently
through the nose into the nasopharynx, rotated and removed.
Aspirates of the nasopharynx or bronchus are not
acceptable.
TUBE OR CONTAINER: Regan-Lowe tube media
SPECIAL HANDLING: Obtain a collection kit containing an NP
swab & Regan-Lowe agar tube, plus collection
instructions from the Micro Lab (271-4006).
ORDERING MODULE: MIC
TEST INCLUDES: Bordetella PCR
TEST AVAILABILITY: Daily
TURNAround time: 72 hours
REFERENCE RANGE: Negative for Bordetella
METHODOLOGY: Polymerase chain reaction (PCR)
CLINICAL USE: Detection of Bordetella pertussis and/or
parapertussis by PCR; establish diagnosis of
whooping cough.

[PCRCDIFF] PCR Clostridium difficile

[PDC] PYRUVATE DEHYDROGENASE COMPLEX

SPECIMEN REQUIRED: Fibroblasts or whole blood at room
temperature
TUBE OR CONTAINER: Yellow (ACD) or T24 flasks
SPECIMEN VOLUME: 10 mL (whole blood)
2 flasks
TEST AVAILABILITY: Monday-Thursday
METHODOLOGY: Radioactive assay
CPT: 82658; 88233

[PDGFRBFISH] PDGFRB/TEL TRANSLOCATION

SPECIMEN REQUIRED: Whole blood or bone marrow at room
temperature
TUBE OR CONTAINER: Dark Green (heparin)
SPECIMEN VOLUME: 10 mL (blood)
2 mL (bone marrow)
MINIMUM VOLUME: 3 mL (blood)
1 mL (bone marrow)
TEST AVAILABILITY: Daily
OTHER NAMES: 5;12 Translocation, PDGFRB/TEL by FISH
METHODOLOGY: Fluorescence in situ Hybridization (FISH)
CPT: 88271 x 2; 88275 x 2
[PDHA1]  PYRUV DEHYDROGENASE DEFICIENCY

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83894 x 2; 83898 x 11; 83904 x 22; 83912

[PE-1]  Stool Pancreatic Elastase

SPECIMEN REQUIRED: Frozen random stool
TUBE OR CONTAINER: Stool cup or neat vial container
SPECIMEN VOLUME: 3 grams
MINIMUM VOLUME: 1 gram
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
METHODOLOGY: Enzyme-linked Immunosorbent Assay (ELISA)
CLINICAL USE: Identifies pancreatic exocrine insufficiency due
to chronic pancreatitis, gallstones, cystic
fibrosis, cholelithiasis, diabetes mellitus, and
other conditions
CPT: 82656

[PED17HYD]  17-Hydroxyprogesterone

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Separate and freeze within 1 hour
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.1 mL (this volume does not allow for repeat
testing)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
METHODOLOGY: High pressure liquid chromatography/tandem mass
spectrometry (HPLC/MS-MS)
CLINICAL USE: Markedly elevated in patients with congenital
adrenal hyperplasia (adrenogenital syndrome) due
to 21-hydroxylase deficiency; evaluate hirsutism
and/or infertility; assess certain adrenal or
ovarian tumors with endocrine activity
CPT: 83498

[PEDALDOS]  Aldosterone

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Separate within 1 hour of collection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL (this volume does not allow for repeat
testing)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: Age specific
METHODOLOGY: High pressure liquid chromatography/tandem mass spectrometry (HPLC/MS-MS)
CLINICAL USE: Evaluate patients with hypertension and possible hyperaldosteronism
CPT: 82088

[PEDANDRO] Androstenedione

SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIAL HANDLING: Separate and freeze with 1 hour of collection
Do NOT collect in tube with gel barrier
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.25 mL (this volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Age specific
METHODOLOGY: High pressure liquid chromatography/tandem mass spectrometry (HPLC/MS-MS)
CLINICAL USE: Evaluation of androgen production in hirsute females; less useful in evaluation of other aspects of virilization
CPT: 82157

[PEDCAH1] PED CAH PROFILE 1

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Centrifuge and separate within 1 hour of collection
Do NOT collect in tube with gel barrier
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL (this volume does not allow for repeat testing)
TEST INCLUDES: DHEA, Androstenedione, Cortisol, 17-Hydroxyprogesterone and total testosterone
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
OTHER NAMES: 21-OH Deficiency Screen
METHODOLOGY: Radioimmunoassay (RIA)
CPT: 82157; 82533; 82626; 83498; 84403

[PEDCAH2] PED CAH PROFILE 2

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Centrifuge and separate within 1 hour of collection
Do NOT collect in tube with gel barrier
SPECIMEN VOLUME: 2.5 mL
MINIMUM VOLUME: 1.5 mL (this volume does not allow for repeat testing)
TEST INCLUDES: DHEA, Androstenedione, Cortisol, Desoxycorticisol, 17-Hydroxyprogesterone and total testosterone
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 days
METHODOLOGY: Radioimmunoassay (RIA)
CPT: 82157; 82634; 82533; 82626; 83498; 84403

[PEDCAH3] PED CAH PROFILE 3
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Centrifuge and separate within 1 hour of collection
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL (this volume does not allow for repeat testing)
TEST INCLUDES: DHEA, Cortisol, Corticosterone, Progesterone and 17-Hydroxyprogesterone
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-10 days
METHODOLOGY: RIA after selective solvent extraction, HPLC Tandem Spectrometry
CPT: 82528; 82533; 82626; 83498; 84144

[PEDCAH4] PED CAH PROFILE 4
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Centrifuge and separate within 1 hour of collection
Do NOT collect in tube with gel barrier
SPECIMEN VOLUME: 1.5 mL
MINIMUM VOLUME: 0.8 mL (this volume does not allow for repeat testing)
TEST INCLUDES: DHEA, Androstenedione, Cortisol, 17-Hydroxyprogesterone & 17-Hydroxypregnenolone
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 day
OTHER NAMES: 3B-HSD Deficiency Screen
METHODOLOGY: Radioimmunoassay (RIA)
CPT: 82157; 82533; 82626; 84143; 83498

[PEDCAH6] PED CAH PROFILE 6
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Centrifuge and separate within 1 hour of collection
Do NOT collect in tube with gel barrier
SPECIMEN VOLUME: 3.5 mL
MINIMUM VOLUME: 2.5 mL (this volume does not allow for repeat testing)
TEST INCLUDES: DHEA, Androstenedione, Cortisol, Progesterone, 17-Hydroxyprogesterone, total testosterone, 17-Hydroxypregnenolone, DOC and Desoxycorticisol

TEST AVAILABILITY: Daily

TURNAROUND TIME: 4-6 days

METHODOLOGY: Radioimmunoassay (RIA)

CPT: 82157; 82634; 82533; 82626; 82633; 84143; 84144; 83498; 84403

**[PEDCAH7] PED CAH PROFILE 7**

SPECIMEN REQUIRED: Frozen serum

TUBE OR CONTAINER: Red

SPECIAL HANDLING: Centrifuge and separate within 1 hour of collection

Do NOT collect in tube with gel barrier

SPECIMEN VOLUME: 1.5 mL

MINIMUM VOLUME: 0.7 mL

TEST INCLUDES: Androstenedione, 17-Hydroxyprogesterone and total testosterone

TEST AVAILABILITY: Daily

TURNAROUND TIME: 3-5 days

METHODOLOGY: Radioimmunoassay (RIA)

CPT: 82157; 83498; 84403

**[PEDDEOXC] 11-Deoxycortisol (Compound S)**

SPECIMEN REQUIRED: Frozen serum (preferred) or plasma

TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)

SPECIAL HANDLING: Separate within 1 hour of collection

Do not use for Metyrapone test

SPECIMEN VOLUME: 1 mL

MINIMUM VOLUME: 0.2 mL (this volume does not allow for repeat testing)

TEST AVAILABILITY: Daily

TURNAROUND TIME: 5-8 days

REFERENCE RANGE: Age-specific

OTHER NAMES: Specific Compound S

METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS) after chromatography and solvent extraction

CLINICAL USE: Evaluate hypothalamic-pituitary-adrenal axis and pituitary ACTH reserve

CPT: 82634

**[PEDDHEA] Dehydroepiandrosterone (DHEA)**

SPECIMEN REQUIRED: Frozen serum

TUBE OR CONTAINER: Red or Gold

SPECIAL HANDLING: Separate within 1 hour of collection

SPECIMEN VOLUME: 0.5 mL

MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat
testing)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
REFERENCE RANGE: Age-specific
OTHER NAMES: DHEA; Unconjugated DHEA
METHODOLOGY: Radioimmunoassay (RIA) after solvent extraction
CLINICAL USE: Evaluate adrenal carcinomas which frequently secrete large amounts of DHEA
CPT: 82626

[PEDDHEAS] Dehydroepiandrosterone (DHEA)

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Separate within 1 hour of collection
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.1 mL (this volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
REFERENCE RANGE: Age-specific
OTHER NAMES: DHEA-S; DHEA-SO4; DHEA Sulfate
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)
CLINICAL USE: Aid in the evaluation of androgen excess (hirsutism and/or virilization), including Stein-Leventhal syndrome and adrenocortical diseases, including congenital adrenal hyperplasia and adrenal tumor
CPT: 82627

[PEDESTRA] Estradiol (E2) Level

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Freeze if not tested within 8 hours of collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Age-specific
METHODOLOGY: High pressure liquid chromatography/tandem mass spectrometry (HPLC/MS-MS)
CLINICAL USE: Assess hypothalamic and pituitary function; assess ovarian failure and follicular maturation. In males, E2 measurements may be helpful in the assessment of unexplained gynecomastia
CPT: 82670

[PEDESTRO] Total Estrogens

SPECIMEN REQUIRED: Frozen serum (preferred) or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)
SPECIAL HANDLING: Separate within 1 hour of collection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL (this volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
REFERENCE RANGE: Age-specific
METHODOLOGY: Radioimmunoassay (RIA) after solvent extraction
CLINICAL USE: Evaluate for ovarian estrogen producing tumor in the premenarcheal and postmenopausal female; evaluate estrogen excess in males
CPT: 82672

[PEDFSH] Follicle Stimulating Hormone

SPECIMEN REQUIRED: Refrigerated serum (preferred) or plasma
TUBE OR CONTAINER: Red, Gold, Light Green (heparin) or Lavender (EDTA)
SPECIAL HANDLING: Freeze if not tested within 8 hours of collection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Age-specific
METHODOLOGY: Chemiluminescence
CLINICAL USE: Distinguish primary gonadal failure from secondary (hypothalamic/pituitary) causes of gonadal failure, menstrual disturbances and amenorrhea
CPT: 83001

[PEDIGF1] Insulin-like Growth Factor I

SPECIMEN REQUIRED: Frozen serum (preferred) or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIAL HANDLING: Separate within 1 hour of collection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.1 mL (this volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 days
REFERENCE RANGE: Age-specific
OTHER NAMES: IGF-1; Somatomedin-C, Sulfation Factor
METHODOLOGY: Blocking radioimmunoassay (RIA) after acid:alcohol extraction
CLINICAL USE: Diagnose acromegaly, in which Sm-C and GH are increased; evaluate hypopituitarism and hypothalamic lesions in children (diagnosis of dwarfism and response to therapy).
CPT: 84305
<table>
<thead>
<tr>
<th><strong>[PEDIGFBP1] Insulin-like GF Binding Protein-1</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum</td>
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<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Separate within 1 hour of collection</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.1 mL (this volume does not allow for repeat testing)</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 3-7 days</td>
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<tr>
<td>REFERENCE RANGE: Age-specific</td>
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<tr>
<td>METHODOLOGY: Radioimmunoassay (RIA)</td>
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<tr>
<td>CPT: 83519</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[PEDIGFBP2] Insulin-like GF Binding Protein-2</strong></th>
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</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum or plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Separate within 1 hour of collection</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL (this volume does not allow for repeat testing)</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 5-20 days</td>
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<td>REFERENCE RANGE: Age-specific</td>
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<td>METHODOLOGY: Radioimmunoassay (RIA)</td>
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<td>CPT: 83519</td>
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<table>
<thead>
<tr>
<th><strong>[PEDIGFBP3] Insulin-like GF Binding Protein-3</strong></th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum (preferred) or plasma</td>
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<tr>
<td>TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Separate within 1 hour of collection</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.25 mL (this volume does not allow for repeat testing)</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-6 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Age-specific</td>
</tr>
<tr>
<td>OTHER NAMES: Insulin-like Growth Factor Binding Protein-3</td>
</tr>
<tr>
<td>METHODOLOGY: Radioimmunoassay (RIA) in dilute serum</td>
</tr>
<tr>
<td>CLINICAL USE: Aids in evaluation of growth hormone secretion</td>
</tr>
<tr>
<td>CPT: 83519</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[PEDLH] Luteinizing Hormone</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum (preferred) or plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Freeze if not tested within 8 hours of collection</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.6 mL</td>
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<tr>
<td>TEST AVAILABILITY: Daily</td>
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<tr>
<td>Test Code</td>
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<tr>
<td>83002</td>
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<td>84144</td>
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<tr>
<td>84244</td>
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<tr>
<td>84244</td>
</tr>
</tbody>
</table>
**TUBE OR CONTAINER:** Red, Gold, Lavender (EDTA) or Green (heparin)
**SPECIAL HANDLING:** Separate within 1 hour of collection
**SPECIMEN VOLUME:** 1 mL
**MINIMUM VOLUME:** 0.5 mL (this volume does not allow for repeat testing)
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 4-6 days
**REFERENCE RANGE:** Age-specific
**METHODOLOGY:** High-pressure liquid chromatography (HPLC)
**CLINICAL USE:** Indicator of LH secretion and Leydig cell function; evaluate gonadal and adrenal function; aid in diagnosis of hypogonadism, hypopituitarism, Klinefelter syndrome, and impotence (low values) in males, and hirsutism, anovulation, amenorrhea, and virilization in females
**CPT:** 84403

**[PEDTESTFRE] PED FREE TESTOSTERONE**

**SPECIMEN REQUIRED:** Frozen serum
**TUBE OR CONTAINER:** Red or Gold
**SPECIAL HANDLING:** Separate within 1 hour of collection
**SPECIMEN VOLUME:** 2 mL
**MINIMUM VOLUME:** 1.5 mL (this volume does not allow for repeat testing)
**TEST INCLUDES:** Total testosterone; Free testosterone; % free testosterone and Sex hormone binding globulin
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 4-5 days
**METHODOLOGY:** High-pressure liquid chromatography (HPLC) tandem mass spectrometry, Equilibrium dialysis, Immuno-radiometric assay (IRMA)
**CPT:** 84402; 84403; 84270

**[PEDVITD125] PED VITAMIN D 1,25-DIHYDROXY**

**SPECIMEN REQUIRED:** Frozen serum or plasma
**TUBE OR CONTAINER:** Red or Gold (preferred) or Lavender (EDTA)
**SPECIAL HANDLING:** Separate within 1 hour of collection
**SPECIMEN VOLUME:** 3 mL
**MINIMUM VOLUME:** 1 mL (this volume does not allow for repeat testing)
**TEST AVAILABILITY:** Daily
**TURNAROUND TIME:** 4-6 days
**REFERENCE RANGE:** Age-specific
**OTHER NAMES:** Calcitriol; 1,25-Dihydroxycholecalciferol; 1,25-Dihydroxy Vitamin D3; 1,25(OH)2 D3
**METHODOLOGY:** High pressure liquid chromatography/tandem mass spectrometry (HPLC/MS-MS)
**CLINICAL USE:** Aid in the diagnosis of hyperparathyroidism, hypoparathyroidism, pseudohypoparathyroidism, renal osteodystrophy, vitamin D resistant rickets
**CPT:** 82652
**[PEDVITD25] 25-Hydroxy Vitamin D3**

SPECIMEN REQUIRED: Frozen serum (preferred) or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)
SPECIAL HANDLING: Separate within 1 hour of collection
SPECIMEN VOLUME: 1.5 mL
MINIMUM VOLUME: 0.5 mL (this volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
REFERENCE RANGE: 32 - 100 ng/mL
OTHER NAMES: Cholecalciferol Metabolite; 25-Hydroxycalciferol; 25-OH-D; Vitamin D3 Metabolite
METHODOLOGY: High pressure liquid chromatography/tandem mass spectrometry (HPLC/MS-MS)
CLINICAL USE: Rule out vitamin D deficiency as cause of bone disease; differential diagnosis of hypercalcemia
CPT: 82306

**[PEND] PENDRED SYNDROME (SLC26A4)**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
OTHER NAMES: SLC26A4 Gene analysis; Enlarged Vestibular Aqueduct Syndrome
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83894 x 2; 83898 x 25; 83904 x 50; 83912

**[PENTOBARB] Pentobarbital (Nembutal) Level**

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Do NOT use a serum-separator tube; Collect specimen immediately prior to next dose unless otherwise indicated
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
REFERENCE RANGE: 1-5 mg/L
OTHER NAMES: Nembutal
METHODOLOGY: GC/MS
CLINICAL USE: Short-term treatment of insomnia; preoperative sedation; high-dose barbiturate coma treatment for increased intracranial pressure or status epilepticus unresponsive to other therapy
CPT: 82205

**[PEPCK] PHOSPHOENOLPYRUV CARBOXYKINASE**
| SPECIMEN REQUIRED: Fibroblasts at room temperature | TUBE OR CONTAINER: T24 flasks | SPECIMEN VOLUME: 2 flasks | TEST AVAILABILITY: Monday-Thursday | METHODOLOGY: Radioactive assay | CPT: 82658; 88233 |

**[PERF]** Perforin/Granzyme B

| SPECIMEN REQUIRED: Whole blood at room temperature | TUBE OR CONTAINER: Lavender (EDTA) | SPECIAL HANDLING: Must arrive in lab by 1:30 pm Monday-Thursday only; Must be shipped same day as collected | SPECIMEN VOLUME: 3 mL | MINIMUM VOLUME: 1 mL | TEST AVAILABILITY: Monday-Thursday only | TURNAROUND TIME: 5-9 days | METHODOLOGY: Flow Cytometry | CPT: 88184 |

**[PEROXFIB]** Peroxisomal Enzyme Fibroblasts

| SPECIMEN REQUIRED: Fibroblasts at room temperature | TUBE OR CONTAINER: T-25 flasks | SPECIMEN VOLUME: 2 flasks | MINIMUM VOLUME: 1 flask | TEST INCLUDES: Very long chain Fatty Acids, Peroxisomal Plasmalogen synthesis, Phytanic Acid Oxidase, Pristanic Acid Oxidase and Catalase Distribution | TEST AVAILABILITY: Daily | CPT: 82658; 82658 x 3; 82726; 88233 |

**[PEROXISOM]** Peroxisomal PNL-Long Chain FA

| SPECIMEN REQUIRED: Frozen serum | TUBE OR CONTAINER: Red or Gold | SPECIAL HANDLING: Collect specimen from a fasting patient | SPECIMEN VOLUME: 1 mL | MINIMUM VOLUME: 0.5 mL | TEST INCLUDES: Fatty acids C22:0; C24:0; C26:0 C24:0/C22:0 ratio C26:0/C22:0 ratio; Pristanic acid; Phytanic acid; Pristanic/Phytanic acid ratio | TEST AVAILABILITY: Daily | TURNAROUND TIME: 3-6 days | METHODOLOGY: Gas chromatography-Mass Spectrometry (GC-MS), Stable Isotope dilution analysis | CPT: 82726 |

**[PEROXPLAS]** Peroxisomal Plasmalogen Fibro

| SPECIMEN REQUIRED: Fibroblasts at room temperature | TUBE OR CONTAINER: T-25 flasks | SPECIMEN VOLUME: 2 flasks | MINIMUM VOLUME: 1 flask |
TEST AVAILABILITY: Daily
OTHER NAMES: Peroxisomal Plasmalogen Synthesis (Fibroblast)
CPT: 82658

[PEROXPREN] Peroxisomal Prenatal
SPECIMEN REQUIRED: Amniotic Fluid or cultured CVS at room temperature
TUBE OR CONTAINER: Sterile amber tube or T-25 flasks
SPECIMEN VOLUME: 30 ml (amniotic fluid)
2 flasks
MINIMUM VOLUME: 15 mL (amniotic fluid)
1 flask
TEST AVAILABILITY: Daily
CLINICAL USE: Aid in the diagnosis of X-linked ALD, Zellweger Syndrome, neonatal ALD and rhizomelic chondrodysplasia punctata
CPT: 82658; 82726; 88235

[PERPH] Perphenazine (Trilafon) Level
SPECIMEN REQUIRED: Frozen serum or plasma; Protect from light
TUBE OR CONTAINER: Red or Dark green (heparin)
SPECIAL HANDLING: The use of serum separator tubes is not recommended
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-9 days
REFERENCE RANGE: 5.0 - 30.0 ng/mL
OTHER NAMES: Trilafon
METHODOLOGY: Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
CLINICAL USE: Therapeutic drug monitoring
CPT: 82542

[PERTA] Bordetella pertussis IgA Ab (FHA)
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME:
REFERENCE RANGE: Negative: < 9 units
METHODOLOGY: Enzyme Immunoassay (EIA)
CLINICAL USE: Establish evidence of early/acute infection with Bordetella pertussis
CPT: 86615

[PEST] Insecticide Exposure Panel
SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Red, Gold or Green (heparin)
<table>
<thead>
<tr>
<th>SPECIMEN VOLUME: 5 mL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINIMUM VOLUME: 2.1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
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<tr>
<td>METHODOLOGY: Chromatography</td>
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<tr>
<td>CLINICAL USE: Monitor exposure to chlorinated pesticides</td>
</tr>
<tr>
<td>CPT: 82441</td>
</tr>
</tbody>
</table>

**[PEX1] PEX1 GENE MUTATION**

- SPECIMEN REQUIRED: Room temperature whole blood or fibroblasts
- TUBE OR CONTAINER: Lavender (EDTA) or T-25 flasks
- SPECIMEN VOLUME: 10 mL or 2 flasks
- MINIMUM VOLUME: 4 mL or 1 flask
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 1-2 weeks
- METHODOLOGY: Polymerase Chain Reaction (PCR)
- CPT: 83891; 83898 x 3; 83904 x 6; 83909 x 6; 83912

**[PEX122] PEX1 GENE MUTATION (22 EXONS)**

- SPECIMEN REQUIRED: Room temperature whole blood or fibroblasts
- TUBE OR CONTAINER: Lavender (EDTA) or T-25 flasks
- SPECIMEN VOLUME: 10 mL or 2 flasks
- MINIMUM VOLUME: 4 mL or 1 flask
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 1-2 weeks
- METHODOLOGY: Polymerase Chain Reaction (PCR)
- CPT: 83898 x 23; 83904 x 46; 83909 x 46; 83912

**[PF4] Platelet Factor 4**

- SPECIMEN REQUIRED: Frozen plasma
- TUBE OR CONTAINER: CTAD tube (please call ahead - Lab must obtain special tube)
- SPECIAL HANDLING: Specimen must be collected in special tube to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
- Send to lab immediately or centrifuge and freeze plasma
- SPECIMEN VOLUME: 1 full tube
- Testing volume: 2 mL of PLASMA
- MINIMUM VOLUME: 1 full tube
- Testing volume: 1 mL of PLASMA
- TEST AVAILABILITY: Monday-Friday
- TURNAROUND TIME: 3-15 days
- REFERENCE RANGE: 0-35 (adults)
- METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
- CLINICAL USE: Assess platelet activation
- CPT: 83520

**[PFSSEQ] PERIODIC FEVER SYNDROMES SEQ**

- SPECIMEN REQUIRED: Whole blood at room temperature
**TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 1 mL  
**TEST INCLUDES:** MEFV, TNFRSF1A, MVK, NLRP3 (formerly CIAS1), ELANE (formerly ELA2), PSTPIP1, and LPIN2 genes  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 8 weeks  
**REFERENCE RANGE:** No mutation detected  
**METHODOLOGY:** Polymerase Chain Reaction (PCR)  
**CPT:** 83891; 83892; 83900; 83901 x 29; 83909 x 40; 83912

**[PGE2] Prostaglandin E2**  
**SPECIMEN REQUIRED:** Frozen serum or plasma  
**TUBE OR CONTAINER:** Red, Gold or Lavender (EDTA)  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 1 mL  
**TEST AVAILABILITY:** Daily  
**REFERENCE RANGE:** 250 - 400 pg/mL  
**METHODOLOGY:** Direct Radioimmunoassay  
**CPT:** 84150

**[PGL-PCC] PARAGANGLIOMA/PHEOCHROMOCYTOMA**  
**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 4 weeks  
**METHODOLOGY:** Polymerase Chain Reaction (PCR)  
**CPT:** 83891; 83894 x 5; 83898 x 23; 83904 x 50; 83909 x 3; 83912

**[PHD] Dialysate Fluid pH**  
**SPECIMEN REQUIRED:** Fluid on ice  
**TUBE OR CONTAINER:** Sterile container or syringe  
**SPECIAL HANDLING:** Specimen must be submitted on ice  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 24 hours  
**REFERENCE RANGE:** None established  
**METHODOLOGY:** Electrochemical  
**CLINICAL USE:** Determine pH of specimen  
**CPT:** 83986

**[PHENO] Phenobarbital Level**  
**SPECIMEN REQUIRED:** Refrigerated plasma or serum  
**TUBE OR CONTAINER:** Light Green (heparin) or Gold  
**SPECIAL HANDLING:** Include time of last phenobarbital dose  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 15.0-40.0 mg/L
METHODOLOGY: Turbidimetric inhibition immunoassay
CLINICAL USE: Monitor patients for compliance, efficiency, and possible toxicity
CPT: 80184

[PHENOL] UR PHENOL
SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 15 mL
MINIMUM VOLUME: 5.2 mL
TEST INCLUDES: Creatinine, phenol, and ratio
TEST AVAILABILITY: Daily
REFERENCE RANGE: Environmental exposure: Occupational exposure: BEI (sampling time is end of shift): 250.0 mg/g creatinine
METHODOLOGY: Gas chromatography (GC)
CLINICAL USE: Monitor exposure to phenol
CPT: 82570; 84600

[PHENSTL] Stool Phenolphthalein Level
SPECIMEN REQUIRED: Frozen stool
TUBE OR CONTAINER: Plastic container
SPECIAL HANDLING: Specimen must be received at referring lab within 48 hours of collection
SPECIMEN VOLUME: 5 grams
MINIMUM VOLUME: 1 gram
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: Negative
METHODOLOGY: Colorimetry
CLINICAL USE: Detection of laxative abuse
CPT: 84311

[PHENUR] Urine Phenolphthalein
SPECIMEN REQUIRED: Random urine
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 60 mL
MINIMUM VOLUME: 6.1 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Thin layer chromatography (TLC)
CPT: 84311

[PHENYL] PHENYLALANINE QUANT
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Light Green or Dark green (heparin)
SPECIAL HANDLING: Separate and freeze within 1 hour of collection
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 0-4 mg/dL
METHODOLOGY: High-pressure liquid chromatography (HPLC)
CLINICAL USE: Evaluate patients for phenylketonuria; monitor therapy with phenylalanine restricted diet
CPT: 82131

**[PHENYT] Phenytoin (Dilantin) Level**

SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIAL HANDLING: Include time of last phenytoin dose
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 10.0-20.0 mg/L
OTHER NAMES: Dilantin
METHODOLOGY: Turbidimetric inhibition immunoassay
CLINICAL USE: Therapeutic monitor and assessment of toxicity
CPT: 80185

**[PHFL] Body Fluid pH**

SPECIMEN REQUIRED: Body fluid in syringe on ice
TUBE OR CONTAINER: Heparinized syringe on ice
SPECIAL HANDLING: Remove needle from syringe; cap tightly; must be tested within two hours of collection;
Do NOT centrifuge specimen;
Specify source of fluid
REJECTION: Reject if not received on ice or within one hour of collection.

SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Electrochemical
CLINICAL USE: Aid in the diagnosis of pleuritis, empyema, bacterial peritonitis, rheumatoid effusion, carcinoma, and esophageal rupture
CPT: 83986

**[PHGAS] Gastric Fluid pH**

SPECIMEN REQUIRED: Gastric sample
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Notify chemistry when specimen is to be collected
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Electrochemical-pH meter
CLINICAL USE: Evaluate gastric acid secretion
CPT: 83986

[PHOS] Phosphorus Level
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 0-1 month: 1.5-4.8 mg/dL
1 month-4 years: 3.8-6.5 mg/dL
4-12 years: 3.3-5.4 mg/dL
13 years-adult: 2.5-4.5 mg/dL
METHODOLOGY: Timed endpoint
CLINICAL USE: Aid in diagnosis and treatment of various disorders, including parathyroid gland and kidney disease, and vitamin D imbalance
CPT: 84100

[PHOSFLD] Body Fluid Phosphorus
SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Timed endpoint
CPT: 84100

[PHOSPHAT] PHOSPHATIDYLSTERINE AB
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Anti-phosphatidylserine antibodies IgG, IgM & IgA
TEST AVAILABILITY: Daily
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CLINICAL USE: Aid in diagnosing aPS (antiphospholipid syndrome) for assessing thrombotic risk
CPT: 86148 x 3

[PHOSPHATID] ANTI-PHOSPHATIDIC ACID
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Separate from cells within 2 hours of collection
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Anti-phosphatidic acid IgG, IgM & IgA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10-16 days
REFERENCE RANGE: 0.0 - 10.0
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CPT: 83520 x 3

[PHOSPHOETH] Urine Phosphoethanolamine
SPECIMEN REQUIRED: Frozen urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-7 days
REFERENCE RANGE: 0-1 month: 0.0 - 855.6
>1 month-2 years: 0.0 - 631.2
>2 years-12 years: 0.0 - 418.9
>12 years-18 years: 0.0 - 199.3
>18 years: 0.0 - 177.3
METHODOLOGY: High-pressure liquid chromatography (HPLC) separation with postcolumn Ninhydrin quantitation
CLINICAL USE: Evaluate amino acid metabolism
CPT: 82131

[PHOSTM] UR PHOSPHORUS TIMED
SPECIMEN REQUIRED: Refrigerated aliquot of 24-hour urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect 24-hour urine in "P" container (no preservative)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 400.0-1300.0 mg/24 hours
METHODOLOGY: Timed end-point
CLINICAL USE: Evaluate calcium/phosphorus balance
CPT: 84105

[PHOSUR] Urine Random Phosphorus
SPECIMEN REQUIRED: Refrigerated random urine
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
[PHPL]  Pleural Fluid pH

SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Heparinized syringe
SPECIAL HANDLING: Remove needle from syringe; cap tightly; must be tested within two hours of collection;
Do NOT centrifuge specimen;
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
CLINICAL USE: Determine pH of body fluid; pH of pleural fluid relates to inflammatory states: in empyema and in loculated effusions pleural fluid pH is CPT: 83986

[PHSTL]  Stool pH

SPECIMEN REQUIRED: Refrigerated stool (random)
TUBE OR CONTAINER: Container with tight seal
SPECIMEN VOLUME: 1 gram
MINIMUM VOLUME: 0.5 gram
TEST AVAILABILITY: Daily
REFERENCE RANGE: 7.0-7.5
METHODOLOGY: Aqueous stool suspension measured with pH paper
CLINICAL USE: Detect carbohydrate and fat malabsorption: evaluate small intestinal disaccharidase deficiencies
CPT: 89240

[PHTNF]  Free Phenytoin Level

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: 0.8-2.2 mg/L
OTHER NAMES: Dilantin Free
METHODOLOGY: Fluorescent polarization immunoassay (FPIA)
CLINICAL USE: May be helpful in overdosages, since only the free portion can be cleared by dialysis
CPT: 80186

[PHU]  Urine pH

SPECIMEN REQUIRED: Refrigerated urine (random)
<table>
<thead>
<tr>
<th><strong>[PHUR]</strong> Urine pH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Refrigerated urine (random)</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Plastic urine container or syringe</td>
</tr>
<tr>
<td><strong>CAUSE FOR REJECTION:</strong> Specimen greater than 2 hours old will be rejected</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 30 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 5 mL</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 4 hours</td>
</tr>
<tr>
<td><strong>REFERENCE RANGE:</strong> None established</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> pH Meter</td>
</tr>
<tr>
<td><strong>CLINICAL USE:</strong> Crude measure of the acid-base balance of the body; aid in determining subtle presence of distal renal tubular disease or pyelonephritis; useful for identifying crystals in urine and determining predisposition to form a given type of stone</td>
</tr>
<tr>
<td><strong>CPT:</strong> 83986</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[PIK3CA]</strong> PIK3CA GENE MUTATION DETECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Unstained slides from paraffin block or formalin-fixed paraffin embedded tissue block at room temperature</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Slides or blocks</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 4 unstained slides and 1 H&amp;E stained side at 10 µM or tissue block</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Amplification refractory mutation system (ARMS) and real-time polymerase chain reaction using Scorpions technology</td>
</tr>
<tr>
<td><strong>CLINICAL USE:</strong> Somatic mutations in the PIK3CA oncogene are frequently found in human cancers. They are common in liver cancer, breast cancer, colorectal cancer, and ovarian cancer. These mutations may indicate prognosis and drug response</td>
</tr>
<tr>
<td><strong>CPT:</strong> 83891; 83896 x 5; 83898 x 5; 83907; 83912</td>
</tr>
</tbody>
</table>
**[PIN] Pinworm Exam**

SPECIMEN REQUIRED: Scotch tape with pinworm
COLLECTION: Collect specimen as soon as the patient awakens in the morning. Apply a piece of CLEAR scotch tape, sticky side down, to the perianal area. Remove the tape and place it sticky side down, onto a clean glass slide. Label the slide and place it into a slide carrier.
TUBE OR CONTAINER: Slide with tape
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 hours
REFERENCE RANGE: Negative for Enterobius vermicularis (pinworm)
METHODOLOGY: Microscopy
CLINICAL USE: Detection of pinworm
CPT: 87172

**[PINK1] PINK1 DNA SEQUENCING**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 pm Monday through Thursday only
Ship within 24 hours of collection
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 4-6 weeks
METHODOLOGY: DNA Sequencing
CPT: 83891; 83898 x 8; 83904 x 8; 83909; 83912

**[PIPEC] Pipecolic Acid**

SPECIMEN REQUIRED: Room temperature plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
OTHER NAMES: Piperidine-2 carboxylic acid
METHODOLOGY: Gas Chromatography-Mass Spectrometry (GC-MS)
CPT: 82543

**[PIPECU] Pipecolic Acid**

SPECIMEN REQUIRED: Frozen urine
TUBE OR CONTAINER: Random urine
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
CPT: 82543

**[PITX2] PITX2 GENE ANALYSIS**

SPECIMEN REQUIRED: Whole blood at room temperature
<table>
<thead>
<tr>
<th>Test Code</th>
<th>Test Name</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Reference Range</th>
<th>Methodology</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PKDx</td>
<td>PKDx Mutation</td>
<td>Whole blood at room temperature</td>
<td>Lavender (EDTA) or Yellow (ACD)</td>
<td>5 mL</td>
<td>2 mL</td>
<td>Monday-Friday</td>
<td>3-6 weeks</td>
<td>No sequence variation detected</td>
<td>Polymerase Chain Reaction (PCR) and bi-directional sequencing</td>
<td>83890; 83892; 83894; 83898; 83912</td>
</tr>
<tr>
<td>PLA1-A2</td>
<td>Platelet Antigen (PLA1/A2)</td>
<td>Room temperature whole blood</td>
<td>Lavender (EDTA) or Yellow (ACD)</td>
<td>2 mL</td>
<td>1 mL</td>
<td>Monday-Friday</td>
<td>5-7 days</td>
<td>No sequence variation detected</td>
<td>Polymerase Chain Reaction (PCR) and Restriction enzyme digestion</td>
<td>83890; 83892; 83894; 83898; 83912</td>
</tr>
<tr>
<td>PLA2G6</td>
<td>Infant Neuroaxonal DYS(PLA2G6)</td>
<td>Whole blood at room temperature</td>
<td>Lavender (EDTA)</td>
<td>10 mL</td>
<td>3 mL</td>
<td>Daily</td>
<td>4-6 weeks</td>
<td>Infantile Neuroaxonal Dystrophy via PLA2G6 gene</td>
<td>Polymerase chain reaction (PCR)</td>
<td>83891; 83898 x 4; 83904 x 9; 83912</td>
</tr>
<tr>
<td>PLASM</td>
<td>Plasminogen Activity</td>
<td>Frozen plasma</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>83891; 83892; 83894; 83898; 83912</td>
</tr>
</tbody>
</table>
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube MUST be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-7 days
REFERENCE RANGE: 78 - 130%
METHODOLOGY: Streptokinase (SK) as mixed with the patient sample and the resulting plasminogen-SK complex converts a chromogenic substrate to produce color
CLINICAL USE: Evaluate thrombotic disease; monitor thrombolytic therapy; study dysplasminogen
CPT: 85420

<table>
<thead>
<tr>
<th>PLASMODPCR</th>
<th>Plasmodium species DNA (PCR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-6 days</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: Not detected</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Malaria PCR</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Real-time Polymerase Chain Reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE:</td>
<td></td>
</tr>
<tr>
<td>CPT: 87798</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PLATELETAB</th>
<th>PLATELET ANTIBODIES ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Sample must be less than 7 days old when tested</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: Level 1: HPA-1a/b, HPA-2a/b, HPA-3a/b, HPA-4a, HPA-5a/b, GPIIb/IIIa, GPIa/IIa, GPIb/IX, GPIV</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 7-9 days</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Flow Cytometry</td>
<td></td>
</tr>
<tr>
<td>CPT: 86022 x 11</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PLTAGG</th>
<th>Platelet Aggregation Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Blue (Citrate)</td>
<td></td>
</tr>
</tbody>
</table>
SPECIAL HANDLING: Call referrals (x37207) or VA (270-0501 X4189) at least one day before test is to be performed to schedule; Coordinate specimen pick-up directly with coag lab at VA; Immediately after drawing, invert tubes gently 3-4 times to prevent clotting
SPECIMEN VOLUME: 5 FULL tubes
MINIMUM VOLUME: 3 FULL tubes
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 3 days
CLINICAL USE: Evaluate platelet function
CPT: 85576

[PLTAGTYPI] PLATELET AG TYPING LEVEL 1

SPECIMEN REQUIRED: Refrigerated whole blood; Amniotic fluid can be tested
TUBE OR CONTAINER: ACD-A or sterile container for amniotic fld
SPECIMEN VOLUME: 30 mL (blood)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 days (blood)
8-10 days (amniotic fluid)
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA) and Polymerase chain reaction (PCR)
CPT: 83890; 83894; 83898 x 2; 83912

[PLTCT] PLATELET COUNT

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: If the patient is a known EDTA clumper, submit one blue-top (citrate) tube IN ADDITION to the Lavender-top tube. Gently invert tube several times immediately following collection to distribute anticoagulant
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 ml
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-4 hours
REFERENCE RANGE: 0-15 years: 150-350 K/mm³
16 and over: 140-440 K/mm³
METHODOLOGY: Automated cell counter
CLINICAL USE: Evaluate, diagnose, and/or follow up bleeding disorders, drug induced thrombocytopenia, idiopathic thrombocytopenia purpura (acute or chronic), DIC, leukemia states, chemotherapeutic management of malignant disease states; investigate purpura, petechiae; evaluate response to platelet transfusions, steroids, or other therapy
CPT: 85049

[PLTGENO] PLATELET ANTIGEN GENOTYPING
SPECIMEN REQUIRED: Whole blood, amniotic fluid or cultured amniocytes at room temperature; TUBE OR CONTAINER: Yellow (ACD) or Lavender (EDTA); Sterile container or T25 flasks SPECIMEN VOLUME: 10 mL (blood) 15 mL (amniotic fluid) or 2 T25 flasks MINIMUM VOLUME: 4 mL (blood) 10 mL (amniotic fluid) or 1 T25 flask TEST AVAILABILITY: Daily TURNAROUND TIME: 7-9 days METHODOLOGY: Polymerase Chain Reaction (PCR), allele-specific primer extension, luminex CPT: 83891; 83896 x 18; 83900; 83901 x 5; 83912

[PLTNEU] Platelet Neutralization

SPECIMEN REQUIRED: Frozen plasma TUBE OR CONTAINER: Blue (Citrate) SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be FULL to ensure proper anticoagulant to blood ratio Invert gently 3-4 times to prevent clotting; centrifuge immediately and freeze plasma SPECIMEN VOLUME: 2 ml MINIMUM VOLUME: 1 mL TEST AVAILABILITY: Daily TURNAROUND TIME: 1-7 days REFERENCE RANGE: 0.0 - 6.0 seconds METHODOLOGY: Clot detection CPT: 85597

[PMDDNA] Pelizaeus-Merzbacher DNA

SPECIMEN REQUIRED: Whole blood at room temperature TUBE OR CONTAINER: Lavender (EDTA) SPECIMEN VOLUME: 5 mL MINIMUM VOLUME: 2 mL TEST AVAILABILITY: Daily TURNAROUND TIME: 4 weeks OTHER NAMES: PLP1 Gene METHODOLOGY: Polymerase Chain Reaction (PCR) CLINICAL USE: Confirmation of clinical diagnosis of PMD in patients who are negative for PLP1 gene duplication or deletion; Female carrier testing in PMD families Prenatal testing in PMD families in which a familial PLP1 mutation has been identified by sequencing CPT: 83891; 83894; 83898 x 10; 83904 x 5; 83909 x 10; 83912

[PMDFISH] Pelizaeus-Merzbacher by FISH

SPECIMEN REQUIRED: Whole blood at room temperature TUBE OR CONTAINER: Dark green (heparin)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10-14 days
METHODOLOGY: Fluorescence in situ hybridization (FISH)
CPT: 88230; 88271; 88273

[PMLD] PELIZAEUS-MERZBACHER-LIKE DIS
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 weeks
OTHER NAMES: GJC2 Gene sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 4; 83904 x 8; 83909; 83912

[PMLRAR] PML-RAR ALPHA FISH
SPECIMEN REQUIRED: Room temperature whole blood or bone marrow
TUBE OR CONTAINER: Dark Green (heparin)
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 ml
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 5-7 days
METHODOLOGY: Fluorescent in situ hybridization (FISH)
CPT: 88368 x 2

[PMLRARAQNT] PML/RARA QUANT PCR
SPECIMEN REQUIRED: Room temperature whole blood or bone marrow
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must arrive at performing lab within 72 hours of collection
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 5-7 days
METHODOLOGY: Quantitative, real-time Polymerase Chain Reaction (PCR)
CPT: 83891; 83896; 83898 x 2; 83902; 83912

[PMP22DD] PMP22 DUPLICATION/DELETION DNA
SPECIMEN REQUIRED: Room temperature whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Draw Monday-Thursday only; must arrive in lab by 2:00 pm
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 14-21 days
REFERENCE RANGE: Normal - no duplication/no deletion
METHODOLOGY: Multiplex Ligation-dependent Probe Amplification
CLINICAL USE: Detects rearrangements in the PMP22 gene. This test performs both duplication and deletion analysis to detect the cause of CMT1A and HNPP
CPT: 83891; 83896 x 8; 83900; 83901 x 6; 83909; 83912

<table>
<thead>
<tr>
<th>[PNEU] HYPERSENSITIVE PNEUMONITIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: Aspergillus fumigatus IgG</td>
</tr>
<tr>
<td>Aureobasidium pullulans IgG</td>
</tr>
<tr>
<td>Micropolyspora faeni IgG</td>
</tr>
<tr>
<td>Pigeon serum precipitating antibodies IgG</td>
</tr>
<tr>
<td>Thermoactinomyces sacchari IgG</td>
</tr>
<tr>
<td>Thermoactinomyces vulgaris IgG</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-5 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative</td>
</tr>
<tr>
<td>METHODOLOGY: Double Diffusion (Ouchterlony)</td>
</tr>
<tr>
<td>CLINICAL USE: Confirm the presence of precipitating antibodies associated with hypersensitivity pneumonitis</td>
</tr>
<tr>
<td>CPT: 86602 x2; 86606; 86331 x 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[PNEUG] PNEUMOCCOCCAL IGG VAC RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.25 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: Serotypes 4, 14, 19, 23, 26, 56 and 68 found in the 23-valent vaccine</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 3-7 days</td>
</tr>
<tr>
<td>METHODOLOGY: Fluorescence immunoassay (FIA)</td>
</tr>
<tr>
<td>CPT: 86609 x 7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[PNEUMOPCR] PNEUMOCYSTIS &amp; FUNGAL PCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Fresh frozen tissue, paraffin embedded tissue, lower respiratory or sterile body fluid</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile container</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-10 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Not detected</td>
</tr>
<tr>
<td>METHODOLOGY: Real-time Polymerase Chain Reaction (RT-PCR)</td>
</tr>
<tr>
<td>CPT: 83891, 83894, 83896, 83898 x 6, 83907, 89312</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[PNHFLOW] PNH PROFILE BY FLOW CYTOMETRY</th>
</tr>
</thead>
</table>
SPECIMEN REQUIRED: Refrigerated whole blood  
TUBE OR CONTAINER: Dark Green (heparin) or Lavender (EDTA)  
SPECIAL HANDLING: Specimen must be received in laboratory by  
1:30 pm, Monday-Friday only  
Specimen must arrive at performing lab within  
48 hours of collection  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 3 mL  
TEST INCLUDES: CD45, CD16, CD24, CD15, CD14, CD64, and FLAER  
TEST AVAILABILITY: Monday-Friday  
TURNAROUND TIME: 2-3 days  
METHODOLOGY: Flow Cytometry  
REFLEX TEST INFORMATION: If positive, CD59 and Glycophorin A will be added at an additional charge  
CPT: 88184; 88185 x 6

[**POLIO**]  Polio Virus Antibody

SPECIMEN REQUIRED: Refrigerated serum  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-5 days  
REFERENCE RANGE: Negative: < 1:8  
METHODOLOGY: Complement Fixation (CF)  
CLINICAL USE: Support the diagnosis of poliovirus infection; document previous exposure or immunization  
CPT: 86658

[**POLIOCSF**]  AB POLIO TYPE 1-3 CSF

SPECIMEN REQUIRED: Refrigerated CSF  
TUBE OR CONTAINER: Sterile container  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.4 mL  
TEST INCLUDES: Polio antibodies Type 1-3  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 7-10 days  
REFERENCE RANGE: < 1:10  
METHODOLOGY: Serum Neutralization Assay  
CPT: 86658 x3

[**POLYOL**]  URINARY POLYOLS

SPECIMEN REQUIRED: Frozen urine (random)  
TUBE OR CONTAINER: Sterile urine container  
SPECIMEN VOLUME: 3 mL  
MINIMUM VOLUME: 2 mL  
TEST INCLUDES: Quantitative analysis of erythritol, xylitol, arabitol, ribitol and galactitol  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 4-8 days
REFERENCE RANGE: Erythritol: 55 - 192 mmoles/mole creatinine
Xylitol: 5 - 49 mmoles/mole creatinine
Ribitol: 8 - 24 mmoles/mole creatinine
Arabitol: 32 - 88 mmoles/mole creatinine
Galactitol: 3 - 81 mmoles/mole creatinine
METHODOLOGY: Gas Chromatography/Mass Spectroscopy (GC/MS)
CPT: 82544; 82570

[POMPENZ]  Pompe Disease
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Must be received in lab by 1:30 pm
Monday-Thursday only
SPECIMEN VOLUME: 10 ml
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday

TURNAROUND TIME: 7-10 days
REFERENCE RANGE:
OTHER NAMES: Acid alpha-glucosidase deficiency
METHODOLOGY: Flurometric Enzyme Assay
REFLEX TEST INFORMATION:
CPT: 82657

[POR]  Plasma Total Porphyrins
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Gold or Red
SPECIAL HANDLING: Protect specimen from light
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-8 days
REFERENCE RANGE: 0-15 nmol/L
METHODOLOGY: Scanning Fluorometry
CLINICAL USE: Aid in diagnosis of hereditary coproporphyria,
variegate porphyria
CPT: 84311

[PORDEF]  POR GENE-P450 OXIDOREDUCT DEF
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8-10 weeks
OTHER NAMES: POR Deficiency; Congenital adrenal hyperplasia
with combined P450C17 & P450C21 deficiencies
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891 x 12; 83892 x 4; 83894 x 12; 83898 x 24; 83904 x 24; 83912
## Urine Random Porphobilinogen

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Frozen urine (random)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Plastic urine container</td>
</tr>
<tr>
<td>SPECIAL HANDLING: No preservative required unless ordered with Delta ALA, then specimen must be acidified with 0.5 mL 30% glacial acetic acid; Protect specimen from light</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 10 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.0-2.0 mg/L</td>
</tr>
<tr>
<td>METHODOLOGY: Chromatography/spectrophotometry</td>
</tr>
<tr>
<td>CLINICAL USE: Detect porphyrias and porphyrinurias</td>
</tr>
<tr>
<td>CPT: 84110</td>
</tr>
</tbody>
</table>

## Ur Porphobilinogen Timed

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Frozen urine (24 hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Plastic urine container</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Collect in &quot;A&quot; container (30 mL of 33% glacial acetic acid); refrigerate specimen during collection; aliquot and FREEZE immediately; protect specimen from light</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 10 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.0-1.5 mg/24 hours</td>
</tr>
<tr>
<td>METHODOLOGY: Ion-exchange chromatography/spectrophotometry</td>
</tr>
<tr>
<td>CLINICAL USE: Initial test for acute intermittent porphyria</td>
</tr>
<tr>
<td>CPT: 84110</td>
</tr>
</tbody>
</table>

## Porphyrs Urine Random

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated random urine</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Plastic urine container</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Protect specimen from light</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1.5 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: Coproporphyrins, uroporphyrins, heptacarboxylporphyrins, hexacarboxylporphyrins</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-5 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Coproporphyrin I: 0-15 g/L Coproporphyrin III: 0-49 g/L Heptacarboxylporphyrins: 0-2 g/L Hexacarboxylporphyrins: 0-1 g/L Pentacarboxylporphyrins: 0-2 g/L Uroporphyrins: 0-20 g/L</td>
</tr>
<tr>
<td>OTHER NAMES: Coproporphyrin; Uroporphyrin</td>
</tr>
<tr>
<td>METHODOLOGY: High-pressure liquid chromatography (HPLC) with</td>
</tr>
</tbody>
</table>
fluorometric detection
CLINICAL USE: Evaluate porphyrias, including those involving deficiencies of enzymes which are needed for heme synthesis and chemical porphurias
CPT: 84120

**[PORPP] PLASMA PORPHYRINS (U of TX)**

**[PORPRBC] PORPHYRINS RBC**

SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Dark Green (heparin)
SPECIAL HANDLING: Place specimen on ice immediately after collection:
If cells are to be washed at Mayo (Mon- Thur only), LabCorp must ship refrigerated whole blood sample direct to Mayo to ensure sample arrives within 48 hours of collection. If unable to ship within 24 hours of collection, please order PORPRBCW and send washed RBC's.
SPECIMEN VOLUME: 5 mL (whole blood)
MINIMUM VOLUME: 3 mL (whole blood)
TEST INCLUDES: Total porphyrins represented mostly by protoporphyrins and zinc protoporphyrins. Includes any coproporphyrins and uroporphyrins if present.
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 3-4 days
REFERENCE RANGE: < 80 mcg/dL packed cells
METHODOLOGY: Spectrofluorometric
REFLEX TEST INFORMATION: If the total RBC porphyrin value is >80 mcg/dL, additional testing (fractionation assays) will be performed at an additional charge
CLINICAL USE: Aid in diagnosis of porphyrias
CPT: 84311

**[PORPRBCW] PORPHYRINS RBC (WASHED)**

SPECIMEN REQUIRED: Frozen washed RBC's
TUBE OR CONTAINER: Dark Green (heparin)
SPECIAL HANDLING: Place specimen on ice immediately after collection:
Special processing must be performed by lab to properly wash the cells.
SPECIMEN VOLUME: 5 mL (washed cells)
MINIMUM VOLUME: 1 mL (washed cells)
TEST INCLUDES: Total porphyrins represented mostly by protoporphyrins and zinc protoporphyrins. Includes any coproporphyrins and uroporphyrins if present.
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 days
REFERENCE RANGE: < 80 mcg/dL packed cells
METHODOLOGY: Spectrofluorometric
REFLEX TEST INFORMATION: If the total RBC porphyrin value is >80 mcg/dL, additional testing (fractionation assays) will be performed at an additional charge
CLINICAL USE: Aid in diagnosis of porphyrias
CPT: 84311

[PORQT] UR PORPHYRINS QUANT
SPECIMEN REQUIRED: Refrigerated aliquot of 24-hour urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect 24-hour urine in container "P" (no preservative); refrigerate during collection; Protect specimen from light
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1.5 mL
TEST INCLUDES: Coproporphyrins, uroporphyrins, heptacarboxyly-porphyrins, pentacarboxylporphyrins, hexacarboxylporphyrins
TEST AVAILABILITY: Daily
METHODOLOGY: High-pressure liquid chromatography (HPLC) with fluorometric detection
CLINICAL USE: Evaluate porphyrias, including those involving deficiencies of enzymes which are needed for heme synthesis and chemical porphurias
CPT: 84120

[PORSTL] PORPHYRINS FECES
SPECIMEN REQUIRED: Frozen stool (random)
TUBE OR CONTAINER: Plastic container
SPECIAL HANDLING: Protect specimen from light
SPECIMEN VOLUME: 5 gram
MINIMUM VOLUME: 2 gram
TEST INCLUDES: Coproporphyrin and Protoporphyrin
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-10 days
REFERENCE RANGE: Coproporphyrin 0-45 nmol/g dry weight
Protoporphyrin 0-100 nmol/g dry weight
METHODOLOGY: High Performance Liquid Chromatography (HPLC)
CPT: 84126

[POSAC] POSACONAZOLE LEVEL
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red or Dark Green (heparin)
SPECIAL HANDLING: Separate serum/plasma from cells within 2 hours of collection; Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 2 ml
MINIMUM VOLUME: 1 ml
TEST AVAILABILITY: Daily
OTHER NAMES: Noxafil
METHODOLOGY: High-pressure liquid chromatography (HPLC)
CLINICAL USE: Monitor therapeutic values and assess toxicity
CPT: 80299

**[PR3AB] Anti-Proteinase 3 (c-ANCA)**

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 0.6 ml
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: 0.0 - 3.5 units/mL
OTHER NAMES: Antiproteinase 3 (PR3) antibodies
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Diagnosis and monitoring inflammatory activity in primary systemic small vessel vasculitides
CPT: 86021

**[PREALB] Prealbumin**

SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIAL HANDLING: Sample should be removed from clot as soon as possible and refrigerated
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 180-357 mg/L
OTHER NAMES: Transthyretin; Thyroxine-binding prealbumin (TBPA)
Trytophan-rich prealbumin
METHODOLOGY: Turbidimetric
CLINICAL USE: Evaluate protein malnutrition, total parenteral nutrition and liver dysfunction
CPT: 84134

**[PRED] Prednisone Level**

SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIAL HANDLING: Separate and freeze as soon as possible
SPECIMEN: VOLUME 3 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: Monitor therapeutic drug level
CPT: 80299

**[PREGAB] Pregabalin (Lyrica) Level**

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Dark Green (heparin)
SPECIMEN: VOLUME 1 mL
**[PREGNEN] Pregnenolone**  
SPECIMEN REQUIRED: Frozen serum (preferred) or plasma  
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)  
SPECIAL HANDLING: Separate within 1 hour of collection  
SPECIMEN VOLUME: 2.5 mL  
MINIMUM VOLUME: 1.1 mL (this volume does not allow for repeat testing)  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-7 days  
REFERENCE RANGE: Age-specific  
METHODOLOGY: Radioimmunoassay (RIA) after column chromatography  
CPT: 84140

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**[PREGTM] PREGNANETRIOL TIMED URINE**  
SPECIMEN REQUIRED: Frozen aliquot (24 hour urine collection)  
TUBE OR CONTAINER: Plastic urine container  
SPECIAL HANDLING: Aliquot a well-mixed 24-hour urine; add boric acid (0.5 gm/100 mL) as preservative  
SPECIMEN VOLUME: 50 mL  
MINIMUM VOLUME: 10 mL  
TEST INCLUDES: Pregnanetriol; Creatinine and ratio  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 6-36 days  
REFERENCE RANGE: Age specific  
METHODOLOGY: Gas chromatography (GC), Colorimetric  
CLINICAL USE: Pregnanetriol is increased in congenital adrenal hyperplasia, in the most common form of the adrenogenital syndrome, 21-hydroxylase deficiency  
CPT: 82570, 84138

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**[PREKAL] Prekallikrein Factor Activity**  
SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Blue (Citrate)  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-8 days  
REFERENCE RANGE: 65-135 %  
OTHER NAMES: Fletcher Factor  
METHODOLOGY: Clotting time assay  
CPT: 85292
### PRIMIDONE/PHENOBARBITAL

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Required</td>
<td>Refrigerated serum or plasma</td>
</tr>
<tr>
<td>Tube or Container</td>
<td>Red or Dark Green (heparin)</td>
</tr>
<tr>
<td>Special Handling</td>
<td>Collect specimen immediately prior to next dose</td>
</tr>
<tr>
<td>Specimen Volume</td>
<td>1 ml</td>
</tr>
<tr>
<td>Minimum Volume</td>
<td>0.3 ml</td>
</tr>
<tr>
<td>Test Includes</td>
<td>Phenobarbital &amp; Primidone</td>
</tr>
<tr>
<td>Test Availability</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time</td>
<td>48 hours</td>
</tr>
<tr>
<td>Reference Range</td>
<td>Therapeutic: Primidone: 5.0-12.0 ug/mL</td>
</tr>
<tr>
<td>Other Names</td>
<td>Mysoline; Myidone</td>
</tr>
<tr>
<td>Methodology</td>
<td>Immunoassay</td>
</tr>
<tr>
<td>Clinical Use</td>
<td>Monitor therapeutic values and assess toxicity</td>
</tr>
<tr>
<td>CPT</td>
<td>80184; 80188</td>
</tr>
</tbody>
</table>

### PRKAR1A | PRKAR1A IN CARNEY COMPLEX

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Required</td>
<td>Whole blood at room temperature</td>
</tr>
<tr>
<td>Tube or Container</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>Specimen Volume</td>
<td>5 mL</td>
</tr>
<tr>
<td>Minimum Volume</td>
<td>1 mL</td>
</tr>
<tr>
<td>Test Availability</td>
<td>Monday-Friday</td>
</tr>
<tr>
<td>Methodology</td>
<td>Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT</td>
<td>83891 x 2; 83892 x 2; 83894 x 2; 83898 x 2; 83904 x 4; 83912</td>
</tr>
</tbody>
</table>

### PROBNP | NT-Pro-B-Type Natriuretic Peptide

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Required</td>
<td>Frozen serum or plasma</td>
</tr>
<tr>
<td>Tube or Container</td>
<td>Red, Gold or Green (Heparin)</td>
</tr>
<tr>
<td>Special Handling</td>
<td>Separate cells from serum or plasma ASAP</td>
</tr>
<tr>
<td>Specimen Volume</td>
<td>1.5 mL</td>
</tr>
<tr>
<td>Minimum Volume</td>
<td>0.7 mL</td>
</tr>
<tr>
<td>Test Availability</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time</td>
<td>2-5 days</td>
</tr>
<tr>
<td>Methodology</td>
<td>Electrochemiluminescent Immunoassay</td>
</tr>
<tr>
<td>Clinical Use</td>
<td>Support a diagnosis of congestive heart failure (CHF)</td>
</tr>
<tr>
<td>CPT</td>
<td>83880</td>
</tr>
</tbody>
</table>

### PROCALC | Procalcitonin

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Required</td>
<td>Frozen serum</td>
</tr>
<tr>
<td>Tube or Container</td>
<td>Red or Gold</td>
</tr>
<tr>
<td>Specimen Volume</td>
<td>1 mL</td>
</tr>
<tr>
<td>Minimum Volume</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>Test Availability</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time</td>
<td>2-3 days</td>
</tr>
<tr>
<td>Reference Range</td>
<td>&lt; 0.10 ng/mL</td>
</tr>
<tr>
<td>Methodology</td>
<td>Enzyme-linked Immunosorbent Assay (ELISA)</td>
</tr>
</tbody>
</table>
CLINICAL USE: Elevated values may be consistent with systemic inflammatory response or localized bacterial infection
CPT: 82397

**[PROCNAPA] PROCAINAMIDE/NAPA**

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Dark Green (heparin)
SPECIAL HANDLING: Oral treatment: Peak: 75 minutes after dose; Trough: immediately before next dose
IV treatment: immediately after loading dose
Do NOT collect specimen in gel tube
SPECIMEN VOLUME: 1 ml
MINIMUM VOLUME: 0.3 ml
TEST INCLUDES: Procainamide and N-acetyl procainamide (NAPA)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 days
REFERENCE RANGE: Therapeutic: Procainamide: 4.0-10.0 g/mL
Procainamide + NAPA: 10-30.0 g/mL
OTHER NAMES: Pronestyl
METHODOLOGY: Immunoassay
CLINICAL USE: Monitor therapeutic drug level
CPT: 80192

**[PROCR] Activated Protein C Resistance**

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 0.8 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-7 days
REFERENCE RANGE: > 2.0
OTHER NAMES: APC
METHODOLOGY: Clot
CLINICAL USE: Resistance to APC is, to date, the most common cause of inherited thrombophilia and is demonstrated in 20-60% of patients with recurrent venous thrombosis
CPT: 85307

**[PROG] Progesterone Level**

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.3 mL
PEDIATRIC TEST INFO: Order PEDPROGEST for pediatric testing to be performed by Esoterix
TURNAROUND TIME: 48 hours
REFERENCE RANGE: Age-specific
METHODOLOGY: Chemiluminescence
CLINICAL USE: Establish presence of a functioning corpus luteum or luteal cell function; assess placental function during pregnancy, ovarian function test
CPT: 84144

[PROINS] Proinsulin
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
REFERENCE RANGE: 0.0 - 9.4 pmol/L
METHODOLOGY: Enzyme immunoassay (EIA)
CPT: 84206

[PROLAC] Prolactin
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
PEDIATRIC TEST INFO: Order PEDPROLAC for pediatric testing to be performed by Esoterix
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Female: 1.2-29.9 ng/mL
Male: 2.6-18.1 ng/mL
METHODOLOGY: Chemiluminescence
CLINICAL USE: Pituitary function test
CPT: 84146

[PROLEAD] PROTOPORPHYRIN & LEAD PROFILE
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Lead, blood; protoporphyrin, free erythrocyte; and zinc protoporphyrin
TEST AVAILABILITY: Daily
METHODOLOGY: Lead: Atomic absorption spectrometry (AAS)
ZPP: Fluorometry
CLINICAL USE: Monitor lead exposure
**[PROMETH] Promethazine (Phenergan) Level**

SPECIMEN REQUIRED: Serum or plasma at room temperature or refrigerated

TUBE OR CONTAINER: Red or Dark green (heparin)

SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube

SPECIMEN VOLUME: 3 mL

MINIMUM VOLUME: 0.6 mL

TEST AVAILABILITY: Daily

TURNAROUND TIME: 7-9 days

REFERENCE RANGE: < 150 ng/mL

METHODOLOGY: Gas Chromatography/Nitrogen Phosphorus Detection (GC-NPD)

CLINICAL USE: Therapeutic drug monitoring

CPT: 80299

**[PROPGLY] Propylene Glycol Level**

SPECIMEN REQUIRED: Refrigerated serum or plasma

TUBE OR CONTAINER: Red or Lavender (EDTA)

SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube

SPECIMEN VOLUME: 2 mL

MINIMUM VOLUME: 0.7 mL

TEST AVAILABILITY: Daily

TURNAROUND TIME: 4-6 days

METHODOLOGY: Gas Chromatography (GC)

CLINICAL USE: Overexposure/Poisoning determination

CPT: 84600

**[PROSTE2U] Urine Prostaglandin E2**

SPECIMEN REQUIRED: Urine at room temperature or frozen (24-hour collection)

TUBE OR CONTAINER: Plastic urine container

SPECIAL HANDLING: Collect 24-hour urine in "P" container (no preservative)

SPECIMEN VOLUME: 10 mL

MINIMUM VOLUME: 1 mL

TEST AVAILABILITY: Daily

REFERENCE RANGE: 400 - 620 ng/24 hours

METHODOLOGY: Direct Radioimmunoassay

CPT: 84150

**[PROT] PROTOPORPHYRINS**

SPECIMEN REQUIRED: Whole blood at room temperature

TUBE OR CONTAINER: Lavender (EDTA)

SPECIMEN VOLUME: 7 mL

MINIMUM VOLUME: 0.3 mL

TEST INCLUDES: Zinc protoporphyrin and free erythrocyte protoporphyrin

TEST AVAILABILITY: Daily
REFERENCE RANGE: FEP, blood: environmental exposure:
adults: 0-100 g/dL
ZPP, blood: environmental exposure:
adults: 0-100 g/dL;
occupational exposure: BEI (sampling time
is after 1 month's exposure): 100 g/dL
METHODOLOGY: Fluorometry
CLINICAL USE: Monitor chronic industrial exposure to lead
CPT: 84202

[PROTAS]  Body Fluid Total Protein

SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Rate biuret
CLINICAL USE: Evaluate effusions; diagnose transudate versus exudate
CPT: 84157

[PROTCF]  Protein C Activity

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Patient should avoid coumadin therapy for 3 weeks prior to test
Draw 2 FULL citrate tubes; tube MUST be filled to the fill line to ensure proper anti-
coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 2 full tubes
Testing specimen: 2 transport tubes with 1 ml plasma each
MINIMUM VOLUME: 1 full tube
Testing specimen: 2 transport tubes with 0.5 ml
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-7 days
REFERENCE RANGE: 70-160%
OTHER NAMES: Protein C, Functional; Functional Protein C
METHODOLOGY: Clot
REFLEX TEST INFORMATION: Protein C antigen will be reflexed at an additional charge, if activity is below normal
CLINICAL USE: Aid in diagnosis of patients at risk of venous thromboembolic disease
CPT: 85303
**[PROTCREA] Urinary Protein/Creatinine Ratio**

- **Specimen Required:** Refrigerated random urine
- **Tube or Container:** Plastic urine container
- **Specimen Volume:** 10 mL
- **Minimum Volume:** 2 mL
- **Test Includes:** Random protein; random creatinine and protein:creatinine ratio
- **Test Availability:** Daily
- **Turnaround Time:** 8 hours
- **Reference Range:** None established
- **Methodology:** Jaffe rate and Molybdate endpoint
- **CPT:** 84156; 82570

**[PROTCSF] CSF Total Protein**

- **Specimen Required:** Refrigerated CSF
- **Tube or Container:** Sterile container
- **Specimen Volume:** 1 mL
- **Minimum Volume:** 0.5 mL
- **Test Availability:** Daily
- **Turnaround Time:** 8 hours
- **Reference Range:**
  - 0-1 month: 20-120 mg/dL
  - > 1 month: 15-45 mg/dL
- **Methodology:** Rate biuret
- **Clinical Use:** A nonspecific but reliable indication of CNS pathology such as meningitis, brain abscess, neoplastic disease, and multiple sclerosis
- **CPT:** 84157

**[PROTDIP] Urine Protein**

**[PROTFL] Body Fluid Total Protein**

- **Specimen Required:** Refrigerated body fluid
- **Tube or Container:** Sterile container
- **Special Handling:** Specify source of fluid
- **Specimen Volume:** 1 mL
- **Minimum Volume:** 0.5 mL
- **Test Availability:** Daily
- **Turnaround Time:** 8 hours
- **Reference Range:** None established
- **Methodology:** Rate biuret
- **CPT:** 84157

**[PROTPC] Pericardial Fluid Total Protein**

- **Specimen Required:** Refrigerated fluid
- **Tube or Container:** Sterile container
- **Specimen Volume:** 1 mL
- **Minimum Volume:** 0.5 mL
- **Test Availability:** Daily
- **Turnaround Time:** 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Rate biuret
CLINICAL USE: Evaluate effusions; diagnose transudate versus exudate
CPT: 84157

**[PROTPL] Pleural Fluid Total Protein**

SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Rate biuret
CLINICAL USE: Evaluate effusions; diagnose transudate versus exudate
CPT: 84157

**[PROTPT] Peritoneal Fluid Total Protein**

SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Rate biuret
CLINICAL USE: Evaluate effusions; diagnose transudate versus exudate
CPT: 84157

**[PROTRAN] Urine Random Total Protein**

SPECIMEN REQUIRED: Refrigerated random urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: First morning specimen is preferred
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Molybdate endpoint
CPT: 84145

**[PROTSFUN] Protein S Activity**

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Patient should avoid coumadin therapy for 2 weeks & avoid heparin for 2 days prior to test
Draw 2 FULL citrate tubes; tube MUST be filled
to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 2 full tubes
Testing specimen: 2 transport tubes with 1 ml plasma each
MINIMUM VOLUME: 1 full tube
Testing specimen: 2 transport tubes with 0.5 ml
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-7 days
REFERENCE RANGE: 65-150 %
OTHER NAMES: Functional Protein S
METHODOLOGY: Clot
REFLEX TEST INFORMATION: Protein S Antigen (free & total) will be reflexed at an additional charge, if the activity result is below normal
CLINICAL USE: Aid in diagnosis of patients at risk of venous thromboembolic disease
CPT: 85306

**[PROTSY] Synovial Fluid Total Protein**

SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Rate biuret
CLINICAL USE: Evaluate effusions; diagnose transudate versus exudate
CPT: 84157

**[PROTTM] UR PROTEIN TIMED**

SPECIMEN REQUIRED: Refrigerated aliquot of 24-hour urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect 24-hour urine in "P" container (no preservative)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 10.0-100.0 mg/24 hours
METHODOLOGY: Molybdate endpoint
CLINICAL USE: Evaluate proteinuria, renal diseases, and nephrotic syndromes
CPT: 84156
### [PS1] ADMARK PS-1 ANALYSIS

<table>
<thead>
<tr>
<th>Specimen Required</th>
<th>Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>Special Handling</td>
<td>Ship within 24 hours of collection; Monday-Thursday only</td>
</tr>
<tr>
<td>Specimen Volume</td>
<td>10 mL (2 tubes)</td>
</tr>
<tr>
<td>Minimum Volume</td>
<td>5 mL</td>
</tr>
<tr>
<td>Test Availability</td>
<td>Monday-Thursday</td>
</tr>
<tr>
<td>Turnaround Time</td>
<td>2-3 weeks</td>
</tr>
<tr>
<td>Methodology</td>
<td>Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT</td>
<td>83891 x 2; 83898 x 5; 83903; 83904 x 5; 83912</td>
</tr>
</tbody>
</table>

### [PSA] Prostate Specific Antigen Total

<table>
<thead>
<tr>
<th>Specimen Required</th>
<th>Refrigerated plasma or serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container</td>
<td>Light Green (heparin) or Gold</td>
</tr>
<tr>
<td>Specimen Volume</td>
<td>1 mL</td>
</tr>
<tr>
<td>Minimum Volume</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>Test Availability</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time</td>
<td>24 hours</td>
</tr>
<tr>
<td>Reference Range</td>
<td>0.0-4.0 ng/mL</td>
</tr>
<tr>
<td>Methodology</td>
<td>Chemiluminescence</td>
</tr>
<tr>
<td>Clinical Use</td>
<td>Most sensitive marker for monitoring patients with prostate cancer</td>
</tr>
<tr>
<td>CPT</td>
<td>84153</td>
</tr>
</tbody>
</table>

### [PSAF] AG Prostate Spec Free & Total

<table>
<thead>
<tr>
<th>Specimen Required</th>
<th>Frozen serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container</td>
<td>Red or gold</td>
</tr>
<tr>
<td>Special Handling</td>
<td>Specimens should not be drawn immediately after digital rectal examination (DRE), prostatic massage or transrectal ultrasound (TRUS). PSA sampling should not be performed for at least 6 weeks after prostatic biopsy</td>
</tr>
<tr>
<td>Specimen Volume</td>
<td>1 mL</td>
</tr>
<tr>
<td>Minimum Volume</td>
<td>0.3 mL</td>
</tr>
<tr>
<td>Test Includes</td>
<td>PSA total; PSA free and PSA % free</td>
</tr>
<tr>
<td>Test Availability</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time</td>
<td>2-4 days</td>
</tr>
<tr>
<td>Methodology</td>
<td>Enzyme immunoassay (EIA)</td>
</tr>
<tr>
<td>CPT</td>
<td>84153, 84154</td>
</tr>
</tbody>
</table>

### [PSAP] MLD VIA PSAP GENE SEQUENCING

<table>
<thead>
<tr>
<th>Specimen Required</th>
<th>Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>Specimen Volume</td>
<td>5 mL</td>
</tr>
<tr>
<td>Minimum Volume</td>
<td>2 mL</td>
</tr>
<tr>
<td>Test Availability</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Other Names</td>
<td>Metachromatic Leukodystrophy via PSAP Gene Sequencing</td>
</tr>
</tbody>
</table>
**METHODOLOGY: Polymerase Chain Reaction (PCR)**
CPT: 83890; 83891; 83894; 83898 x 14; 83904 x 14; 83912

<table>
<thead>
<tr>
<th><strong>[PSAS]</strong> Prostate Specific Antigen Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum or plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Light Green (heparin) or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 24 hours</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.0-4.0 ng/mL</td>
</tr>
<tr>
<td>METHODOLOGY: Chemiluminescence</td>
</tr>
<tr>
<td>CLINICAL USE: Used in annual prostate screening</td>
</tr>
<tr>
<td>CPT: G0103</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[PSEU]</strong> Pseudocholinesterase</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Must be centrifuged and separated immediately</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: 1000-3500 IU/L</td>
</tr>
<tr>
<td>METHODOLOGY: Spectrophotometry (Ellman) - kinetic</td>
</tr>
<tr>
<td>CLINICAL USE: Screen pre-operative patients for succinylcholine (suxamethonium) anesthetic sensitivity, genetic or secondary to insecticide exposure</td>
</tr>
<tr>
<td>CPT: 82480</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[PSEUDACH]</strong> PSEUDOACHONDROPLASIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 8 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 weeks (new patient)</td>
</tr>
<tr>
<td>METHODOLOGY: Bi-directional sequencing of exons 17B, 18A, and 19 to identify mutations in the COMP gene</td>
</tr>
<tr>
<td>CLINICAL USE: Confirmation of clinical diagnosis; Prenatal diagnosis</td>
</tr>
<tr>
<td>CPT: 83891 x 2; 83892 x 2; 83894 x 5; 83898 x 10; 83904 x 10; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[PT]</strong> PROTHROMBIN TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Blue (Citrate)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4</td>
</tr>
</tbody>
</table>
times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
It is essential to know if patient is on coumadin
Clotted specimens will be rejected
PT, PTT & Fibrinogen may be performed from one full tube
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST INCLUDES: Prothrombin Time and International Normalized Ratio (INR)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-4 hours
REFERENCE RANGE: PT: 10.0 - 13.4 seconds
OTHER NAMES: Protime; PT with INR
METHODOLOGY: Photo-optical clot detection
CLINICAL USE: Evaluate extrinsic coagulation system
CPT: 85610

[PTAB] ANTI-PROTHROMBIN IGG/IGM
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Gold, Red or Blue (Citrate)
SPECIAL HANDLING: Serum/plasma must be separated from cells within 45 minutes of collection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: anti-Prothrombin antibody IgG and IgM
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-7 days
REFERENCE RANGE: < 21 Units
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CPT: 0030T x 2

[PTCH] GORLIN SYNDROME VIA PTCH
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 weeks
OTHER NAMES: Basal Cell Nevus Syndrome (BCNS)
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891 x 26; 83892 x 4; 83894 x 24; 83898 x 48; 83904 x 48; 88386; 83912

[PTCH1] HOLOPROENCEPHALY-7 VIA PTCH1
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-5 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 23; 83904 x 23; 83912

**[PTEN] PTEN MUTATION: BRR OR COWDEN**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-8 weeks (new patient)
METHODOLOGY: Bi-directional sequence analysis
CLINICAL USE: Confirmation of clinical diagnosis; prenatal diagnosis; differentiation between X-linked and autosomal forms of the disease
CPT: 83890; 83900; 83901 x 21; 83903; 83904; 83909 x 30; 83912

**[PTENDD] PTEN DUPLICATION/DELETION**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891 x 3; 83892 x 2; 83894 x 2; 83898 x 2; 83904 x 4; 88386; 83912

**[PTENP] PTEN PROMOTER SEQUENCING**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891 x 2; 83892 x 2; 83894 x 2; 83898 x 2; 83904 x 4; 83912

**[PTFRAG] Prothrombin Fragment 1.2**

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube MUST be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-8 days
REFERENCE RANGE: 0.4 - 1.8 nm/L
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CLINICAL USE: Levels are elevated in patients with deep venous thrombosis, pulmonary embolism, disseminated intravascular coagulation, septicemia, pre-eclampsia, prothrombotic state, eclampsia & trauma
CPT: 83520

[PTH] PARATHYROID HORMONE (INTACT)
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Allow specimen to clot at room temperature; Separate and freeze within 3 hours of collection; Specimen will be rejected if not frozen within 3 hours
Fasting specimen recommended

SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
PEDIATRIC TEST INFO: Min: 1 full microtainer (1mL)
Opt: 2 full microtainers (2mL)
TEST INCLUDES: PTH and Calcium
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 1-4 days
REFERENCE RANGE: 0-17 years: 12-95 pg/mL
18 years +: 7-53 pg/mL
OTHER NAMES: PTH Intact; PTH Whole Molecule
METHODOLOGY: Immunochemiluminometric assay (ICMA)
CLINICAL USE: Differential diagnosis of hypercalcemia
CPT: 83970

[PTHAB] Anti-Parathyroid Hormone Antibody
SPECIMEN REQUIRED: Serum at room temperature
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Do NOT collect in a gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: REFERENCE RANGE:
METHODOLOGY:
CPT: 83519
<table>
<thead>
<tr>
<th><strong>Body Fluid Parathyroid Hormone</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen fine needle aspirate or body fluid</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile container</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Indicate source of specimen; specimen must be clear, not viscous or bloody</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-4 Days</td>
</tr>
<tr>
<td>METHODOLOGY: Electrochemiluminescent Immunoassay</td>
</tr>
<tr>
<td>CPT: 83970</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>PTPN11 SEQUENCING (NOONAN)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
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<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-5 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>PTPS DEFICIENCY</strong></th>
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</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Bi-directional sequence analysis</td>
</tr>
<tr>
<td>CPT: 83891 x 12; 83892 x 2; 83894 x 12; 83898 x 24; 83904 x 24; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Activated Partial Thromboplast Time</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Blue (Citrate)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Draw 1 FULL citrate tube; tube MUST be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting</td>
</tr>
<tr>
<td>Send to lab immediately or centrifuge and freeze plasma</td>
</tr>
<tr>
<td>It is essential to know if patient is on coumadin</td>
</tr>
<tr>
<td>Clotted specimens will be rejected</td>
</tr>
<tr>
<td>PT, PTT &amp; Fibrinogen may be performed from one full tube</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 full tube</td>
</tr>
<tr>
<td>Testing volume: 2 mL of PLASMA</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 full tube</td>
</tr>
</tbody>
</table>
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-4 hours
REFERENCE RANGE: 26.0-41.0 seconds
OTHER NAMES: aPTT-LA; aPTT, Lupus-Sensitive; Lupus-Sensitive aPTT
METHODOLOGY: Photo-optical clot detection
CLINICAL USE: Evaluation of intrinsic coagulation system; monitor heparin therapy
CPT: 85730

**[PTTMIX] PTT MIXING STUDY**

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
METHODOLOGY: Clot detection
CPT: 85730; 85732

**[PTVSEQ] PROTHROMBIN VARIANT SEQUENCING**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING: Refrigerate if > 1 day delay
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 ml
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 5-7 days
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Detects prothrombin 20209C>T mutation
CPT: 83890; 83898; 83904; 83909; 83912

**[PURKCSF] AB CSF PURKINJE CELL (YO)**

SPECIMEN REQUIRED: CSF at room temperature
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Freeze CSF if held longer than 5 days
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-8 days
REFERENCE RANGE: Negative
**METHODOLOGY:** Indirect Immunofluorescence (IFA)  
CPT: 86255

<table>
<thead>
<tr>
<th>[PURKP] AB PURKINJE CELL (YO) PROFILE</th>
</tr>
</thead>
</table>
| **SPECIMEN REQUIRED:** Refrigerated serum  
**TUBE OR CONTAINER:** Red or Gold  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-4 days  
**REFERENCE RANGE:** Negative  
**OTHER NAMES:** Yo antibody, PCA  
**METHODOLOGY:** Immunofluorescent antibody (IFA)  
**CLINICAL USE:** Useful in paraneoplastic degeneration, associated with breast and ovarian cancers  
CPT: 86255 |

<table>
<thead>
<tr>
<th>[PURPYRU] URINE PURINE &amp; PYRIMIDINE</th>
</tr>
</thead>
</table>
| **SPECIMEN REQUIRED:** Frozen urine (random)  
**TUBE OR CONTAINER:** Plastic urine container  
**SPECIMEN VOLUME:** 20 mL  
**MINIMUM VOLUME:** 3 mL  
**TEST INCLUDES:** Quantitation of Uracil, Uric acid, Hypoxanthine and Xanthine  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3-9 days  
**REFERENCE RANGE:** (reported in umol/mmol creatinine)  
0-2 yr 3-5 yr 6-11 yr > or = 12 yr  
Uracil 359-2644 185-1134 199-1034 49-692  
Uric Acid 359-2644 185-1134 199-1034 49-692  
Hypoxanthine 359-2644 185-1134 199-1034 49-692  
Xanthine 359-2644 185-1134 199-1034 49-692  
**METHODOLOGY:** Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)  
CPT: 83789 |

<table>
<thead>
<tr>
<th>[PVNH1] PERIVENTRICULAR HETEROTOP-FLNA</th>
</tr>
</thead>
</table>
| **SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST AVAILABILITY:** Daily  
**OTHER NAMES:** FLNA Gene  
**METHODOLOGY:** Polymerase chain reaction (PCR)  
CPT: 83890; 83894 x 56; 83898 x 56; 83904 x 62; 83912 |

<table>
<thead>
<tr>
<th>[PWS] PRADER-WILLI SYNDROME</th>
</tr>
</thead>
</table>
| **SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST AVAILABILITY:** Daily |
**[PYR5CSF] PYRIDOXAL 5'-PHOSPHATE CSF**

SPECIMEN REQUIRED: Frozen CSF  
TUBE OR CONTAINER: Transfer tube  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-3 weeks  
CPT: 84207

**[PYRU] Pyruvic Acid**

SPECIMEN REQUIRED: Whole blood on ice  
TUBE OR CONTAINER: Gray (Sodium fluoride) on ice  
SPECIAL HANDLING: Draw blood into chilled gray top tube from a fasting and resting patient; special processing to be performed by laboratory  
SPECIMEN VOLUME: 5 mL supernatant  
MINIMUM VOLUME: 0.2 mL supernatant  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2 days  
REFERENCE RANGE: 0.3-0.7 mg/dL  
OTHER NAMES: Pyruvate  
METHODOLOGY: Pyruvate-lactate spectrophotometry  
CLINICAL USE: Assess O2 derivation; provide index of the severity of circulatory failure  
CPT: 84210

**[PYRUK] Erythrocytes Pyruvate Kinase Assay**

SPECIMEN REQUIRED: Refrigerated whole blood  
TUBE OR CONTAINER: Lavender (EDTA), Dark Green (heparin) or Yellow (ACD)  
SPECIMEN VOLUME: 3 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-3 days  
REFERENCE RANGE: 9.0 - 22.0 U/g Hgb  
METHODOLOGY: Enzymatic  
CPT: 84220

**[PYRUVCSFP] PYRUVATE CSF PANEL**

SPECIMEN REQUIRED: Frozen CSF supernatant  
TUBE OR CONTAINER: Sterile screw-top tube  
SPECIAL HANDLING:  
SPECIMEN VOLUME: 2 mL supernatant  
MINIMUM VOLUME: 1 mL supernatant  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-3 days
**REFERENCE RANGE:** 0.060-0.190 mmol/L  
**METHODOLOGY:** Enzymatic  
**CPT:** 84210

### [QDPR] DHPR DEFICIENCY VIA QDPR GENE

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 1 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 4 weeks  
**OTHER NAMES:** Dihydropteridine Reductase (DHPR) deficiency; QDPR gene analysis  
**METHODOLOGY:** Polymerase chain reaction (PCR)  
**CPT:** 83891 x 7; 83892 x 2; 83894 x 7; 83898 x 14; 83904 x 14; 83912

### [QFEV] Q FEVER TITER

**SPECIMEN REQUIRED:** Serum at room temperature  
**TUBE OR CONTAINER:** Red or Gold  
**SPECIMEN VOLUME:** 0.4 mL  
**MINIMUM VOLUME:** 0.2 mL  
**TEST INCLUDES:** Titer of both Phase I and Phase II responses  
**TEST AVAILABILITY:** Daily  
**REFERENCE RANGE:** Negative: < 1:16  
**OTHER NAMES:** Coxiella burnetii Antibodies  
**METHODOLOGY:** Indirect fluorescent antibody (IFA)  
**CLINICAL USE:** Aid in the differential diagnosis for Q fever  
**CPT:** 86638

### [QFT] QUANTIFERON

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** QuantiFERON collection kit- three special QuantiFERON collection tubes (one each): (1) gray-top (with white ring), uncoated (nil); (2) red-top (with white ring), TB antigen-coated; (3) purple-top (with white ring), mitogen-coated  
**SPECIAL HANDLING:** Schedule testing with laboratory to ensure proper collection; Incubate samples within 16 hours of collection - standing upright at 37C for 16-24 hours or overnight; after incubation, Label tubes as "INCUBATED" and place in referral room temperature rack  
**SPECIMEN VOLUME:** 1 mL x 3 tubes  
**MINIMUM VOLUME:** 0.8 mL x 3 tubes  
**TEST AVAILABILITY:** Monday-Thursday  
**TURNAROUND TIME:** 5-8 days  
**METHODOLOGY:** Mycobacterium tuberculosis antigen-stimulated
interferon-gamma production with detection by enzyme-linked immunosorbent assay (ELISA)
Test includes PHA (positive) and nil (negative) controls
CLINICAL USE: Aid in the diagnosis of both latent and active infection with Mycobacterium tuberculosis
CPT: 86480

### [QUET] Quetiapine (Seroquel) Level

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Serum or plasma at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Red or Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING:</td>
<td>Do NOT collect specimen in gel barrier tube</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>5-8 days</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Gas Chromatography (GC)</td>
</tr>
<tr>
<td>CLINICAL USE:</td>
<td>Therapeutic drug monitoring</td>
</tr>
<tr>
<td>CPT:</td>
<td>80299</td>
</tr>
</tbody>
</table>

### [QUIN] Quinidine Level

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Refrigerated serum or plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Red or Dark green (heparin)</td>
</tr>
<tr>
<td>SPECIAL HANDLING:</td>
<td>Do NOT collect in gel barrier tube</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>0.3 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>1-2 days</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>Therapeutic: 2.0 - 5.0 ug/mL</td>
</tr>
<tr>
<td></td>
<td>Potentially toxic: &gt; 5.0 ug/mL</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Immunoassay</td>
</tr>
<tr>
<td>CLINICAL USE:</td>
<td>Therapeutic monitoring and toxicity assessment</td>
</tr>
<tr>
<td>CPT:</td>
<td>80194</td>
</tr>
</tbody>
</table>

### [RA] Rheumatoid Factor Screen

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED:</th>
<th>Serum or plasma at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER:</td>
<td>Red, Gold or Lavender (EDTA)</td>
</tr>
<tr>
<td>CAUSE FOR REJECTION:</td>
<td>Not refrigerated within 8 hours. Not plasma or serum</td>
</tr>
<tr>
<td>SPECIMEN VOLUME:</td>
<td>1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME:</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY:</td>
<td>Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
<td>2-3 days</td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td>Negative: &lt; 14.0 IU/mL</td>
</tr>
<tr>
<td>OTHER NAMES:</td>
<td>Rheumatoid Arthritis Factor; RF Titer</td>
</tr>
<tr>
<td>METHODOLOGY:</td>
<td>Turbidimetric</td>
</tr>
<tr>
<td>CLINICAL USE:</td>
<td>Differential diagnosis and prognosis of rheumatoid arthritis and related entities</td>
</tr>
<tr>
<td>CPT:</td>
<td>86431</td>
</tr>
</tbody>
</table>
**RAB27A** RAB27A GENE (FHL) GRISCELLI

SPECIMEN REQUIRED: Room temperature whole blood  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 6 mL  
MINIMUM VOLUME: 3 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 1 month  
OTHER NAMES: Griscelli Syndrome  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83890; 83891 x 10; 83894 x 7; 83898 x 5; 83904 x 12; 83909 x 12; 83912

**RABAB** Rabies Virus Antibody

SPECIMEN REQUIRED: Frozen serum  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 7-10 days  
METHODOLOGY: Enzyme-linked Immunosorbent assay (ELISA)  
CPT: 86382

**RAF1** NOONAN/LEOPARD (RAF1 GENE)

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 4-5 weeks  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83890; 83900; 83901 x 2; 83904 x 2; 83909; 83912

**RAFL** Body Fluid Rheumatoid Factor Screen

SPECIMEN REQUIRED: Refrigerated or frozen body fluid  
TUBE OR CONTAINER: Plastic tube  
SPECIAL HANDLING: Indicate source of fluid  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 1-3 days  
REFERENCE RANGE: < 1:5  
METHODOLOGY: Latex Agglutination  
CPT: 86431

**RAJI** Immune Complex Detection -Raji Cell

SPECIMEN REQUIRED: Frozen serum or plasma  
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)  
SPECIAL HANDLING: Freeze @ -70C within six hours of collection  
SPECIMEN VOLUME: 1 mL
<table>
<thead>
<tr>
<th>Test Code</th>
<th>Test Name</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAM</td>
<td>Rheumatoid Factor IgM Antibody</td>
<td>Serum at room temperature</td>
<td>Red or Gold</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>Daily</td>
<td>3-5 days</td>
<td>Negative: Enzyme immunoassay (EIA)</td>
</tr>
<tr>
<td>RAPSN</td>
<td>CONGENITAL MYASTHENIC (RAPSN)</td>
<td>Whole blood at room temperature</td>
<td>Lavender (EDTA) or Yellow (ACD)</td>
<td>5 mL</td>
<td>2 mL</td>
<td>Daily</td>
<td>3-4 weeks</td>
<td>Rapsyn-related Disorders via RAPSN gene, Congenital Myasthenic Syndromes</td>
</tr>
<tr>
<td>RASA1</td>
<td>PARKES WEBER SYNDROME (RASA1)</td>
<td>Whole blood at room temperature</td>
<td>Lavender (EDTA)</td>
<td>3 mL</td>
<td>1 mL</td>
<td>Monday-Thursday</td>
<td>3-4 weeks</td>
<td>Polymerase chain reaction (PCR)</td>
</tr>
<tr>
<td>RAST7</td>
<td>ALLERGEN SOUTHWEST PANEL</td>
<td>Refrigerated serum</td>
<td>Red or Gold</td>
<td>5 mL</td>
<td>3 mL (this volume will not allow for repeat testing)</td>
<td>Daily</td>
<td>3-7 days</td>
<td>30 allergens native to Arkansas, Eastern New Mexico, Northern Louisiana, Oklahoma &amp; Texas</td>
</tr>
</tbody>
</table>
REFERENCE RANGE: Negative (for each allergen)
METHODOLOGY: Quantitative allergen-specific IgE test
CLINICAL USE: Detect possible allergic responses to various substances in the environment
CPT: 86003 x 30

<table>
<thead>
<tr>
<th>Reference Code</th>
<th>Allergen Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[RASTASP]</td>
<td>Aspergillus fumigatus Allergen</td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL (this volume does not allow for repeat testing)</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative</td>
<td></td>
</tr>
<tr>
<td>Methodology: Quantitative allergen-specific IgE test</td>
<td></td>
</tr>
<tr>
<td>CPT: 86003</td>
<td></td>
</tr>
<tr>
<td>[RASTBAN]</td>
<td>Banana Allergen (RAST)</td>
</tr>
<tr>
<td>[RASTBEEF]</td>
<td>Beef Allergen (RAST)</td>
</tr>
<tr>
<td>[RASTCAND]</td>
<td>Candida albicans Allergen IgE Ab</td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL (this volume does not allow for repeat testing)</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative</td>
<td></td>
</tr>
<tr>
<td>Methodology: Quantitative allergen-specific IgE test</td>
<td></td>
</tr>
<tr>
<td>CPT: 86003</td>
<td></td>
</tr>
<tr>
<td>[RASTCHOC]</td>
<td>Chocolate Allergen</td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-4 days</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE:</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Quantitative allergen-specific IgE test</td>
<td></td>
</tr>
<tr>
<td>CPT: 86003</td>
<td></td>
</tr>
<tr>
<td>[RASTCORN]</td>
<td>Corn Allergen (RAST)</td>
</tr>
<tr>
<td>[RASTFOOD]</td>
<td>ALLERGEN BASIC FOOD PANEL</td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
<td></td>
</tr>
</tbody>
</table>
MINIMUM VOLUME: 1 mL (this volume does not allow for repeat testing)
TEST INCLUDES: Allergen test for Milk-cow, Wheat, Peanut, Soybean, Egg-white and Codfish
TEST AVAILABILITY: Daily
REFERENCE RANGE: Negative for each allergen
METHODOLOGY: Quantitative allergen-specific IgE test
CLINICAL USE: Detect possible specific IgE-mediated responses to various foods
CPT: 86003 x 6

<table>
<thead>
<tr>
<th>RASTGLUT</th>
<th>Gluten Allergen</th>
</tr>
</thead>
<tbody>
<tr>
<td>RASTLAT</td>
<td>Latex Allergen</td>
</tr>
<tr>
<td></td>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
</tr>
<tr>
<td></td>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td></td>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td></td>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td></td>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td></td>
<td>TURNAROUND TIME: 1-3 days</td>
</tr>
<tr>
<td></td>
<td>REFERENCE RANGE: Negative</td>
</tr>
<tr>
<td></td>
<td>METHODOLOGY: Quantitative allergen-specific IgE test</td>
</tr>
<tr>
<td></td>
<td>CLINICAL USE: Detect sensitivity to latex</td>
</tr>
<tr>
<td></td>
<td>CPT: 86003</td>
</tr>
</tbody>
</table>

| RASTORAN | Orange Allergen |
| RASTPENICILG | Penicillin-G Allergen |
| RASTPENICILV | Penicillin-V Allergen |
| RASTPORK | Pork Allergen (RAST) |
| RASTRYE | RAST RYE |
| RASTSHR | RAST SHRIMP |
| RASTSTRAW | Strawberry Allergen (RAST) |
| RASTTOM | RAST TOMATO |
| RASY | Synovial Fluid Rheumatoid Factor |
|          | SPECIMEN REQUIRED: Refrigerated body fluid |
|          | TUBE OR CONTAINER: Clean plastic tube |
|          | SPECIMEN VOLUME: 1 mL |
|          | MINIMUM VOLUME: 0.5 mL |
|          | TEST AVAILABILITY: Daily |
|          | TURNAROUND TIME: 1-3 days |
REFERENCE RANGE: Negative: < 1:10
METHODOLOGY: Hemagglutination
CPT: 86431

**[RB1] RETINOBLASTOMA**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 8 mL
MINIMUM VOLUME: 4 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8-12 weeks (full mutation screen)
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 21; 83898 x 21; 83904 x 21; 83900; 83901 x 4; 83909; 83912

**[RBCPHEN] RBC PHENOTYPING**

**[RBCPLAS] RBC Plasmalogens**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1.5 mL
METHODOLOGY: Chromatography

**[RBCPROTO] RBC PROTOPORPHYRIN (U of TX)**

SPECIMEN REQUIRED: Frozen whole blood
TUBE OR CONTAINER: Dark green (heparin)
SPECIAL HANDLING: Freeze immediately after mixing. To avoid separation of red cells and plasma, place plastic tube on its side
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: RBC Protoporphyrin and Hematocrit
TEST AVAILABILITY: Daily
REFERENCE RANGE: 20 - 80 mcg/dL
CPT: 84202

**[RCDP1] RHIZOMELIC CHONDRODYSPL PUNCT**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Sequence analysis of select exons; Analyte, Enzyme assay
CPT: 83891; 83898 x 2; 83904 x 4; 83909 x 4; 83912

**[RDS-PRPH2] RETINITIS PIGMENTOSA-RDS/PRPH2**

SPECIMEN REQUIRED: Whole blood at room temperature
| **TUBE OR CONTAINER:** Lavender (EDTA) |
| **SPECIMEN VOLUME:** 5 mL |
| **MINIMUM VOLUME:** 3 mL |
| **TEST AVAILABILITY:** Daily |
| **TURNAROUND TIME:** 4 weeks |
| **OTHER NAMES:** Autosomal Dominant Retinitis Pigmentosa (adRP) |
| **METHODOLOGY:** Polymerase Chain Reaction (PCR) |
| **CPT:** 83891 x 5; 83892 x 2; 83894 x 5; 83898 x 5; 83904 x 10; 83912 |

| **[RECOVAB] ANTI-RECOVERIN AB (CAR)** |
| **SPECIMEN REQUIRED:** Refrigerated serum |
| **TUBE OR CONTAINER:** Red |
| **SPECIAL HANDLING:** Specimen must be received in Laboratory by 1:30 pm, Monday through Friday only |
| **SPECIMEN VOLUME:** 5 ml |
| **MINIMUM VOLUME:** 2 ml |
| **TEST AVAILABILITY:** Monday-Friday |
| **TURNAROUND TIME:** 7-14 days |
| **REFERENCE RANGE:** Negative |
| **OTHER NAMES:** Recombx CAR (Anti-Recoverin) Antibody Test; Cancer Associated Retinopathy |
| **METHODOLOGY:** Western Blot |
| **CPT:** 84182 |

| **[REDENZ] RED CELL ENZYME PANEL** |
| **SPECIMEN REQUIRED:** Refrigerated whole blood |
| **TUBE OR CONTAINER:** ACD (yellow) |
| **SPECIMEN VOLUME:** 10 mL |
| **MINIMUM VOLUME:** 5 mL |
| **TEST INCLUDES:** RBC enzyme, G-6-PD, Glucose phosphate isomerse, Pyruvate kinase; Glutathione (if necessary) and clinical consultation |
| **TEST AVAILABILITY:** Monday-Thursday |
| **TURNAROUND TIME:** 5-10 days |
| **OTHER NAMES:** RBC enzyme panel |
| **METHODOLOGY:** Kinetic Spectrophotometry (KS) |
| **CPT:** 82657 x 7; 82955; 84087; 84220; 82978 (if necessary) |

| **[REDU] Urine Reducing Substances** |
| **SPECIMEN REQUIRED:** Clean catch random urine |
| **TUBE OR CONTAINER:** Plastic urine container |
| **SPECIMEN VOLUME:** 3 mL |
| **MINIMUM VOLUME:** 1 mL |
| **TEST AVAILABILITY:** Daily |
| **TURNAROUND TIME:** 4 hours |
| **REFERENCE RANGE:** Negative |
| **METHODOLOGY:** Clinitest |
| **CPT:** 81005 |
### Renin Activity

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIAL HANDLING:** Patient's posture and time of collection should be noted  
Freeze immediately  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 1 mL  
**PEDIATRIC TEST INFO:** Order PEDREN for pediatric testing to be performed by Esoterix  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-3 days  
**REFERENCE RANGE:** Age specific  
**OTHER NAMES:** Plasma Renin Activity (PRA); PRA  
**METHODOLOGY:** Radioimmunoassay (RIA)  
**CLINICAL USE:** Aid in differential diagnosis of individuals with hypertension  
**CPT:** 84244

### Anti-Reticulin Antibody

**SPECIMEN REQUIRED:** Refrigerated serum or plasma  
**TUBE OR CONTAINER:** Red, Gold, Lavender (EDTA) or Green (heparin)  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-3 days  
**REFERENCE RANGE:** Negative: < 1:40  
**METHODOLOGY:** Indirect Fluorescent Antibody (IFA)  
**CLINICAL USE:** Detect antibodies associated with gluten enteropathies such as celiac disease  
**CPT:** 86256

### Retinol-Binding Protein

**SPECIMEN REQUIRED:** Frozen serum  
**TUBE OR CONTAINER:** Red or Gold  
**SPECIAL HANDLING:** Separate serum from cells within 45 minutes of venipuncture  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-5 days  
**REFERENCE RANGE:** 3-6 mg/dL  
**OTHER NAMES:** RBP4  
**METHODOLOGY:** Nephelometry  
**CPT:** 83883

### Reticulocyte Count

**SPECIMEN REQUIRED:** Whole blood at room temperature
<table>
<thead>
<tr>
<th>Test</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Methodology</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>[RET] RETT Syndrome</td>
<td>Whole blood at room temperature</td>
<td>Lavender (EDTA)</td>
<td>5 mL</td>
<td>2 mL</td>
<td>Daily</td>
<td>4-5 weeks</td>
<td>Polymerase chain reaction (PCR)</td>
<td>83890; 83900; 83901 x 11; 83904 x 2; 83909; 83912</td>
</tr>
<tr>
<td>[RFP] Renal Function Panel</td>
<td>Refrigerated plasma or serum</td>
<td>Light Green (heparin) or Gold</td>
<td>2 mL</td>
<td>0.8 mL</td>
<td>Daily</td>
<td>8 hours</td>
<td>See individual tests</td>
<td>80069</td>
</tr>
<tr>
<td>[R] RHC/c Genotyping</td>
<td>Whole blood and amniotic fluid at room temperature</td>
<td>Lavender (EDTA) and sterile container</td>
<td>10 mL (whole blood)</td>
<td>15 mL (amniotic fluid)</td>
<td>Daily</td>
<td>7-9 days</td>
<td>Allele-specific PCR</td>
<td>83891; 83894; 83898 x 2; 86905 x 2; 83912</td>
</tr>
<tr>
<td>[RHCE] RHCE Genotyping</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SPECIMEN REQUIRED: Amniotic fluid and whole blood at room temperature
TUBE OR CONTAINER: Sterile screw-cap tube and Lavender (EDTA)
SPECIMEN VOLUME: 15 mL (amniotic fluid)
10 mL (whole blood)
MINIMUM VOLUME: 7 mL (amniotic fluid)
5 mL (whole blood)
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 8-10 days
METHODOLOGY: Allele-specific polymerase chain reaction (PCR)
CPT: 83891; 83894; 83898 x 2; 86905 x 2; 83912

[RHDZYG] RhD ZYGOSITY

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 4-7 days
METHODOLOGY: Quantitative Fluorescent Gene Amplification
CPT: 83891; 83900; 83901; 83909; 83912

[RHE] RHE/e GENOTYPING

SPECIMEN REQUIRED: Whole blood and amniotic fluid at room temperature
TUBE OR CONTAINER: Lavender (EDTA) and sterile container
SPECIMEN VOLUME: 10 mL (whole blood)
15 mL (amniotic fluid)
MINIMUM VOLUME: 5 mL (whole blood)
7 mL (amniotic fluid)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-9 days
METHODOLOGY: Allele-specific PCR
CPT: 83891; 83894; 83898 x 2; 86905 x 2; 83912
<table>
<thead>
<tr>
<th>[RIBCSF] Ribosomal P Protein Antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Refrigerated CSF</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Sterile container</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 1 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 0.2 mL</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 3-5 days</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Enzyme immunoassay (EIA)</td>
</tr>
<tr>
<td><strong>CPT:</strong> 83516</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[RIBPAB] Ribosomal P Protein Antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Serum at room temperature (can be stored for up to 7 days refrigerated)</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Red or Gold</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 1 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 0.5 mL</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 2-6 days</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Multiplex flow immunoassay</td>
</tr>
<tr>
<td><strong>CPT:</strong> 86235</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[RICKDNA] Rickettsia rickettsii DNA (PCR)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Refrigerated whole blood</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 1 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 0.7 mL</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>TURNAROUND TIME:</strong> 2-4 days</td>
</tr>
<tr>
<td><strong>REFERENCE RANGE:</strong> Not Detected</td>
</tr>
<tr>
<td><strong>OTHER NAMES:</strong> Rickettsia rickettsii DNA by PCR</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Real-time Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td><strong>CLINICAL USE:</strong> Aid in the diagnosis of infection due to Rickettsia</td>
</tr>
<tr>
<td><strong>CPT:</strong> 87798</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[RISPER] Risperidone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIMEN REQUIRED:</strong> Serum or plasma at room temperature</td>
</tr>
<tr>
<td><strong>TUBE OR CONTAINER:</strong> Red or Dark green (heparin)</td>
</tr>
<tr>
<td><strong>SPECIAL HANDLING:</strong> Do NOT collect specimen in gel barrier tube</td>
</tr>
<tr>
<td><strong>SPECIMEN VOLUME:</strong> 3 mL</td>
</tr>
<tr>
<td><strong>MINIMUM VOLUME:</strong> 1.1 mL</td>
</tr>
<tr>
<td><strong>TEST INCLUDES:</strong> Risperidone, 9-Hydroxyrisperidone and total</td>
</tr>
<tr>
<td><strong>TEST AVAILABILITY:</strong> Daily</td>
</tr>
<tr>
<td><strong>OTHER NAMES:</strong> Risperdal</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> Liquid chromatography-mass spectrometry (LC-MS)</td>
</tr>
<tr>
<td><strong>CLINICAL USE:</strong> Therapeutic drug monitoring</td>
</tr>
<tr>
<td><strong>CPT:</strong> 80299</td>
</tr>
<tr>
<td><strong>METHODOLOGY:</strong> High Performance Liquid Chromatography (HPLC)</td>
</tr>
</tbody>
</table>

<p>| [RMSFCSF] CSF AB ROCKY MT FEVER IGG/IGM |</p>
<table>
<thead>
<tr>
<th>Test Name</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Reference Range</th>
<th>Methodology</th>
<th>Clinical Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMSF IgG and IgM</td>
<td>Refrigerated CSF</td>
<td>CSF tube</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>Daily</td>
<td>2-6 days</td>
<td>0.8 IV or less: Negative</td>
<td>Indirect Immunofluorescence Assay (IFA)</td>
<td>Establish the diagnosis of infection due to Rickettsia in the spotted fever group or in the typhus group</td>
</tr>
<tr>
<td>RNA Polymerase III IgG Antibody</td>
<td>Frozen serum</td>
<td>Gold or Red</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>Daily</td>
<td>2-9 days</td>
<td>Negative: 0-19 Units</td>
<td>Semi-Quantitative Enzyme-Linked Immunosorbent Assay (ELISA)</td>
<td>Evaluating patients suspected of having systemic sclerosis, when used in conjunction with centromere and Scl70 antibodies or provides diagnostic and prognostic information in patients with systemic sclerosis</td>
</tr>
<tr>
<td>Rickettsia IgG Ab (Rocky Mt Fever)</td>
<td>Serum at room temperature</td>
<td>Red or Gold</td>
<td>0.4 mL</td>
<td>0.2 mL</td>
<td>Daily</td>
<td>2-3 days</td>
<td>Negative: Present/past: 1:16-1:64 Recent: &gt;= 1:128</td>
<td>Enzyme immunoassay (EIA)</td>
<td>A positive IgG will reflex a titer by Indirect fluorescent antibody (IFA) at</td>
</tr>
</tbody>
</table>
no additional charge

CLINICAL USE: Establish the diagnosis of infection due to
Rickettsia in the spotted fever group or in the
typhus group
CPT: 86757

[ROCKYGM]  AB ROCKY MT FEVER IGG/IGM
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.8 mL
TEST INCLUDES: IgG and IgM antibodies
TURNAROUND TIME: 2 days
REFERENCE RANGE: IgG: Negative: < 1:16
IgM: Negative: < 9 units
OTHER NAMES: Rickettsia rickettsii
METHODOLOGY: Enzyme immunoassay (EIA)
REFLEX TEST INFORMATION: A positive IgG will reflex a titer by
Indirect fluorescent antibody (IFA) at
no additional charge
CLINICAL USE: Establish the diagnosis of infection due to
Rickettsia in the spotted fever group
CPT: 86757 x 2

[ROMK]  ROMK/BARTTER'S SYNDROME TYPE2
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83900; 83901 x 19; 83904 x 5; 83909 x 4; 83912

[RPGRIPI1]  JOUBERT/MECKEL-GRUBER(RPGRIPI1)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
OTHER NAMES: Joubert and Meckel-Gruber Syndromes via RPGRIPI1
gene sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 26; 83904 x 26; 83912

[RPR]  Rapid Plasma Reagin
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Gold, Red, Green (heparin) or Lavender (EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Nonreactive
OTHER NAMES: Nontreponemal Test; RPR; STS; Syphilis Serology
METHODOLOGY: Charcoal Flocculation
REFLEX TEST INFORMATION: Specimens with a reactive response will reflex a FTA Ab test at an additional charge
CLINICAL USE: Test for syphilis
CPT: 86592

[RRM2B] MYOPATHIC mtDNA DEPLET (RRM2B)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 month
OTHER NAMES: Myopathic mtDNA Depletion syndrome (RRM2B gene) sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 2; 83898 x 9; 83904 x 18; 83912

[RSVAB] Respiratory Syncytial Virus Ab
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 days
REFERENCE RANGE: Negative: OTHER NAMES: Respiratory Syncytial Virus antibody
METHODOLOGY: Complement fixation (CF)
CLINICAL USE: Aid in establishing the diagnosis of respiratory syncytial virus infection
CPT: 86756

[RUBEAB] Rubeola (Measles) IgG Antibody
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Gold or Red
SPECIAL HANDLING: Refrigerate at 2-8 degrees C for up to 5 days
Freeze at -20 degrees C for up to 2 months
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
PEDEATRIC TEST INFO: 0.5 ml; 1 Gold microtainer
TEST AVAILABILITY: Monday, Thursday
TURNAROUND TIME: 1-5 days
REFERENCE RANGE: Negative: Equivocal: 0.50-0.69
Positive: >0.69
OTHER NAMES: Measles antibodies
METHODOLOGY: Enzyme-linked Fluorescent Assay (ELFA)
CLINICAL USE: Determine immune status or aid in diagnosis of recent infection
CPT: 86765

[RUBELLAIGG] Rubella IgG Antibody
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Gold, Red or Light Green (heparin)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Negative: < 5
Equivocal: 5-9.9
Positive: >=10.0
OTHER NAMES: German Measles Antibody
METHODOLOGY: Chemiluminometric assay
CLINICAL USE: Recommended for immune status determination
CPT: 86762

[RUBEM] Rubeola (Measles) IgM Antibody
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 0.4 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: Negative: Borderline: 0.80 - 1.20 AU
Positive: >1.20 AU
OTHER NAMES: Measles antibody
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Demonstrate acute infection with measles virus; differential diagnosis of a pregnant female exposed to or presenting with a rash
CPT: 86765

[RUBGCSF] CSF Rubella IgG Antibody
SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: 5 IU/mL or less: Negative
5-9 IU/mL: Equivocal
10 IU/mL or greater: Positive
OTHER NAMES: German Measles Antibody
METHODOLOGY: Chemiluminescent Immunoassay
CPT: 86317
### [RUBMAB] Rubella IgM Antibody

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Serum at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative: &lt; 0.90</td>
</tr>
<tr>
<td>Equivocal: 0.90-1.10</td>
</tr>
<tr>
<td>Positive: &gt; 1.10</td>
</tr>
<tr>
<td>OTHER NAMES: German Measles Antibody</td>
</tr>
<tr>
<td>METHODOLOGY: Chemiluminescence</td>
</tr>
<tr>
<td>CPT: 86762</td>
</tr>
</tbody>
</table>

### [RUBMCSF] CSF Rubella IgM Antibody

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated CSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Sterile container</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-4 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.89 IV or less: Negative</td>
</tr>
<tr>
<td>0.90-1.09 IV: Equivocal</td>
</tr>
<tr>
<td>1.10 IV or greater: Positive</td>
</tr>
<tr>
<td>OTHER NAMES: German Measles Antibody</td>
</tr>
<tr>
<td>METHODOLOGY: Chemiluminescent Immunoassay</td>
</tr>
<tr>
<td>CPT: 86317</td>
</tr>
</tbody>
</table>

### [RUBTAY] Rubinstein-Taybi Syndrome Assy

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Fresh whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Dark Green (Sodium heparin)</td>
</tr>
<tr>
<td>it is drawn to arrive w/in 48 hours</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL - children/adults</td>
</tr>
<tr>
<td>1 mL - newborn &lt; 3 months old</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 3 mL - children/adults</td>
</tr>
<tr>
<td>0.5 mL - newborn &lt; 3 months old</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Thursday</td>
</tr>
<tr>
<td>TURNAROUND TIME: 10-12 days</td>
</tr>
<tr>
<td>METHODOLOGY: Fluorescence in situ hybridization (FISH)</td>
</tr>
<tr>
<td>CPT: 88230; 88271; 88273</td>
</tr>
</tbody>
</table>

### [RUBTAYSEQ] Rubinstein-Taybi Sequencing

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Whole blood Fibroblasts or amniotic fluid at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA), T-25 flasks or sterile container</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL (whole blood)</td>
</tr>
<tr>
<td>2 flasks</td>
</tr>
<tr>
<td>40 mL (amniotic fluid)</td>
</tr>
</tbody>
</table>
MINIMUM VOLUME: 2 mL (whole blood)
1 flask
30 mL (amniotic fluid)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 62; 83898 x 31; 83904 x 62; 83912

[RUFIN] Rufinamide Level
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
Separate within two hours of collection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-10 days
METHODOLOGY: High Performance Liquid Chromatography (HPLC)
CLINICAL USE: Therapeutic drug monitoring
CPT: 82542

[RYR1] RYR1 GENE (TIER 1)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
OTHER NAMES: Malignant Hyperthermia susceptibility (MH); Central Core Disease; RYR1 Myopathies
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 17; 83904 x 17; 83912

[S100B] S-100B ACCUQUANT
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-9 days
REFERENCE RANGE: 0.00 - 0.12 ug/L
METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA)
CLINICAL USE: Useful for prognosis and treatment monitoring of patients diagnosed with malignant melanoma
CPT: 86316

[SACCHAB] SACCHAROMYCES CEREVISIAE AB
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 0.5 mL
<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated plasma or serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Light Green (heparin), Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 24 hours</td>
</tr>
<tr>
<td>REFERENCE RANGE: 50-250 mg/L</td>
</tr>
<tr>
<td>Potentially toxic: &gt; 300 mg/L</td>
</tr>
<tr>
<td>OTHER NAMES: Aspirin; Salicylic Acid</td>
</tr>
<tr>
<td>METHODOLOGY: Timed endpoint</td>
</tr>
<tr>
<td>CLINICAL USE: Monitor therapeutic drug level, evaluate toxicity</td>
</tr>
<tr>
<td>CPT: 80196</td>
</tr>
</tbody>
</table>

[**[SALCORT]**] **Saliva Cortisol**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Fresh frozen saliva</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Sterile tube or swab</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Special collection kits available. Please contact laboratory</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL or swab</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-8 days</td>
</tr>
<tr>
<td>METHODOLOGY: High-pressure liquid chromatography (HPLC)/tandem mass spectrometry (LC/MS/MS)</td>
</tr>
<tr>
<td>CPT: 82533</td>
</tr>
</tbody>
</table>

[**[SALL4]**] **DRR SYNDROME VIA SALL4 GENE**

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-3 weeks</td>
</tr>
<tr>
<td>OTHER NAMES: Duane-Radial Ray Syndrome and Acro-Renal-Ocular Syndrome via SALL4 Gene Sequencing</td>
</tr>
<tr>
<td>METHODOLOGY: Bi-directional sequence analysis</td>
</tr>
<tr>
<td>CPT: 83890; 83891; 83894; 83898 x 10; 83904 x 10; 83912</td>
</tr>
</tbody>
</table>

[**[SANAFIB]**] **Sanfilippo Syndrome Type A Interp**
SPECIMEN REQUIRED: Fibroblasts at room temperature
TUBE OR CONTAINER: T25 flasks
SPECIMEN VOLUME: 2 T25 flasks
TEST AVAILABILITY: Daily
OTHER NAMES: Sanfilippo Syndrome type A, Heparin sulfamidase activity
METHODOLOGY: Enzyme activity
CPT: 82658

[SANCFIB] Sanfilippo Syndrome Type C Interp
SPECIMEN REQUIRED: Fibroblasts at room temperature
TUBE OR CONTAINER: T25 flasks
SPECIMEN VOLUME: 2 T25 flasks
TEST AVAILABILITY: Daily
OTHER NAMES: Sanfilippo Syndrome type C, Acetyl CoA: alpha-glucosaminide N-acetyltransferase
METHODOLOGY: Enzyme activity
CPT: 82658

[SANDFIB] Sanfilippo Syndrome Type D Interp
SPECIMEN REQUIRED: Fibroblasts at room temperature
TUBE OR CONTAINER: T25 flasks
SPECIMEN VOLUME: 2 T25 flasks
TEST AVAILABILITY: Daily
OTHER NAMES: Sanfilippo Syndrome type D, N-acetylglucosamine 6-sulfatase
METHODOLOGY: Enzyme activity
CPT: 82657

[SANFILB] MPS TYPE IIIB (SANFILIPPO B)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
OTHER NAMES: Sanfilippo type B; Mucopolysaccharidoses IIIB, N-acetyl-alpha-D-glucosaminidase (NAGLU gene) deficiency
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83898 x 6; 83904 x 5; 83909 x 5; 83912

[SAP] SAP PROTEIN (FOR XLP)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark green (heparin)
SPECIAL HANDLING: Must arrive in lab by 1:30 pm Monday-Thursday only; Must be shipped same day as collected
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Monday-Thursday
METHODOLOGY: Flow Cytometry
[SAQ] HIV Saquinavir Resistance

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
Must be separated within 45 minutes of collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
OTHER NAMES: Fortovase; Invirase
METHODOLOGY: High-Pressure Liquid Chromatography (HPLC)
CLINICAL USE: Monitor Saquinavir (Fortovase) therapy
CPT: 80299

[SBDS] SHWACHMAN-DIAMOND SYND (SBDS)

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 4 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891 x 5; 83892 x 2; 83894 x 5; 83898 x 10; 83904 x 10; 83912

[SCA10] SCA 10 DNA TEST

[SCA13] SCA 13 DNA TEST

SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must be received in laboratory by
1:30 pm, Monday through Thursday only
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday only
TURNAROUND TIME: 14-21 days
REFERENCE RANGE: No sequence variations detected
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA Sequencing
CLINICAL USE: Detects sequence variations in all of exon 2 and
20 bp of intronic sequence
CPT: 83891; 83894 x 4; 83904 x 4; 83909; 83912

[SCA17] SCA 17 DNA TEST

SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must be received in laboratory by
1:30 pm, Monday through Thursday only
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 10 mL
TEST AVAILABILITY: Monday-Thursday only
TURNAROUND TIME: 7-14 days
REFERENCE RANGE: Normal: < 42 CAG/CAA trinucleotide repeats
METHODOLOGY: Polymerase Chain Reaction (PCR) and Fragment analysis by Capillary Electrophoresis
CLINICAL USE: Detects CAG/CAA triplet repeat expansions in the SCA17 gene
CPT: 83891; 83898; 83909; 83912

**[SCA2] SPINOCEREBELLAR ATAXIA 2**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10-12 days
METHODOLOGY: Fluorescent PCR sizing of the CAG region of the gene
CPT: 83890; 83898 x 4; 83903 x 4; 83912

**[SCA2-7] SCA 2/7 - LARGE EXPANSION**

SPECIMEN REQUIRED: Whole blood at room temperature or refrigerated amniotic fluid
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD) or sterile container
SPECIAL HANDLING: Must be received in the laboratory by Thursday at 2:00 pm
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Monday-Thursday
METHODOLOGY: Polymerase Chain Reaction (PCR) Followed by Oligo Blotting (Southern Blot)
CPT: 83894; 83896; 83897; 83898; 83912

**[SCA3] SCA 3 DNA TEST**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 weeks
METHODOLOGY: Fluorescent PCR sizing of the CAG region of the gene
CPT: 83890; 83898 x 4; 83903 x 4; 83912

**[SCA6] SPINOCEREBELLAR ATAXIA 6**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 weeks
METHODOLOGY: Fluorescent PCR sizing of the CAG region of the gene
CPT: 83890; 83898 x 4; 83903 x 4; 83912

[SCA7] SCA 7 DNA TEST
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 weeks
METHODOLOGY: Fluorescent PCR sizing of the CAG region of the gene
CPT: 83890; 83898 x 4; 83903 x 4; 83912

[SCA8] SCA 8 DNA TEST
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Ship within 24 hours of collection; Monday-Thursday only
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 10 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 14-21 days
REFERENCE RANGE: Normal: METHODOLOGY: Polymerase Chain Reaction (PCR), Fragment analysis by Capillary Electrophoresis and Southern blot
CLINICAL USE: Detects CTA/CTG triplet repeat expansions in the SCA8 gene
CPT: 83891; 83898; 83909; 83912

[SCAD] SHORT CHAIN ACYL-CoA DEHYDROG
SPECIMEN REQUIRED: Whole blood in original tube at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Buccal swab
SPECIMEN VOLUME: 5 mL
3 DNA swabs
MINIMUM VOLUME: 2 mL
2 DNA swabs
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83900; 83901 x 10; 83903; 83904; 83909 x 18; 83912

[SCADFIB] SCAD SKIN FIBROBLASTS
SPECIMEN REQUIRED: Fibroblasts obtained from skin biopsy & routine fibroblast tissue culture
TUBE OR CONTAINER: Sterile flasks
### [SCC] Squamous Cell Carcinoma Marker
- **SPECIMEN REQUIRED:** Refrigerated or frozen serum
- **TUBE OR CONTAINER:** Red or Gold
- **ORDERING MODULE:** LAB
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 0.3 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-10 days
- **REFERENCE RANGE:** 2.2 ng/mL or less
- **METHODOLOGY:** Enzyme-Linked Immunosorbent Assay (ELISA)
- **CPT:** 86316

### [SCHISTAB] Schistosoma IgG Antibody
- **SPECIMEN REQUIRED:** Refrigerated serum or plasma
- **TUBE OR CONTAINER:** Red, Gold, Green (heparin) or Lavender (EDTA)
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.3 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-6 days
- **REFERENCE RANGE:** < 1.00
- **METHODOLOGY:** Enzyme-linked immunosorbent assay (ELISA)
- **CLINICAL USE:** Detection of infection caused by Schistosoma species
- **CPT:** 86682

### [SCID] SEVERE COMB IMMUNODEF (SCID)
- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST INCLUDES:** Gene sequencing of IL2RG, JAK3, RAG1, RAG2, IL7R, ADA, CD3D, CD3E and DCLRE1C
- **TEST AVAILABILITY:** Daily
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83891; 83898 x 99; 83909 x 99; 83912

### [SCL70OMRF] SCL70OMRF
- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST INCLUDES:** RTE (Rabbit Thymus Extract) CTE (Calf Thymus Extract)
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-7 days
- **REFERENCE RANGE:** Negative
- **OTHER NAMES:** Antiscleroderma-70; SCL-70
### [SCLERAB] Scl-70 (Scleroderma) Antibody

| SPECIMEN REQUIRED: | Room temperature serum or plasma |
| TUBE OR CONTAINER: | Red, Gold, Lavender (EDTA) or Green (heparin) |
| SPECIMEN VOLUME: | 1 mL |
| MINIMUM VOLUME: | 0.5 mL (this volume does not allow for repeat (testing) |
| TEST AVAILABILITY: | Daily |
| TURNAROUND TIME: | 6 Days |
| REFERENCE RANGE: | 0.0 - 0.9 AI |
| OTHER NAMES: | Antiscleoderma-70; SCL-70 |
| CLINICAL USE: | Differential diagnosis of scleroderma (progressive systemic sclerosis) |
| CPT: | 86235 |

### [SCN1AD] SCN1A DELETION

| SPECIMEN REQUIRED: | Whole blood at room temperature |
| TUBE OR CONTAINER: | Lavender (EDTA) |
| SPECIMEN VOLUME: | 5 mL |
| MINIMUM VOLUME: | 4 mL |
| TEST AVAILABILITY: | Daily |
| TURNAROUND TIME: | 2 weeks |
| METHODOLOGY: | Multiplex-Ligation Probe Amplification |
| CPT: | 83891; 83892; 83896 x 26; 83900; 83901 x 24; 83909; 83912 |

### [SCN1AS] SCN1A DNA SEQUENCING

| SPECIMEN REQUIRED: | Whole blood at room temperature |
| TUBE OR CONTAINER: | Lavender (EDTA) |
| SPECIMEN VOLUME: | 5 mL |
| MINIMUM VOLUME: | 4 mL |
| TEST AVAILABILITY: | Daily |
| TURNAROUND TIME: | 2-3 weeks |
| METHODOLOGY: | Bi-directional Sequencing |

### [SCN1BS] SCN1B DNA SEQUENCING

| SPECIMEN REQUIRED: | Whole blood at room temperature |
| TUBE OR CONTAINER: | Lavender (EDTA) |
| SPECIMEN VOLUME: | 5 mL |
| MINIMUM VOLUME: | 4 mL |
| TEST AVAILABILITY: | Daily |
| TURNAROUND TIME: | 2 weeks |
| METHODOLOGY: | DNA Sequencing |
| CLINICAL USE: | Detects mutations in the SCN1B gene |

### [SCN4ADNA] SCN4A DNA SEQUENCING

| SPECIMEN REQUIRED: | Whole blood at room temperature |
| TUBE OR CONTAINER: | Lavender (EDTA) |
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 weeks
REFERENCE RANGE: No mutation detected
METHODOLOGY: DNA Sequencing

[SCO1] SCO1 SEQUENCING
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 14 mL
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Confirm diagnosis of affected individuals with complex IV deficiency
CPT: 83891; 83894 x 2; 83898 x 6; 83904 x 12; 83912

[SCO2] SCO2 SEQUENCING
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 14 mL
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Confirm diagnosis of affected individuals with complex IV deficiency
CPT: 83891; 83894 x 2; 83898 x 2; 83904 x 4; 83912

[SDHAF1] SDHAF1-RELATED SUCCINATE CoQ
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 2; 83904 x 4; 83909; 83912

[SDHBSEQ] SUCCINATE DEHYDROGENASE B SEQ
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-10 days
OTHER NAMES: Succinate Dehydrogenase (SDH) subunit B Gene analysis
METHODOLOGY: Polymerase Chain Reaction (PCR); Multiplex Ligation-Dependent Probe amplification (MLPA)

CLINICAL USE: Diagnosis of familial SDHB gene mutations of deletions in patients with paragangliomas or pheochromocytomas

CPT: 83891; 83892 x 3; 83894 x 3; 83898; 83900; 83901 x 3; 83909 x 16; 83912

[SED] SEDc/SEMD (COL2A1)

SPECIMEN REQUIRED: Whole blood or fibroblasts at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or T-25 flasks
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Monday-Thursday only
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83894 x 68; 83898 x 68; 83904 x 70; 83912

[SEDWES] Sedimentation Rate, Westergren

SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: If the specimen will not be received within 2 hours of collection time, draw a separate tube for the sed rate and refrigerate
For clinically valid results, specimens at room temperature must be analyzed within 2 hours of collection; refrigerated specimens must be analyzed within 12 hours of collection
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1.15 hours
REFERENCE RANGE: 0-50 years: Female: 0 - 20 mm/hr
Male: 0 - 15 mm/hr
51 years +: Female: 0 - 30 mm/hr
Male: 0 - 20 mm/hr
OTHER NAMES: Erythrocyte Sedimentation Rate; ESR; Westergren Sedimentation Rate
METHODOLOGY: RBC sedimentation rate
CLINICAL USE: Evaluate nonspecific activity of infections, inflammatory states, autoimmune disorders, and plasma cell dyscrasias
CPT: 85651

[SEL] Selenium Level

SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Red or Royal Blue (EDTA)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Environmental exposure: 79-326 ug/L
METHODOLOGY: Inductively coupled plasma-mass spectrometry (ICP-MS)
CLINICAL USE: Monitor selenium deficiency and occupational exposure
CPT: 84255

[SENS] Sensitivity Testing Only

[SENS] SENSORY NEUROPATHY PANEL
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Anti-Neuronal Nuclear Antibody (ANNA); MAG Ab, Purkinje Cell Cytoplasmic Ab; SGPB antibody
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-10 days
METHODOLOGY: Immunofluorescent antibody (IFA); Enzyme-linked immunosorbent assay (ELISA)
CPT: 86255 x 2; 83520 x 2

[SEPN1] SEPN1-RELATED MYOPATHIES
SPECIMEN REQUIRED: Room temperature whole blood
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 30-40 days
OTHER NAMES: Selenoprotein N1
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 11; 83904 x 11; 83912

[SERO] Serotonin
SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Serum must be separated within 30 minutes of collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1.5 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Male: 21-321 ng/mL
Female: 0-420 ng/mL
METHODOLOGY: High-pressure liquid chromatography (HPLC) with electrochemical (EC) detection
CLINICAL USE: Diagnose carcinoid syndrome
CPT: 84260

[SERTM] Urine Serotonin
SPECIMEN REQUIRED: Frozen urine (24 hour)
TUBE OR CONTAINER: Urine tube
SPECIAL HANDLING: Refrigerate specimen during collection; Add 50 mL of 50% acetic acid at start of collection
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: METHODOLOGY: Liquid chromatography-Tandem Mass Spectrometry (LC-MS/MS)
CLINICAL USE: Aid in diagnosis of some carcinoid tumors
CPT: 84260

[SERVDRQLQL] VDRL

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Gold or Red
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Nonreactive
METHODOLOGY: Flocculation
CLINICAL USE: Screen for syphilis; useful in assessing adequacy of treatment. Biologic false-positives are common in a variety of other infections or rheumatic diseases, thus more specific T. pallidum tests are recommended for confirmation
CPT: 86592

[SETX] SETX DNA SEQUENCING

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
REFERENCE RANGE: No sequence alteration detected
OTHER NAMES: Senataxin gene sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83898 x 35; 83904 x 35; 83909; 83912

[SFTPB] SURFACTANT PROTEIN B

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING: Store specimen refrigerated, but ship at room temperature
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-12 days
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894 x 11; 83898 x 10; 83904 x 20; 83909 x 20; 83912

### [SGBS] SIMPSON-GOLABI-BEHMEL SYNDROME

- SPECIMEN REQUIRED: Whole blood room temperature
- TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
- SPECIMEN VOLUME: 5 mL
- MINIMUM VOLUME: 2 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 3-6 weeks
- METHODOLOGY: Polymerase Chain Reaction (PCR)
- CPT: 83890; 83891; 83894; 83898 x 9; 83904 x 9; 83912

### [SGFL] Body Fluid Specific Gravity

- SPECIMEN REQUIRED: Refrigerated body fluid
- TUBE OR CONTAINER: Sterile container
- SPECIAL HANDLING: Specify source of fluid
- SPECIMEN VOLUME: 1 mL
- MINIMUM VOLUME: 0.5 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 8 hours
- REFERENCE RANGE: None established
- METHODOLOGY: Refractometry
- CPT: 84135

### [SGSY] Synovial Fluid Specific Gravity

- SPECIMEN REQUIRED: Refrigerated synovial fluid
- TUBE OR CONTAINER: Sterile container
- SPECIMEN VOLUME: 5 mL
- MINIMUM VOLUME: 1 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 8 hours
- REFERENCE RANGE: None established
- METHODOLOGY: Refractometry
- CPT: 84135

### [SGUA] Urine Specific Gravity

- SPECIMEN REQUIRED: Clean catch random urine
- TUBE OR CONTAINER: Plastic urine container
- SPECIMEN VOLUME: 3 mL
- MINIMUM VOLUME: 1 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: 4-8 hours
- REFERENCE RANGE: 1.007-1.030
- METHODOLOGY: Refractometry
- CLINICAL USE: Evaluate renal concentrating power; hydration status
- CPT: 81003
### [SHBG] Sex Hormone Binding Globulin

- **SPECIMEN REQUIRED:** Refrigerated or frozen serum
- **TUBE OR CONTAINER:** Gold or Red
- **SPECIAL HANDLING:** Specimen can be maintained at room temperature for 3 hours prior to analysis.
- **Specimen stability:** 7 days - refrigerated
  - 2 months - frozen
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-6 days
- **REFERENCE RANGE:** Age specific
- **OTHER NAMES:** SHBG; Testosterone Binding Globulin (TeBG)
- **METHODOLOGY:** Immunochemiluminometric assay (ICMA)
- **CLINICAL USE:** Decreased levels of SHBG are frequently seen in hirsutism, virilization, obese postmenopausal women, and in women with diffuse hair loss. Increased levels may be present in cases of hyperthyroidism, testicular feminization, cirrhosis, male hypogonadism, pregnancy, women using oral contraceptives, and prepubertal children.
- **CPT:** 84270

### [SHH] HOLOPROSENCEPHALY-3 VIA SHH

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4-5 weeks
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83890; 83891; 83894; 83898 x 4; 83904 x 4; 83912

### [SHIGA] Shiga Toxin EIA

- **SPECIMEN REQUIRED:** Fresh stool
- **TUBE OR CONTAINER:** Tightly sealed container
- **ORDERING MODULE:** MIC
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2 days
- **REFERENCE RANGE:** Negative for Shiga toxin
- **METHODOLOGY:** Enzyme immunoassay (EIA)
- **CLINICAL USE:** Determine presence of Shiga toxin
- **CPT:** 87427

### [SHOXDNA] SHOX-DNA

- **SPECIMEN REQUIRED:** Whole blood room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIAL HANDLING:** Specimen must be received in laboratory Monday-Thursday by 2:00 p.m. to be shipped
same day as collected  
SPECIMEN VOLUME: 3 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Monday-Thursday  
TURNAROUND TIME: 2-3 weeks  
METHODOLOGY: Mutation analysis by PCR, DHPLC and sequencing as needed  
CPT: 83891; 83894; 83898 x 12; 83903 x 14; 83912  

<table>
<thead>
<tr>
<th>SIALCSF</th>
<th>SIALIC ACID CSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen CSF</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Transfer tube</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-3 weeks</td>
<td></td>
</tr>
<tr>
<td>CPT: 84275</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SIALU</th>
<th>Urine Sialic Acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Urine (random) at room temperature</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Urine container</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 10 mL</td>
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</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
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</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
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<td>TURNAROUND TIME:</td>
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<tr>
<td>METHODOLOGY:</td>
<td></td>
</tr>
<tr>
<td>CPT: 84275</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SICKSC</th>
<th>Sickle Cell Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 2 hours</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Hemoglobin S ; Hgb Solubility ; Sickle Cell Preparation; Sickle Cell Solubility Test; Sickle Cell Test; Sickledex</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Qualitative determination of presence of hemoglobin S; detect sickling hemoglobins; evaluate hemolytic anemia</td>
<td></td>
</tr>
<tr>
<td>CPT: 85660</td>
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</table>

<table>
<thead>
<tr>
<th>SILV</th>
<th>Silver</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Royal Blue (EDTA)</td>
<td></td>
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<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.4 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-8 days</td>
<td></td>
</tr>
</tbody>
</table>
METHODOLOGY: Inductively coupled plasma-mass spectrometry (ICP-MS)
CLINICAL USE: Monitor exposure to silver
CPT: 83018

[SIRO] Sirolimus Level
SPECIMEN REQUIRED: Refrigerated or room temperature whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Trough: 30 minutes to 1 hour before the next oral dose
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1.1 mL
TURNAROUND TIME: Daily
REFERENCE RANGE: 8.3 - 26.3 ng/mL
OTHER NAMES: Rapamune; Rapamycin
METHODOLOGY: Abbott Chemiluminescent microparticle immunoassay (CMIA)
CLINICAL USE: Monitor immunosuppressive therapy following organ transplant
CPT: 80195

[SIX1] BOR/BO SYNDROME VIA SIX1 GENE
SPECIMEN REQUIRED: Whole blood room temperature or buccal swab
TUBE OR CONTAINER: Lavender (EDTA) or swab
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 weeks
OTHER NAMES: Branchiootorenal (BOR)/Branchiootic (BO) syndrome via SIX1 gene sequencing
METHODOLOGY: Bi-directional sequence analysis of all coding exons (3-18)
CPT: 83891 x 4; 83892 x 2; 83894 x 4; 83898 x 8; 83904 x 8; 83912

[SIX3] HOLOPROSENCEPHALY-2 VIA SIX3
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-5 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 4; 83904 x 4; 83912

[SJA] SJOGRENS SYNDROME PROFILE
SPECIMEN REQUIRED: Room temperature serum or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL (this volume does not allow for repeat
TEST INCLUDES: IgG antibody to SS-A (anti-Ro) and SS-B (anti-La)
TEST AVAILABILITY: Daily
REFERENCE RANGE: 0.0 - 0.9 AI
OTHER NAMES: Anti-La & Anti-Ro antibodies; anti-SSA/anti-SSB antibodies
METHODOLOGY: Flow Cytometry
CLINICAL USE: Aid in diagnosis of Sjogren's syndrome
(especially with vasculitis) and lupus patients
with Sjogren's overlap syndrome
CPT: 86235 x 2

**[SKINAB] Anti-ICS (Pemphigus) Antibody**

| SPECIMEN REQUIRED: Serum at room temperature |
| TUBE OR CONTAINER: Red or Gold |
| SPECIMEN VOLUME: 0.5 mL |
| MINIMUM VOLUME: 0.2 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 3 days |
| REFERENCE RANGE: Negative: METHODOLOGY: Indirect fluorescent antibody (IFA) |
| CLINICAL USE: Detect the presence of circulating pemphigus and bullous pemphigoid anti-bodies in sera |
| CPT: 86256 |

**[SLAG] Soluble Liver Antigen (SLA)**

| SPECIMEN REQUIRED: Refrigerated serum |
| TUBE OR CONTAINER: Red or Gold |
| SPECIMEN VOLUME: 1 mL |
| MINIMUM VOLUME: 0.1 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 3-9 days |
| REFERENCE RANGE: Negative: 0.0- 20.0 units |
| METHODOLOGY: Enzyme immunoassay (EIA) |
| CLINICAL USE: Aid in diagnosis of autoimmune hepatitis (AIH) |
| CPT: 83516 |

**[SLC12A1] SLC12A1/BARTTERS TYPE 1**

| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIMEN VOLUME: 5 mL |
| MINIMUM VOLUME: 3 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 3-5 weeks |
| METHODOLOGY: Polymerase Chain Reaction (PCR) |
| CPT: 83890; 83900; 83902; 83901 x 19; 83904 x 5; 83909 x 4; 83912 |


| SPECIMEN REQUIRED: Whole blood at room temperature |
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 weeks
REFERENCE RANGE: No mutations detected
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83898 x 10; 83904 x 10; 83909 x 10; 83912

[SLC2A10] ARTERIAL TORTUOSITY-SLC2A10
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83898 x 6; 83904 x 8; 83912

[SLC2A2] FANCONI-BICKEL (SLC2A2)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-5 weeks
OTHER NAMES: Fanconi-Bickel Syndrome via SLC2A2 gene sequencing; Glycogen Storage Disease, Type XI
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 10; 83904 x 10; 83912

[SLC9A6] X-LINKED ANGELMAN-LIKE (SLC9A6)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 14 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
OTHER NAMES: X-Linked Angelman-Like Syndrome
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83894; 83898 x 19; 83904 x 38; 83909 x 38; 83912

[SLE] SLE PROFILE
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: ANA on HEp-2; SJ-A/Ro Antibody
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 7-10 working days
OTHER NAMES: Systemic Lupus Erythematosus (SLE)
METHODOLOGY: Indirect fluorescent antibody (IFA) and Enzyme immunoassay (EIA)
REFLEX TEST INFORMATION: A positive ANA screen will reflex an ANA titer, a dsDNA antibody and ENA antibodies at an additional charge
CLINICAL USE: Aid in diagnosis of systemic lupus erythematosus (SLE)
CPT: 86038

[SLOAMN] Smith-Lemli-Opitz Syndrome
SPECIMEN REQUIRED: Frozen amniotic fluid
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING:
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME:
REFERENCE RANGE:
METHODOLOGY:
CLINICAL USE: Prenatal diagnosis
CPT: 82542

[SLOS] SMITH-LEMLI-OPITZ (DHCR7 GENE)
SPECIMEN REQUIRED: Whole blood, amniotic fluid or amniocytes at room temperature
TUBE OR CONTAINER: Lavender (EDTA), sterile container, or T25 flasks
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 7; 83904 x 7; 83912

[SLS] SJOGREN LARSSON SYNDROME
SPECIMEN REQUIRED: Whole blood or buccal swabs at room temperature
TUBE OR CONTAINER: Lavender (EDTA); buccal swab
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10 weeks
METHODOLOGY: Bi-directional sequence analysis
CLINICAL USE: Confirmation of clinical diagnosis; differentiation between SLS and other causes of congenital ichthyosis; carrier testing and prenatal diagnosis
CPT: 83891 x 11, 83892 x 2, 83894 x 11, 83898 x 22, 83904 x 22, 83912

[SMAD3] ANEURYSM-OSTEOARTHRITIS-SMAD3
**[SMADNA]  SPINAL MUSCULAR ATROPHY DNA**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8-10 days  
REFERENCE RANGE: No mutation detected  
METHODOLOGY: Polymerase Chain Reaction (PCR) amplification  
CLINICAL USE: Confirmation of diagnosis; prenatal testing  
CPT: 83890, 83892 x 3, 83894 x 2, 83989 x 6, 83912

**[SMCD]  SCHMID METAPHYSEAL CHOND (SMCD)**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 14 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 4 weeks  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83891; 83894; 83898 x 6; 83904 x 12; 83909 x 12; 83912

**[SMS]  SMITH-MAGENIS SYNDROME**

SPECIMEN REQUIRED: Room temperature whole blood  
TUBE OR CONTAINER: Dark green (sodium heparin)  
VOLUME: 5 mLs (child/adult)  
2 mLs (newborn)  
MINIMUM VOLUME: 3 mLs (child/adult)  
1 mL (newborn)  
TURN-AROUND-TIME: 10-12 days  
METHODOLOGY: Fluorescence in situ hybridization (FISH)
### Anti-Smooth Muscle Antibody

SPECIMEN REQUIRED: Frozen serum  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.3 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 4 Days  
REFERENCE RANGE: Negative: 0-19  
Weak positive: 20-30  
Moderate to strong positive: >30  
OTHER NAMES: SMA; F-actin antibody  
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)  
CLINICAL USE: Aid in the diagnosis of liver disease  
CPT: 83516

### Somatomedin-C

SPECIMEN REQUIRED: Refrigerated serum  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 0.5 mL  
MINIMUM VOLUME: 0.2 mL (this volume does not allow for repeat testing)  
PEDIATRIC TEST INFO: Order PEDIGF1 for pediatric testing to be performed by Esoterix  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 7 days  
REFERENCE RANGE: Age specific  
OTHER NAMES: IGF-1; Somatomedin-C, Sulfation Factor  
METHODOLOGY: Immunochemiluminometric assay (ICMA)  
CLINICAL USE: Diagnose acromegaly, in which Sm-C and GH are increased; evaluate hypopituitarism and hypothalamic lesions in children  
CPT: 84305

### Somatostatin Level

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIAL HANDLING: Pre-chill tube before collecting specimen  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 0.6 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-5 days  
METHODOLOGY: Extraction, Radioimmunoassay  
CPT: 84307

### SOS1 SEQUENCING (NOONAN)

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 3 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily
[SOT] Sotalol Level

SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-9 days
REFERENCE RANGE: 500 - 4000 ng/mL
OTHER NAMES: Betapace; Sorine
METHODOLOGY: High Performance Liquid Chromatography with Fluorescence Detection (HPLC-FL)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

[SOTOS] SOTOS SYNDROME

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-5 weeks
METHODOLOGY: Polymerase Chain Reaction
CPT: 83890; 83900; 83901 x 33, 83904 x 2; 83909; 83912

[SOUND] SOUNDGENE SCREENING

SPECIMEN REQUIRED: Dried blood spot
TUBE OR CONTAINER: PKU card
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83896 x 14; 83898 x 2; 83900; 83901 x 3; 83903 x 12; 83912; 87496

[SOX18] SOX18 GENE SEQUENCING

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
OTHER NAMES: Lymphedema with Hypotrichosis and Telangiectasia
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 6; 83904 x 6; 83912

[SOX2] SOX2 GENE SEQUENCING
<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Whole blood at room temperature</th>
<th>TUBE OR CONTAINER: Lavender (EDTA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME: 10 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
<td>CPT: 83891 x 5; 83892 x 2; 83894 x 5; 83898 x 5; 83904 x 5; 83912</td>
</tr>
</tbody>
</table>

**[SPERMAB] AB SPERMATOZOA**

- SPECIMEN REQUIRED: Frozen serum. Centrifuge and transfer serum to plastic tube prior to freezing.
- TUBE OR CONTAINER: Red or Gold
- TEST INCLUDED: IgG, IgA, and IgM antibodies
- TEST AVAILABILITY: Ship Monday-Wednesday only
- TURNAROUND TIME: 6 Days
- VOLUME OF SPECIMEN: 2.0 mL
- MINIMUM VOLUME: 1.0 mL
- METHODOLOGY: Immunobeads

**[SPERMABS] Anti-Sperm Antibody**

- SPECIMEN REQUIRED: Frozen serum
- TUBE OR CONTAINER: Red or Gold
- SPECIAL HANDLING: Separate from cells within 45 minutes of collection
- SPECIMEN VOLUME: 5 mL
- MINIMUM VOLUME: 2 mL
- TEST AVAILABILITY: Daily
- TURNAROUND TIME: |
- REFERENCE RANGE: |
- METHODOLOGY: Enzyme-linked immunoassay (ELISA)
- CPT: 89325

**[SPG13] HERED SPASTIC PARAPLEG (SPG13)**

- SPECIMEN REQUIRED: Whole blood at room temperature
- TUBE OR CONTAINER: Lavender (EDTA)
- SPECIMEN VOLUME: 10 mL
- MINIMUM VOLUME: 2 mL
- TEST AVAILABILITY: Daily
- REFERENCE RANGE: No mutation detected
- METHODOLOGY: Polymerase Chain Reaction (PCR)
- CPT: 83891; 83894 x 5; 83898 x 5; 83904 x 6; 83912

**[SPG4] HERED SPASTIC PARAPLEGIA-SPG4**

- SPECIMEN REQUIRED: Whole blood at room temperature
- TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
- SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 pm Monday through Thursday only; Ship within 24 hours of collection
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 4-6 weeks
OTHER NAMES: Autosomal Dominant Hereditary Spastic Paraplegia: Spastin
METHODOLOGY: Polymerase chain reaction (PCR)
CLINICAL USE: Detects mutations in the SPG4 gene
CPT: 83891; 83898 x 18; 83904 x 18; 83909 x 18; 83912

[SphinG] Neimann-Pick Disease
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Yellow (ACD)
SPECIAL HANDLING: Must be received at referring laboratory within 48 hours of collection; Ship Monday through Thursday only
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 7 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2 - 10 days
REFERENCE RANGE: 30 - 120 pmol/min/mg protein
METHODOLOGY:
CLINICAL USE:
CPT: 82658

[SpiRonol] Spironolactone (Aldactone) Level
SPECIMEN REQUIRED: Refrigerated plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.7 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-9 days
OTHER NAMES: Aldactone; Spironol
METHODOLOGY: Spectrofluorometry (SF)
CLINICAL USE: Monitor therapeutic drug level
CPT: 80299

[Spor] Sporothrix Antibodies
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: Negative
METHODOLOGY: Latex Agglutination (LA)
CPT: 86671

[SporCSF] Sporothrix Antibodies
SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Transfer tube
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: Negative
METHODOLOGY: Latex Agglutination
CPT: 86671

[SPRED1] SPRED1 (NF1-LIKE SYNDROME)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 weeks
OTHER NAMES: Neurofibromatosis Type 1-Like Syndrome
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83900; 83901 x 25; 83904 x 5; 83909 x 32; 83912

[SRA] SEROTONIN RELEASE ASSAY (SRA)
SPECIMEN REQUIRED: Refrigerated or frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
REFERENCE RANGE: Negative
OTHER NAMES: Serotonin Release Assay Heparin Dependent Platelet Antibody; SRA
METHODOLOGY: Radioisotope detection
CLINICAL USE: Aid in diagnosis of Heparin induced thrombocytopenia
CPT: 86022 x 2

[SRS] RUSSELL-SILVER SYNDROME (H19)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Ship within 5 days of collection
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 weeks
OTHER NAMES: Beckwith-Wiedemann Syndrome - H19 methylation
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83896 x 2; 83898; 83912
83891; 83894 x 2; 83896 x 2; 83898 x 3; 83912 (RSS + UPD7)

[SSA] Urine Prot Sulfosalicylic Acid
**SSADH DEFICIENCY (ALDH5A)**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
OTHER NAMES: Succinic Semialdehyde Dehydrogenase Deficiency via ALDH5A gene sequencing  
METHODOLOGY: Polymerase chain reaction (PCR)  
CPT: 83891; 83894 x 5; 83898 x 5; 83904 x 6; 83912

**Urine S-Sulfo-Cysteine**

SPECIMEN REQUIRED: Frozen urine (random)  
TUBE OR CONTAINER: Plastic urine container  
SPECIAL HANDLING: Early morning specimen preferred  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-6 days  
METHODOLOGY: Dip stick for sulfite, and ion exchange chromatography  
CLINICAL USE: Increased in sulfite oxidase deficiency and molybdenum cofactor deficiency  
CPT: 82131

**LIPOID CAH (StAR) EVALUATION**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)  
SPECIAL HANDLING: Must be received in laboratory by 1:30 pm, Monday-Thursday only  
SPECIMEN VOLUME: 6 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Monday-Thursday  
TURNAROUND TIME: 2-8 weeks  
REFERENCE RANGE: No mutation detected  
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA sequencing  
CLINICAL USE: Detects mutations in coding sequence of Lipoid CAH (StAR), including point mutations, small deletions, insertions and rearrangements  
CPT: 83891; 83898 x 7; 83904 x 7; 83909; 83912

**STUDY CBC WITH MAN DIFF**

**CD19/20**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 3 mL  
TEST AVAILABILITY: Monday-Friday, day shift only
### [STERAB] AB STEROIDAL

**SPECIMEN REQUIRED:** Refrigerated whole blood or skin fibroblasts  
**TUBE OR CONTAINER:** Yellow (ACD) or T25 flasks  
**SPECIAL HANDLING:** Must arrive in Laboratory Monday-Thursday by 2:00 p.m. only  
**SPECIMEN VOLUME:** 10 mLs  
**MINIMUM VOLUME:** 7 mLs  
**TEST AVAILABILITY:** Monday-Thursday  
**TURNAROUND TIME:** 2-10 days  
**REFERENCE RANGE:** 2.0 - 9.3 nmol/hr/mg protein (WBC)  
1.5 - 6.0 nmol/hr/mg protein (Fibroblasts)  
**METHODOLOGY:** Enzymatic activity  
**CPT:** 82658

### [STERSULF] STEROID SULFATASE

**SPECIMEN REQUIRED:** Refrigerated whole blood or skin fibroblasts  
**TUBE OR CONTAINER:** Yellow (ACD) or T25 flasks  
**SPECIAL HANDLING:** Must arrive in Laboratory Monday-Thursday by 2:00 p.m. only  
**SPECIMEN VOLUME:** 10 mLs  
**MINIMUM VOLUME:** 7 mLs  
**TEST AVAILABILITY:** Monday-Thursday  
**TURNAROUND TIME:** 2-10 days  
**REFERENCE RANGE:** 2.0 - 9.3 nmol/hr/mg protein (WBC)  
1.5 - 6.0 nmol/hr/mg protein (Fibroblasts)  
**METHODOLOGY:** Enzymatic activity  
**CPT:** 82658

### [STFR] Soluble Transferrin Receptor

**SPECIMEN REQUIRED:** Refrigerated serum or plasma  
**TUBE OR CONTAINER:** Red, Gold, Green (heparin) or Lavender(EDTA)  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.2 mL (this volume does not allow for repeat testing)  
**TEST AVAILABILITY:** Daily  
**REFERENCE RANGE:** 12.2 - 27.3 nmol/L  
**METHODOLOGY:** Immunoochemiluminometric assay (ICMA)  
**CLINICAL USE:** Aid in diagnosis of iron deficiency in individuals with chronic disease (inflammatory diseases, infections, malignancies), many of whom are anemic  
**CPT:** 87238

### [STK11SEQ] STK11 GENE IN PEUTZ-JEGHERS

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIAL HANDLING:** Specimen must arrive in laboratory by 1:30 p.m., Monday - Thursday only  
**SPECIMEN VOLUME:** 6 mL  
**MINIMUM VOLUME:** 3 mL  
**TEST AVAILABILITY:** Monday-Thursday  
**TURNAROUND TIME:** 4 weeks  
**OTHER NAMES:** Peutz-Jeghers Syndrome; Hamartomatous intestinal polyposis  
**METHODOLOGY:** Direct automated fluorescent sequencing  
**CPT:** 83890; 83894; 83898 x 9; 83904 x 9; 83912

### [STK9SEQ] STK9 GENE SEQUENCING

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)  
**SPECIMEN VOLUME:** 10 mL
**MINIMUM VOLUME:** 6 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 8 weeks  
**METHODOLOGY:** Direct DNA sequence analysis  
**CPT:** 83890; 83894; 83898 x 23; 83904 x 23; 83912

## [STL1-2] STICKLER I/II (COL2A1/COL11A1)

- **SPECIMEN REQUIRED:** Whole blood at room temperature  
- **TUBE OR CONTAINER:** Lavender (EDTA)  
- **SPECIMEN VOLUME:** 10 mL  
- **MINIMUM VOLUME:** 6 mL  
- **TEST AVAILABILITY:** Daily  
- **METHODOLOGY:** Polymerase chain reaction (PCR)  
- **CPT:** 83890; 83894 x 131; 83898 x 131; 83904 x 138; 83912

## [STL2] STICKLER II (COL11A1)

- **SPECIMEN REQUIRED:** Whole blood at room temperature  
- **TUBE OR CONTAINER:** Lavender (EDTA)  
- **SPECIMEN VOLUME:** 10 mL  
- **MINIMUM VOLUME:** 6 mL  
- **TEST AVAILABILITY:** Daily  
- **METHODOLOGY:** Polymerase chain reaction (PCR)  
- **CPT:** 83890; 83894 x 60; 83898 x 60; 83904 x 67; 83912

## [STONE] Stone Analysis (T)

- **SPECIMEN REQUIRED:** Stone  
- **TUBE OR CONTAINER:** Sterile plastic container  
- **SPECIMEN VOLUME:** Stone  
- **TEST INCLUDES:** Photograph and chemical analysis  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 1 week  
- **CLINICAL USE:** Determine composition of urinary stone  
- **CPT:** 82355

## [STONERISK] URINE STONE RISK PROFILE

- **SPECIMEN REQUIRED:** Frozen urine aliquots (24-hour) in special collection kit  
- **TUBE OR CONTAINER:** Urine container (no preservative)  
- **SPECIMEN VOLUME:** 300 mL (2 aliquots - 150 mL each)  
- **MINIMUM VOLUME:** 200 mL (2 aliquots - 100 mL each)  
- **TEST INCLUDES:** Calcium; citrate; creatinine; cystine; oxalate; magnesium; pH; phosphorus; sodium; total volume; uric acid  
- **TEST AVAILABILITY:** Daily  
- **CPT:** 81003; 82131; 82340; 82507; 83735; 83945; 84105; 84300; 84560

## [STONESAT] KIDNEY STONE W/UR SATURATION

- **SPECIMEN REQUIRED:** Frozen urine aliquots (24-hour)  
- **TUBE OR CONTAINER:** Urine container (no preservative)
SPECIMEN VOLUME: 300 mL (2 aliquots - 150 mL each)
MINIMUM VOLUME: 200 mL (2 aliquots - 100 mL each)
TEST INCLUDES: Ammonia; calcium; chloride; citrate; creatinine;
cystine; magnesium; osmolality; oxalate; pH;
phosphorus; potassium; sodium; sulfate; total
volume; uric acid; saturation ratios: brushite,
calcium oxalate, monosodium urate, struvite;
graph review
TEST AVAILABILITY: Daily
CLINICAL USE: Evaluate stone composition, metabolic factors
affecting stone formation; work up nephrolithiasis
CPT: 81003; 82131; 82140; 82340; 82436; 82507; 82570; 83735;
83935; 83945; 84105; 84133; 84300; 84392; 84560

[STRAANT] Strep A Direct Rapid Test

SPECIMEN REQUIRED: Swab of tonsillar area, posterior pharynx,
and area of inflammation with swab
Avoid contact with tongue and cheek
TUBE OR CONTAINER: BBL Culture Swab (with liquid Stuart's)
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 hour
REFERENCE RANGE: Negative
METHODOLOGY: Enzyme immunoassay (EIA)
REFLEX TEST INFORMATION: A Strep A culture will be set up on
all negative direct Strep A test, at
an additional charge
CLINICAL USE: Aid in the diagnosis of a Streptococcus infection
CPT: 87430

[STRBANT] Strep B Direct Antigen Test

*******************
SPECIMEN REQUIRED: Refrigerated CSF, serum or urine (random)
TUBE OR CONTAINER: Sterile plastic (CSF) tube or plastic urine
container; Red or Gold
SPECIAL HANDLING: Indicate source of specimen
ORDERING MODULE: MIC
SPECIMEN VOLUME: 0.5 mL CSF
1 mL serum
5 mL urine (random)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Negative
METHODOLOGY: Latex agglutination (LA)
CLINICAL USE: Aid in documentation of active beta streptococcal
infection
CPT: 87802

[STREP] Streptomycin Level

SPECIMEN REQUIRED: Frozen serum
**TUBE OR CONTAINER:** Red (no gel)  
**SPECIAL HANDLING:** Do NOT collect specimen in gel barrier tube  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 2 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3-8 days  
**REFERENCE RANGE:** 35 - 45 ug/mL (peak serum)  
**METHODOLOGY:** High-performance liquid chromatography (HPLC)  
**CPT:** 80299

### [STREPAB14] STREP PNEUMO SEROTYPE (14)

- **SPECIMEN REQUIRED:** Refrigerated serum  
- **TUBE OR CONTAINER:** Red or Gold  
- **SPECIMEN VOLUME:** 1 mL  
- **MINIMUM VOLUME:** 0.25 mL  
- **TEST INCLUDES:** IgG antibody to serotypes 1,3,4,9,8,12,14,19,23, 26,51,56,57, and 68  
- **TEST AVAILABILITY:** Daily  
- **REFERENCE RANGE:** < 1.6 ug/mL - Protective  
- **METHODOLOGY:** Fluorescence immunoassay (FIA)  
- **CLINICAL USE:** Provides a measure of IgG antibody to specific capsular types  
- **CPT:** 86609 x 14

### [STREPAB23] STREP PNEUMO IGG 23 SEROTYPES

- **SPECIMEN REQUIRED:** Refrigerated or frozen serum  
- **TUBE OR CONTAINER:** Red or Gold  
- **SPECIMEN VOLUME:** 1 mL  
- **MINIMUM VOLUME:** 0.5 mL  
- **TEST INCLUDES:** IgG antibody to serotypes 1,2,3,4,5,8,9N,12F,14, 17F,19F,20,22F,23F,6B,10A,11A,7F,15B,18C,19A,9V and 33F  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 2-5 days  
- **METHODOLOGY:** Microsphere Photometry  
- **CLINICAL USE:** Assesses the response to active immunization with nonconjugated, 23-valent vaccines  
- **CPT:** 86317 x 23

### [STRIAB] Anti-Striated Muscle Antibody

- **SPECIMEN REQUIRED:** Serum at room temperature  
- **TUBE OR CONTAINER:** Red or Gold  
- **SPECIMEN VOLUME:** 0.4 mL  
- **MINIMUM VOLUME:** 0.2 mL  
- **TEST AVAILABILITY:** Daily  
- **TURNAROUND TIME:** 2 days  
- **REFERENCE RANGE:** Negative: < 1:40  
- **METHODOLOGY:** Indirect Fluorescent Antibody (IFA)  
- **CLINICAL USE:** Aid in diagnosis of myasthenia gravis and thymoma  
- **CPT:** 86256
### Strongyloides IgG Antibody

**Specimen Required:** Refrigerated serum  
**Tube or Container:** Red or Gold  
**Specimen Volume:** 1 mL  
**Minimum Volume:** 0.2 mL  
**Test Availability:** Daily  
**Turnaround Time:** 2-9 days  
**Reference Range:** < 1.49  
**Methodology:** Enzyme-linked immunosorbent assay (ELISA)  
**Clinical Use:** Confirmation of Strongyloides infection  
**CPT:** 86682

### Streptococcus pneumoniae (PCR)

**Specimen Required:** Frozen CSF  
**Tube or Container:** Sterile plastic tube  
**Specimen Volume:** 2 mL  
**Minimum Volume:** 1 mL  
**Test Availability:** Daily  
**Turnaround Time:** 3-6 days  
**Methodology:** Real-time Polymerase Chain Reaction (PCR)  
**CPT:** 87798

### S. pneumoniae Antigen - UR/CSF

Testing for Streptococcus pneumoniae antigen is performed on a limited basis on cases of suspected meningitis & septicemia. Criteria for performance include:  
- Pretreatment of the patient with antibiotics prior to specimen collection, or  
- Other lab tests of the CSF which indicate bacterial meningitis (high protein, low glucose, high cell count), or  
- Positive gram stain of CSF consistent with the morphology of S. pneumoniae.  
This test will be rejected if the above criteria are not met.  
**Minimum Requirements:**  
- CSF: 0.1 ml  
- Urine: 1 ml

### Strychnine Level

**Specimen Required:** Refrigerated serum or plasma  
**Tube or Container:** Red, Lavender (EDTA) or Gray (Sodium fluoride)  
**Special Handling:** Do NOT collect specimen in gel barrier tube  
**Specimen Volume:** 5 mL  
**Minimum Volume:** 2.2 mL  
**Test Availability:** Daily  
**Turnaround Time:** 3-5 days  
**Methodology:** Gas Chromatography (GC)  
**Clinical Use:** Exposure monitoring  
**CPT:** 82491
**[STRZYM] Streptozyme**

SPECIMEN REQUIRED: Refrigerated or frozen serum  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-4 days  
REFERENCE RANGE: Negative = < 1:100  
OTHER NAMES: Hyaluronidase  
METHODOLOGY: Latex Particle Agglutination (LPA)  
CLINICAL USE: Evaluate patients suspected of having post-streptococcal sequelae such as rheumatic fever  
CPT: 86063

**[STX11] STX11 GENE (FHL TYPE 4)**

SPECIMEN REQUIRED: Room temperature whole blood  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 6 mL  
MINIMUM VOLUME: 3 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 1 month  
OTHER NAMES: Familial Hemophagocytic Lymphohistiocytosis type 4  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83890; 83891; 83894; 83898; 83904 x 6; 83912

**[STXBP2] STXBP2 GENE (FHL TYPE 5)**

SPECIMEN REQUIRED: Room temperature whole blood  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 6 mL  
MINIMUM VOLUME: 3 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 1 month  
OTHER NAMES: Familial Hemophagocytic Lymphohistiocytosis type 5  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CPT: 83890; 83891 x 12; 83894 x 14; 83898 x 12; 83904 x 24; 83909 x 24; 83912

**[SUBP] Substance P**

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Lavender (EDTA) containing GI preservative  
SPECIAL HANDLING: Call lab to obtain special tube  
SPECIMEN VOLUME: 3 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 4-10 days  
REFERENCE RANGE: 40 - 270 pg/mL  
METHODOLOGY: Radioimmunoassay (RIA)  
CPT: 83520
### [SUCCINYL] Urine Succinylacetone

| SPECIMEN REQUIRED: Frozen urine (random) |
| TUBE OR CONTAINER: Plastic urine container |
| SPECIMEN VOLUME: 20 mL |
| MINIMUM VOLUME: 10 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 2-4 days |
| REFERENCE RANGE: 0-2.5 mmol/ml creatinine |
| METHODOLOGY: Chromatography |
| CLINICAL USE: Quantify succinylacetone which is diagnostic for tyrosinemia type I |
| CPT: 83921 |

### [SUCCSF] SUCCINYLADENOSINE CSF

| SPECIMEN REQUIRED: Frozen CSF |
| TUBE OR CONTAINER: Transfer tube |
| SPECIMEN VOLUME: 1 mL |
| MINIMUM VOLUME: 0.5 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 2-3 weeks |
| CPT: 82491 |

### [SUCLA2] SUCLA2 GENE SEQUENCING

| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIMEN VOLUME: 5 mL |
| MINIMUM VOLUME: 3 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 4 weeks |
| METHODOLOGY: Polymerase chain reaction (PCR) |
| CPT: 83891; 83894 x 2; 83898 x 12; 83904 x 15; 83909; 83912 |

### [SUCLG1] FATAL INFANTILE LA (SUCLG1)

| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIMEN VOLUME: 10 mL |
| MINIMUM VOLUME: 2 mL |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 2 weeks |
| OTHER NAMES: Fatal Infantile Lactic Acidosis with mtDNA depletion; SUCLG1 Sequencing |
| METHODOLOGY: Polymerase chain reaction (PCR) |
| CPT: 83891; 83894 x 2; 83898 x 9; 83904 x 18; 83912 |

### [SULF] SULFATIDE ANTIBODY

| SPECIMEN REQUIRED: Refrigerated serum |
| TUBE OR CONTAINER: Red or Gold |
| SPECIMEN VOLUME: 2 mL |
| MINIMUM VOLUME: 1 mL |
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 7-14 days  
**REFERENCE RANGE:**  
**METHODOLOGY:** Enzyme-linked immunoassay (ELISA)  
**CLINICAL USE:** Diagnosis of sensory axonal neuropathy  
**CPT:** 83520 x 2

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<tr>
<th>[SULFATIDE]</th>
<th>Urine Sulfatides</th>
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</table>
| **SPECIMEN REQUIRED:** Urine at room temperature  
**TUBE OR CONTAINER:** Urine container  
**SPECIMEN VOLUME:** 20 mL  
**MINIMUM VOLUME:** 5 mL  
**TEST AVAILABILITY:** Daily  
**METHODOLOGY:** Thin Layer Chromatography (TLC)  
**CPT:** 82489 |

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<thead>
<tr>
<th>[SULFON]</th>
<th>SULFONYLUREA HYPOGLYCEMICS</th>
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</table>
| **SPECIMEN REQUIRED:** Frozen serum or plasma  
**TUBE OR CONTAINER:** Red or Dark green (heparin)  
**SPECIAL HANDLING:** Do NOT collect specimen in gel barrier tube; Separate from cells with 2 hours of collection  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST INCLUDES:** Screen for Acetohexamide, Chlorpropamide, Glipizide, Glyburide, Tolazamide, Tolbutamide, Glimepiride, Nateglinide and Repaglinide  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 4-9 days  
**METHODOLOGY:** Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)  
**CPT:** 82486 |

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<th>[SULFONAM]</th>
<th>Sulfonamides Level</th>
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| **SPECIMEN REQUIRED:** Refrigerated serum or plasma  
**TUBE OR CONTAINER:** Red or Lavender (EDTA)  
**SPECIAL HANDLING:** Do NOT collect specimen in gel barrier tube  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.4 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-10 days  
**METHODOLOGY:** Spectrophotometry (SP)  
**CLINICAL USE:** Therapeutic drug monitoring  
**CPT:** 80299 |

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<tr>
<th>[SULFONU]</th>
<th>UR SULFONYLUREA HYPOGLYCEMICS</th>
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</table>
| **SPECIMEN REQUIRED:** Refrigerated urine (random)  
**TUBE OR CONTAINER:** Plastic urine container  
**SPECIMEN VOLUME:** 10 mL  
**MINIMUM VOLUME:** 4 mL  
**TEST INCLUDES:** Acetohexamide, Chlorpropamide, Glipizide, |
Glyburide, Tolazamide, Tolbutamide
TEST AVAILABILITY: Daily
TURAROUND TIME: 6-8 days
METHODOLOGY: Liquid Chromatography/Tandem Mass spectrometry (LC/MS/MS)
CPT: 82542

[SULFTM] UR SULFATE TIMED
SPECIMEN REQUIRED: Refrigerated aliquot (24-hour collection)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: 24 hour urine collected in "P" container (no preservative)

SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURAROUND TIME: 2-7 days
REFERENCE RANGE: 0-30 mEq/24 hours
METHODOLOGY: Spectrophotometry
CPT: 84392

[SUMF1] SUMF1 SEQUENCING
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURAROUND TIME: 3-4 weeks
OTHER NAMES: Multiple Sulfatase Deficiency/Mucosulfatidosis via SUMF1 Gene sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 9; 83904 x 9; 83912

[SURF1] SURF1 SEQUENCING
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 14 mL
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Daily
TURAROUND TIME: 4 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Confirm diagnosis of affected individuals
CPT: 83891; 83894 x 2; 83898 x 8; 83904 x 16; 83912

[SWCLP] SWEAT CHLORIDE PROFILE
SPECIMEN REQUIRED: Sweat
TUBE OR CONTAINER: Gauze pads
SPECIAL HANDLING: Collection procedure must be performed by laboratory personnel
SPECIMEN VOLUME: 100 mg
SWEAT CHLORIDE NEWBORN SCREEN

SPECIMEN REQUIRED: Sweat
TUBE OR CONTAINER: Gauze pads
SPECIAL HANDLING: Collection procedure must be performed by laboratory personnel
SPECIMEN VOLUME: 100 mg
MINIMUM VOLUME: 75 mg
PEDIATRIC TEST INFO: Patient should be greater than 48 hours old
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 1-4 days
METHODOLOGY: Flame photometry and colorimetric titration
CLINICAL USE: Aid in diagnosis of cystic fibrosis
CPT: 89230

Triiodothyronine (T3) Uptake

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Gold, Red or Light Green
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 days
REFERENCE RANGE: Age and gender specific
OTHER NAMES: Thyroid Hormone Binding Ratio (THBR); T3 Resin Uptake
METHODOLOGY: Cloned enzyme donor immunoassay (CEDIA)
CLINICAL USE: Thyroid function test; Aid in diagnosis of hyper- or hypothyroidism
CPT: 84479

Free Triiodothyronine (T3) pg/mL

SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 48 hours
REFERENCE RANGE: Age specific
OTHER NAMES: Free T3; T3, Free; T3, Free, Serum; Tri-iodothyronine, Free; Unbound T3
METHODOLOGY: Chemiluminescence
CLINICAL USE: Evaluate thyroid function and assess abnormal binding protein disorders
### Reverse Triiodothyronine (T3)

**SPECIMEN REQUIRED:** Refrigerated serum or plasma  
**TUBE OR CONTAINER:** Red, Gold, Green (heparin) or Lavender (EDTA)  
**SPECIAL HANDLING:** No radioisotopes administered 24 hours prior to venipuncture  
**SPECIMEN VOLUME:** 0.5 mL  
**MINIMUM VOLUME:** 0.3 mL (this volume does not allow for repeat testing)  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-3 days  
**REFERENCE RANGE:** 1-4 years: 150-710 pg/mL  
5-9 years: 170-790 pg/mL  
10-15 years: 190-880 pg/mL  
older than 15 years: 90-350 pg/mL  
**OTHER NAMES:** Reverse Tri-iodothyronine  
**METHODOLOGY:** Radioimmunoassay (RIA)  
**CLINICAL USE:** Evaluating the euthyroid sick patient with low T3 concentrations; also useful in evaluating thyroid function and metabolism  

### Total Triiodothyronine

**SPECIMEN REQUIRED:** Refrigerated serum  
**TUBE OR CONTAINER:** Gold or Red  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.3 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 1-2 days  
**REFERENCE RANGE:** Age and gender specific  
**OTHER NAMES:** T3 Hormone; T3; Tri-iodothyronine  
**METHODOLOGY:** Immunochemiluminometric assay (ICMA)  
**CLINICAL USE:** Thyroid function which is particularly useful in diagnosis of T3 thyrotoxicosis, in which T3 is increased an T4 is within normal limits  

### Thyroxine (T4)

**SPECIMEN REQUIRED:** Refrigerated plasma or serum  
**TUBE OR CONTAINER:** Light Green (heparin) or Gold  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 24 hours  
**REFERENCE RANGE:** Age specific  
**OTHER NAMES:** T4, Total; Tetraiodothyronine  
**METHODOLOGY:** Chemiluminescence  
**CLINICAL INFORMATION:** Thyroid function test  

CPT: 84481

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<td>Total Triiodothyronine</td>
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<td>84436</td>
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<td>Refrigerated fine needle aspirate or body fluid</td>
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**Free Thyroxine Index**
### [TACRO] Tacrolimus (Prograf) Level

| SPECIMEN REQUIRED: Refrigerated whole blood |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIMEN VOLUME: 3 mL |
| MINIMUM VOLUME: 1 mL |
| TEST AVAILABILITY: Set up Daily; Specimen needs to be in lab before 1200 PM |
| TURNAROUND TIME: 24 hours |
| REFERENCE RANGE: 9.0-19.9 ng/mL |
| OTHER NAMES: FK506; Prograf |
| METHODOLOGY: Abbott Chemiluminescent Microparticle Immunoassay (CMIA) |
| CLINICAL USE: Therapeutic drug monitoring |
| CPT: 80197 |

### [TAP] THYMOPOIESIS ASSESS PROF (TAP)

| SPECIMEN REQUIRED: Whole blood at room temperature |
| TUBE OR CONTAINER: Lavender (EDTA) |
| SPECIAL HANDLING: Specimen must be received in Laboratory by 1:30 pm, Monday through Thursday only; Must be received at performing lab within 48 hours of collection |
| SPECIMEN VOLUME: 18 mL |
| MINIMUM VOLUME: 5 mL |
| TEST AVAILABILITY: Monday-Thursday |
| TURNAROUND TIME: 6-8 days |
| METHODOLOGY: Polymerase Chain Reaction (PCR), Flow Cytometry |
| CPT: 83896 x 4; 83898 x 2; 83907; 86356 x 2; 83912 |

### [TAY] TAY-SACHS BIOCHEMICAL SERUM

| SPECIMEN REQUIRED: Frozen serum |
| TUBE OR CONTAINER: Red or Gold |
| SPECIAL HANDLING: A complete Tay-Sachs Disease Screening Questionnaire must accompany specimens; Contact laboratory to request form. separate within 30 minutes of venipuncture |
| NOTE: This procedure should not be performed on women who are pregnant or taking oral contraceptives |
| SPECIMEN VOLUME: 3 mL |
| MINIMUM VOLUME: 1 mL |
| TEST AVAILABILITY: Daily |
| OTHER NAMES: Beta-Hexosaminidase A and total Beta-Hexosaminidase from serum |
| METHODOLOGY: Determination of enzymatic activity using heat inactivation |
| CLINICAL USE: Determine Tay-Sachs carrier and affected status |
| CPT: 83030 |
### [TAYMUT] TAY-SACHS MUTATION PANEL

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Whole blood at room temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 3 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 3 weeks</td>
</tr>
<tr>
<td>METHODOLOGY: Allele-specific genotyping by MALDI-TOF mass spectrometry</td>
</tr>
<tr>
<td>CPT: 83788; 83891; 83900; 83901; 83912</td>
</tr>
</tbody>
</table>

### [TAY-WBC] TAY-SACHS LEUKOCYTES

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated whole blood</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Yellow (ACD)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: A complete Tay-Sachs Disease Screening Questionnaire must accompany specimens</td>
</tr>
<tr>
<td>Contact lab to request form</td>
</tr>
<tr>
<td>Must be received in lab by 1:30 Monday-Thursday only; ship same day as collected</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 10 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Thursday</td>
</tr>
<tr>
<td>OTHER NAMES: Beta-Hexosaminidase A and total Beta-Hexosaminidase from leukocytes</td>
</tr>
<tr>
<td>METHODOLOGY: Determination of enzymatic activity using heat inactivation</td>
</tr>
<tr>
<td>CLINICAL USE: Determine Tay-Sachs carrier and affected status</td>
</tr>
<tr>
<td>CPT: 83080</td>
</tr>
</tbody>
</table>

### [TBCSFPCR] M. tuberculosis Complex DNA (PCR)

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated CSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Sterile tube or container</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>METHODOLOGY: Nucleic acid amplification (NAA) technology</td>
</tr>
<tr>
<td>CLINICAL USE: Detection of M. tuberculosis</td>
</tr>
<tr>
<td>CPT: 87556</td>
</tr>
</tbody>
</table>

### [TBG] Thyroxine Binding Globulin

<table>
<thead>
<tr>
<th>SPECIMEN REQUIRED: Refrigerated serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat testing)</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-5 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Age-specific</td>
</tr>
<tr>
<td>METHODOLOGY: Immunochemiluminometric assay (ICMA)</td>
</tr>
<tr>
<td>CLINICAL USE: Distinguish between high T4 levels due to hyperthyroidism and due to increased binding by TBG in</td>
</tr>
</tbody>
</table>
euthyroid individuals who have normal levels of free hormones; document cases of hereditary deficiency or increase of TBG; work-up of thyroid disease
CPT: 84442

<table>
<thead>
<tr>
<th>[TBPCRFL]</th>
<th>M. tuberculosis Complex DNA (PCR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated sputum, respiratory aspirate, lavage fluid, pleural fluid, pericardial fluid or tissue</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile tube or container</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL (fluid)</td>
<td></td>
</tr>
<tr>
<td>Small piece of tissue</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Nucleic acid amplification (NAA) technology</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Detection of M. tuberculosis</td>
<td></td>
</tr>
<tr>
<td>CPT: 87556</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[TBS]</th>
<th>TOWNES-BROCKS SYNDROME (SALL1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 pm Monday through Thursday only</td>
<td></td>
</tr>
<tr>
<td>Ship within 24 hours of collection</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Thursday</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 weeks</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td>CPT: 83891; 83894 x 16; 83898 x 8; 83904 x 16; 83912</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[TBX1]</th>
<th>TBX1 GENE SEQUENCING</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING:</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 10-12 weeks</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: DNA Sequencing</td>
<td></td>
</tr>
<tr>
<td>CPT: 83891 x 10; 83892 x 2; 83894 x 10; 83898 x 20; 83904 x 20; 83912</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[TCAP]</th>
<th>TELETHONIOPATHY (TCAP GENE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 3-4 weeks</td>
<td></td>
</tr>
</tbody>
</table>
TCELLEXT | T-CELL IMMUNODEFICIENCY EXTEND

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Dark green (Heparin) or Lavender (EDTA)  
**SPECIAL HANDLING:** Specimen must be analyzed within 48 hours (heparin) or 72 hours (EDTA) of collection  
**SPECIMEN VOLUME:** 5 mL  
**MINIMUM VOLUME:** 0.5 mL (pediatric)  
**TEST INCLUDES:** Includes helper T-cells (CD4+ and CD3+), naive helper T-cells (CD4+ and CD45RA+), memory helper T-cells (CD4+ and CD45RO+), suppressor T-cells (CD8+ and CD3+), CD4:CD8 ratio, total T-cells (CD3+), B-cells (CD19+ and CD3-), and NK-cells ([CD16+/CD56+] and CD3-)  
**TEST AVAILABILITY:** Monday-Friday (must arrive in the lab before 2:30 pm)  
**TURNAROUND TIME:** 2-4 days  
**METHODOLOGY:** Flow Cytometry  
**CLINICAL USE:** Enumerate the percents and absolute cell counts of lymphocyte subsets in lysed whole blood  
**CPT:** 86355; 86356 x 3; 86357; 86359; 86360

TCRPCR | T-CELL RECEPTOR GENE REARRANG

**SPECIMEN REQUIRED:** Whole blood or bone marrow at room temperature  
(Other acceptable specimens: Fresh frozen tissue or paraffin-embedded tissue at room temperature)  
**TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)  
**SPECIMEN VOLUME:** 7 mL whole blood  
3 mL bone marrow  
**MINIMUM VOLUME:** 3 mL (whole blood)  
1 mL bone marrow  
**TEST AVAILABILITY:** Monday-Friday  
**TURNAROUND TIME:** 10-14 days  
**METHODOLOGY:** Polymerase chain reaction (PCR)  
**CPT:** 83891; 83900; 83901; 83909; 83912

TCSP | T CELL SUBSET PROFILE

**SPECIMEN REQUIRED:** Whole blood at room temperature  
**TUBE OR CONTAINER:** Lavender (EDTA)  
**SPECIAL HANDLING:** Specimen must be received within 24 hours of collection  
**SPECIMEN VOLUME:** 2 mL  
**MINIMUM VOLUME:** 1 mL  
**TEST INCLUDES:** % and absolute: CD2, CD3, CD4, and CD8; WBC and % lymphocyte  
**TEST AVAILABILITY:** Monday-Friday
**[TD] THANATROPHIC DYSPLASIA I/II**

SPECIMEN REQUIRED: Refrigerated whole blood  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Monday-Thursday  
TURNAROUND TIME: 4-8 days  
METHODOLOGY: Polymerase chain reaction (PCR)  
CPT: 83890; 83900; 83901 x 2; 83914 x 9; 83909; 83912

**[TDT] Terminal Deoxynucleotid Transferase**

SPECIMEN REQUIRED: Standard bone marrow, touch preps, or peripheral blood smears at room or whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIAL HANDLING: Peripheral smears must be less than 3 days old  
SPECIMEN VOLUME: 1 mL  
REFERENCE RANGE: Negative  
METHODOLOGY: Indirect immunofluorescent antibody (IFA)  
CLINICAL USE: TdT is an enzyme which catalyzes the polymerization of several nucleotides in the absence of a DNA template. Normally, only 1% of bone marrow has TdT activity. High levels of this enzyme (normal unique only to thymocytes) have been found in almost all young patients with T-cell and common ALL, 30% of CML patients in blasts crisis, 50% of patients with acute undifferentiated leukemia, most patients with lymphoblastic lymphoma and, in rare occasions, acute myelogeneous leukemia.  
CPT: 88347

**[TEICHAB] Teichoic Acid Antibody**

SPECIMEN REQUIRED: Refrigerated serum  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 0.6 mL  
MINIMUM VOLUME: 0.3 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-4 days  
REFERENCE RANGE: Negative: < 1:2  
METHODOLOGY: Double immunodiffusion (DID)  
CLINICAL USE: Assess therapy in chronic infections caused by Staphyloccocus aureus  
CPT: 86329

**[TEST] Total Testosterone**
SPECIMEN REQUIRED: Refrigerated or frozen serum  
TUBE OR CONTAINER: Gold or Red  
SPECIAL HANDLING: Specimen can be maintained at room temperature for 3 hours prior to analysis.  
Specimen stability: 7 days - refrigerated  
2 months - frozen  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Monday-Friday  
TURNAROUND TIME: 1-4 days  
REFERENCE RANGE: Age specific  
METHODOLOGY: Chemiluminescence  
CLINICAL USE: Indicator of LH secretion and Leydig cell function; evaluate gonadal and adrenal function; aid in diagnosis of hypogonadism, hypopituitarism, Klinefelter syndrome, and impotence (low values) in males, and hirsutism, anovulation, amenorrhea, and virilization in females  
CPT: 84403

[TESTBIOAVAIL] TESTOSTERONE-BIOAVAILABLE

SPECIMEN REQUIRED: Frozen serum  
TUBE OR CONTAINER: Red or Gold  
SPECIAL HANDLING: Separate within 1 hour of collection  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 0.6 mL (this does not allow for repeat testing)  
TEST INCLUDES: Total and Bioavailable testosterone; % Bioavailable testosterone; Sex hormone binding globulin (SHBG)  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-6 days  
OTHER NAMES: Free and Albumin-Bound Testosterone; Testosterone, Free and Weakly Bound  
METHODOLOGY: HPLC Tandem Mass Spectrometry, Amonium sulfate precipitation of SHBG bound fraction, Binding Capacity  
CPT: 84402; 84403; 84270

[TESTFR] TESTOSTERONE FREE AND TOTAL

SPECIMEN REQUIRED: Refrigerated or frozen serum  
TUBE OR CONTAINER: Gold or Red  
SPECIAL HANDLING: Specimen can be maintained at room temperature for 3 hours prior to analysis.  
Specimen stability: 7 days - refrigerated  
2 months - frozen  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 0.7 mL  
TEST INCLUDES: Total testosterone and Free (direct) testosterone  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Age specific
METHODOLOGY: Free: Direct analog/radioimmunoassay (RIA)
Total: immunochemiluminometric assay (ICMA)
CLINICAL USE: Evaluate hirsutism and masculinization in women;
evaluate testicular function in clinical states
where the testosterone binding proteins may
be altered (obesity, cirrhosis, thyroid disorders)
CPT: 84402, 84403

[TET/DIP] AB TETANUS/DIPTHERIA
SPECIMEN REQUIRED: Refrigerate serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Tetanus Antitoxoid and Diptheria Antitoxoid
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-7 days
REFERENCE RANGE: Nonprotective: Indeterminate: 0.10-0.49 IU/mL
Protective: >0.49 IU/mL
METHODOLOGY: Enzyme immunoassay (EIA)
CPT: 86317 x 2

[TETAB] Tetanus Antitoxin Assay
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 0.4 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-7 days
REFERENCE RANGE: Nonprotective: METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Assess immunity against tetanus by determining
levels of circulating antibodies to tetanus toxin
or to measure the immune response
CPT: 86317

[TGFBR1] TGFBR1 DNA SEQUENCING
SPECIMEN REQUIRED: Whole blood room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 weeks
REFERENCE RANGE: No mutation detected
OTHER NAMES: Loeys-Dietz Syndrome
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 9; 83904 x 9; 83912

[TGFBR12] TGFBR 1/2 gDNA DIRECT
SPECIMEN REQUIRED: Whole blood or cultured fibroblasts at
room temperature
**[TGFBR2]**  
**TGFB2 DNA SEQUENCING**

- **SPECIMEN REQUIRED:** Whole blood room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-4 weeks
- **REFERENCE RANGE:** No mutation detected
- **OTHER NAMES:** Loeys-Dietz Syndrome
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83890; 83891; 83894; 83898 x 11; 83904 x 11; 83912

---

**[TGIF1]**  
**HOLOPROSENCEPHALY-4 VIA TGIF1**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4-5 weeks
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83890; 83891; 83894; 83898 x 3; 83904 x 3; 83912

---

**[TGM1]**  
**TGM1-CONG REC ICHTHYOSIS (CRI)**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8-10 weeks
- **OTHER NAMES:** TGM1 Gene analysis in Congenital Recessive Ichthyosis (CRI)
- **METHODOLOGY:** Polymerase chain reaction (PCR)
- **CPT:** 83891 x 15; 83892 x 2; 83894 x 15; 83898 x 15; 83904 x 25; 83912

---

**[TH]**  
**TYROSINE HYDROXYLASE**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 10 mL
- **MINIMUM VOLUME:** 2 mL
<table>
<thead>
<tr>
<th>TEST AVAILABILITY: Monday-Thursday</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTHER NAMES: TH Deficiency; Tyrosine Deficiency &amp; Dopa</td>
</tr>
<tr>
<td>Responsive Dystonia</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83891; 83894 x 6; 83898 x 7; 83904 x 7; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[THAL] Thallium</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum or plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Royal Blue (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Separate within 2 hours of collection</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.4 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 4-6 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: &lt; 5.0 ng/mL</td>
</tr>
<tr>
<td>METHODOLOGY: Inductively coupled plasma/Mass Spectrometry (ICP/MS)</td>
</tr>
<tr>
<td>CLINICAL USE: Overexposure/poisoning determination</td>
</tr>
<tr>
<td>CPT: 83018</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[THALTM] UR THALLIUM 24 HR</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Room temperature urine (random or 24 hour)</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Plastic urine container</td>
</tr>
<tr>
<td>SPECIAL HANDLING: 24 hour or random urine collection with no preservative</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1.5 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: Urine creatinine, urine thallium and ratio</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>REFERENCE RANGE: Environmental exposure: thallium:creatinine ratio: 0.0-0.9 g/g creat</td>
</tr>
<tr>
<td>METHODOLOGY: Inductively-coupled plasma mass spectrometry (ICP-MS)</td>
</tr>
<tr>
<td>CLINICAL USE: Monitor industrial exposure to thallium</td>
</tr>
<tr>
<td>CPT: 82570; 82190</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[THBCO] Other Total Hemoglobin (Blood Gas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood on ice</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Dark Green (heparin) or Heparinized syringe</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Keep specimen on ice and transport to lab immediately; do NOT open</td>
</tr>
<tr>
<td>Test should be performed within 8 hours</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 1 hour</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0 -30 days: 12.5-20.5 g/dL</td>
</tr>
<tr>
<td>1 month-9 years: 9.9-14.9 g/dL</td>
</tr>
<tr>
<td>10 years + : 11.4-18.0 g/dL</td>
</tr>
<tr>
<td>METHODOLOGY: Spectrophotometry</td>
</tr>
</tbody>
</table>
### Theophylline Level

**SPECIMEN REQUIRED:** Refrigerated plasma or serum  
**TUBE OR CONTAINER:** Light Green (heparin) or Gold  
**SPECIMEN VOLUME:** 1 mL  
MINIMUM VOLUME: 0.5 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 8 hours  
**REFERENCE RANGE:**  
0 Day: 6.0-12.0 mg/L  
1 Month+: 10.0-20.0 mg/L  
**OTHER NAMES:** Aminophylline; Somophyllin; Theo-Dur; Theolair; Theospan  
**METHODOLOGY:** Turbidimetric inhibition immunoassay  
**CLINICAL USE:** Monitor therapeutic drug level and assess toxicity  

CPT: 80198

### Thiocyanate Level

**SPECIMEN REQUIRED:** Room temperature plasma or serum  
**TUBE OR CONTAINER:** Light Green (heparin) or Gold  
**SPECIAL HANDLING:** Please indicate if the patient is a smoker or nonsmoker  
**SPECIMEN VOLUME:** 1 ml  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 8 hours  
**REFERENCE RANGE:**  
0 Day: 6.0-12.0 mg/dL  
1 Month+: 10.0-20.0 mg/dL  
**METHODOLOGY:** Spectrophotometry  
**CLINICAL USE:** Evaluate toxicity, nitroprusside poisoning and smoking  

CPT: 84430

### Thioridazine (Mellaril) Profil

**SPECIMEN REQUIRED:** Refrigerated serum or plasma  
**TUBE OR CONTAINER:** Red, Dark green (heparin) or Lavender (EDTA)  
**SPECIAL HANDLING:** Do NOT collect in gel barrier tube  
**SPECIMEN VOLUME:** 1 mL  
MINIMUM VOLUME: 0.5 mL  
**TEST INCLUDES:** Mesoridazine and thioridazine  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 6-8 days  
**REFERENCE RANGE:** 250 - 1250 ng/mL  
**OTHER NAMES:** Mellaril  
**METHODOLOGY:** Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)  
**CLINICAL USE:** Monitor therapeutic drug level  

CPT: 84022

### Thiothixene Level

**SPECIMEN REQUIRED:** Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Dark green (heparin)
SPECIAL HANDLING: Do NOT collect in gel barrier tube
SPECIMEN VOLUME: 3 ml
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-10 days
REFERENCE RANGE: Therapeutic: 10-30 ng/mL
Potentially toxic: >100 ng/mL
OTHER NAMES: Navane
Methodology: High Performance Liquid Chromatography with Fluorescence Detection (HPLC-FL)
CLINICAL USE: Therapeutic drug monitoring
CPT: 84022

[THYM] Thymidine Kinase

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Green (heparin)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-9 days
REFERENCE RANGE: < 500 nanomoles/liter plasma
METHODOLOGY: Mass spectroscopy (MS)
CLINICAL USE: Aid in diagnosis of mitochondrial depletion syndromes
CPT: 83789

[THYROAB] Anti-Thyroglobulin Antibody

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 Days
METHODOLOGY: Immunochemiluminometric assay (ICMA)
CLINICAL USE: Detect and confirm autoimmune thyroiditis, Hashimoto's thyroiditis
CPT: 86800

[THYROGFNA] Thyroglobulin Needle Washout

SPECIMEN REQUIRED: Frozen fine needle aspirate
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Indicate source of specimen; specimen must be clear, not viscous or blood
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 Days
REFERENCE RANGE: < 10 ng/mL
METHODOLOGY: Immunochemiluminescent assay (ICMA)
CLINICAL USE: Aid in diagnosis of papillary or follicular thyroid cancer
CPT: 84432

[THYROGL] THYROGLOBULIN

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold, or Green (heparin)
SPECIMEN VOLUME: 3 mL (adults)
0.8 mL (pediatrics)
MINIMUM VOLUME: 0.5 mL (adults)
0.3 mL (pediatrics)
TEST INCLUDES: Antithyroglobulin antibody and thyroglobulin
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 days
REFERENCE RANGE: Age specific
METHODOLOGY: Chemiluminescent enzyme immunometric
CLINICAL USE: Management of differentiated thyroid carcinomas
CPT: 84432, 86800

[THYROMAB] AB THYROGLOBULIN & MICROSOomal

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Anti-thyroglobulin Ab and Anti-microsomal Ab
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
METHODOLOGY: Chemiluminescent enzyme immunometric
CLINICAL USE: Differential diagnosis of hypothyroidism and thyroiditis
CPT: 86800, 86376

[TIAG] Tiagabine (Gabitril) Level

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
OTHER NAMES: Gabitril
METHODOLOGY: Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
CLINICAL USE: Therapeutic drug monitoring
CPT: 80299

[TICL] Ticarcillin Level

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red (no gel)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube;
Send list of other antibiotics patient is taking

SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
METHODOLOGY: Bioassay
CLINICAL USE: Monitor therapeutic drug level
CPT: 80299

[TICP] Ticarcillin Level

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red (no gel)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube; Send list of other antibiotics patient is taking; Collect specimen within 15-30 minutes after the end of I.V. infusion or 45-60 minutes after an IM injection or 90 minutes after oral intake
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
METHODOLOGY: Bioassay
CLINICAL USE: Monitor therapeutic drug level
CPT: 80299

[TICT] Ticarcillin Level

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red (no gel)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube; Send list of other antibiotics patient is taking; Collect specimen just before or within 15 minutes of the next dose
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
METHODOLOGY: Bioassay
CLINICAL USE: Monitor therapeutic drug level
CPT: 80299

[TK2] THYMIDINE KINASE 2 SEQUENCING

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 weeks
### M ETHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83891; 83894; 83898 x 10; 83904 x 20; 83909; 83912

<table>
<thead>
<tr>
<th>[TLColigu] Urine Oligosaccharides</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen urine (random)</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Plastic urine container</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 25 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 10 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>METHODOLOGY: Thin Layer Chromatography (TLC)</td>
</tr>
<tr>
<td>CPT: 84375</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[TMA-TMAO] TRIMETHYLAMINE &amp; TMA N-OXIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen urine (random)</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Plastic urine container</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Collect urine preferably when the odor is present and patient is on a normal diet</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: Trimethylamine (TMA) and Trimethylamine N-oxide (TMAO), % TMAO and interpretation</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNDAROUND TIME: 4-6 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Normal ratio TMA/TMAO = 0.0025 - 0.055 ( &gt; 85% TMAO)</td>
</tr>
<tr>
<td>Affected ratio: TMA/TMAO &gt; 0.2 (&lt; 20% TMAO)</td>
</tr>
<tr>
<td>METHODOLOGY: Tandem mass spectrometry (MS/MS)</td>
</tr>
<tr>
<td>CLINICAL USE: Diagnosis of trimethylaminuria</td>
</tr>
<tr>
<td>CPT: 83789</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[TMEM216] JOUBERT SYNDROME VIA TMEM216</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNDAROUND TIME: 4-6 weeks</td>
</tr>
<tr>
<td>OTHER NAMES: Joubert Syndrome via TMEM216 gene sequencing</td>
</tr>
<tr>
<td>METHODOLOGY: Polymerase chain reaction (PCR)</td>
</tr>
<tr>
<td>CPT: 83890; 83891; 83894; 83898 x 5; 83904 x 5; 83912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[TMEM67] TMEM67/MKS3 GENE SEQUENCING</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNDAROUND TIME: 4-6 weeks</td>
</tr>
<tr>
<td>OTHER NAMES: Joubert &amp; Meckel-Gruber Syndromes via TMEM67/MKS3 gene sequencing</td>
</tr>
</tbody>
</table>
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 25; 83904 x 25; 83912

**[TNNI2] DISTAL ARTHROGRYPOSIS (TNNI2)**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
OTHER NAMES: Distal Arthrogryposis 2B (Sheldon-Hall Syndrome) via TNNI2 Gene Sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 7; 83904 x 7; 83912

**[TNNI3] HYPERTROPHIC CARDIOMYOP-TNNI3**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 weeks
OTHER NAMES: Hypertrophic Cardiomyopathy and Related Disorders via TNNI3 gene sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 8; 83904 x 8; 83912

**[TNNT2] HYPERTROPHIC CARDIOMYOP-TNNT2**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
OTHER NAMES: Hypertrophic Cardiomyopathy and Related Disorders via TNNT2 gene sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 14; 83904 x 14; 83912

**[TNNT3] DISTAL ARTHROGRYPOSIS (TNNT3)**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 weeks
OTHER NAMES: Distal Arthrogryposis 2B (Sheldon-Hall Syndrome) via TNNT3 Gene Sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 14; 83904 x 14; 83912
<table>
<thead>
<tr>
<th>Specimen</th>
<th>Random Tobramycin Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Required:</td>
<td>Refrigerated plasma or serum</td>
</tr>
<tr>
<td>Tube or Container:</td>
<td>Light Green (heparin) or Gold</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>1 mL</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time:</td>
<td>8 hours</td>
</tr>
<tr>
<td>Reference Range:</td>
<td>None established</td>
</tr>
<tr>
<td>Other Names:</td>
<td>Tobral; Nebcin</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Turbidimetric inhibition immunoassay</td>
</tr>
<tr>
<td>Clinical Use:</td>
<td>Monitor therapeutic drug level and assess toxicity</td>
</tr>
<tr>
<td>CPT:</td>
<td>80200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Tobramycin Level Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Required:</td>
<td>Refrigerated plasma or serum</td>
</tr>
<tr>
<td>Tube or Container:</td>
<td>Light Green (heparin) or Gold</td>
</tr>
<tr>
<td>Special Handling:</td>
<td>Peak samples should be drawn 60 minutes after an IM injection, 30 minutes after the end of a 30 minute IV infusion, or immediately after a 60 minute infusion</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>1 mL</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time:</td>
<td>8 hours</td>
</tr>
<tr>
<td>Reference Range:</td>
<td>4.0-10.0 mg/L</td>
</tr>
<tr>
<td>Other Names:</td>
<td>Tobral; Nebcin</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Turbidimetric inhibition immunoassay</td>
</tr>
<tr>
<td>Clinical Use:</td>
<td>Monitor therapeutic drug level and assess toxicity</td>
</tr>
<tr>
<td>CPT:</td>
<td>80200</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Tobramycin Level Trough</th>
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</thead>
<tbody>
<tr>
<td>Specimen Required:</td>
<td>Refrigerated plasma or serum</td>
</tr>
<tr>
<td>Tube or Container:</td>
<td>Light Green (heparin) or Gold</td>
</tr>
<tr>
<td>Special Handling:</td>
<td>Draw immediately prior to next dose</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>1 mL</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time:</td>
<td>8 hours</td>
</tr>
<tr>
<td>Reference Range:</td>
<td>0.0-2.0 mg/L</td>
</tr>
<tr>
<td>Other Names:</td>
<td>Tobral; Nebcin</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Turbidimetric inhibition immunoassay</td>
</tr>
<tr>
<td>Clinical Use:</td>
<td>Monitor therapeutic drug level and assess toxicity</td>
</tr>
<tr>
<td>CPT:</td>
<td>80200</td>
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<table>
<thead>
<tr>
<th>Specimen</th>
<th>Toluene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Required:</td>
<td>Frozen whole blood</td>
</tr>
<tr>
<td>Tube or Container:</td>
<td>Lavender (EDTA)</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>2 mL</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>0.7 mL</td>
</tr>
</tbody>
</table>
TEST AVAILABILITY: Daily
TURNAROUND TIME: 5-9 days
REFERENCE RANGE: Environmental exposure: none detected
METHODOLOGY: Gas chromatography (GC)
CLINICAL USE: Monitor exposure to toluene
CPT: 84600

<table>
<thead>
<tr>
<th>TOP</th>
<th>Topiramate Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum or plasma</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red, Dark green (heparin) or Lavender (EDTA)</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Do NOT collect in gel barrier tube</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.3 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: 2.0 - 25.0 ug/mL</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Topamax</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Liquid Chromatography/Mass Spectrometry (LC/MS)</td>
<td></td>
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<tr>
<td>CLINICAL USE: Therapeutic drug monitoring</td>
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<tr>
<td>CPT: 80201</td>
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<table>
<thead>
<tr>
<th>TORCHG</th>
<th>AB TORCH IGG PANEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Hemolyzed specimen will be rejected</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 3.5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: Index results for IgG antibody to Toxoplasma, CMV, rubella, and herpes simplex types I &amp; II</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Friday</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 1-4 days</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: See individual tests</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: See individual tests</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Detect TORCH antibodies; aid in the diagnosis of congenital infection</td>
<td></td>
</tr>
<tr>
<td>CPT: 86317; 86677; 86762; 86695; 86696</td>
<td></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>TORCHM</th>
<th>AB TORCH IGM PANEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: Index results for IgM antibody to Toxoplasma, CMV, rubella, and herpes simplex types I &amp; II</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: Index results for IgM antibody to Toxoplasma, CMV, rubella, and herpes simplex types I &amp; II</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: See individual tests</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme immunoassay (EIA); Indirect Immunofluorescent antibody (IFA)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Aid in diagnosis of acute or recent infection</td>
<td></td>
</tr>
</tbody>
</table>
[TOTPORF] Stool Porphyrians

SPECIMEN REQUIRED: Frozen stool
TUBE OR CONTAINER: Plastic container
SPECIMEN VOLUME: 20 grams
MINIMUM VOLUME: 10 grams
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-8 days
REFERENCE RANGE: 0-200 nmol/g
REFLEX TEST INFORMATION: Fractionation of porphyrins will be reflexed if total is increased
CPT: 84126

[TOXAB] Toxocara Antibody

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold, Green (heparin) or Lavender(EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
REFERENCE RANGE: < 1.00
METHODOLOGY: Enzyme-linked immunosorbant assay (ELISA)
CLINICAL USE: Detect antibody to Toxocara canis
CPT: 86682

[TOXCSF] AB TOXOPLASMA IGG/IGM CSF

SPECIMEN REQUIRED: Refrigerated CSF
TUBE OR CONTAINER: Sterile tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Toxoplasma gondii IgG and IgM
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
REFERENCE RANGE: IgG: IgM: METHODOLOGY: Chemiluminescent Immunoassay
CPT: 86777; 86778

[TOXICSHOCK] TOXIC SHOCK AB PANEL

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-9 days
REFERENCE RANGE: Negative
METHODOLOGY: MAID
CLINICAL USE: Immune screen for the determination of patients who lack protective antibodies
CPT: 86609 x 2
### [TOXOA] Toxoplasma IgA Antibody

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-5 days
- **REFERENCE RANGE:** < 0.8
- **METHODOLOGY:** Enzyme immunoassay (EIA)
- **CLINICAL USE:** Valuable tool for the early detection of acute disease in pregnant women and individuals with AIDS
- **CPT:** 86777

### [TOXOIGG] Toxoplasma IgG Ab, Quantitative

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Gold or Red
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.3 mL
- **TEST AVAILABILITY:** Monday-Friday
- **TURNAROUND TIME:** 2 days
- **REFERENCE RANGE:**
  - Negative: < 6.4 IU/mL
  - Equivocal: 6.4-9.9 IU/mL
  - Positive: >= 10.0 IU/mL
- **METHODOLOGY:** Chemiluminometric assay
- **CLINICAL USE:** Support the diagnosis of toxoplasmosis; document past exposure and/or immunity to Toxoplasma gondii
- **CPT:** 86777

### [TOXOM] Toxoplasma IgM Antibody

- **SPECIMEN REQUIRED:** Serum at room temperature
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:**
  - Negative: < 0.9 index
  - Equivocal: 0.9 - 1.0 index
  - Positive: >= 1.1 index
- **METHODOLOGY:** Immunochemiluminometric assay (ICMA)
- **CLINICAL USE:** Support the diagnosis of toxoplasmosis
- **CPT:** 86778

### [TOXPCR] Toxoplasma gondii DNA (PCR)

- **SPECIMEN REQUIRED:** Whole blood or bone marrow at room temperature; Refrigerated CSF
- **TUBE OR CONTAINER:** Lavender (EDTA), Yellow (ACD), Sterile tube
- **SPECIAL HANDLING:** Only stable for 7 days; CSF can be frozen
- **SPECIMEN VOLUME:**
  - 3 mL (whole blood or bone marrow)
  - 1 mL (CSF)
- **MINIMUM VOLUME:** 2 mL (whole blood or bone marrow)
0.5 mL (CSF)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 days
REFERENCE RANGE: Not detected
METHODOLOGY: Polymerase chain reaction (PCR) with Southern blot confirmation
CPT: 87798

[TOXPCRF] Toxoplasma gondii DNA (PCR)
SPECIMEN REQUIRED: Frozen amniotic fluid
TUBE OR CONTAINER: Sterile tube
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 days
REFERENCE RANGE: Not detected
METHODOLOGY: Polymerase chain reaction (PCR) with Southern blot confirmation
CPT: 87798

[TP] Total Protein
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 0-30 days: 5.0-7.0 g/dL
1 month-9 years: 6.1-7.4 g/dL
10-59 years: 6.1-7.7 g/dL
> 59 years: 6.0-7.5 g/dL
METHODOLOGY: Rate biuret
CLINICAL USE: Evaluate nutritional status and investigate edema
CPT: 84155

[TPM1] HYPERTROPHIC CARDIOMYOP-TPM1
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 weeks
OTHER NAMES: Hypertrophic Cardiomyopathy and Dilated Cardiomyopathy via TPM1 gene sequencing
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 9; 83904 x 9; 83912

[TPMTGEN] TPMT ENZYME GENETICS
SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 3 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 days  
OTHER NAMES: Thiopurine methyltransferase genotype  
METHODOLOGY: Polymerase Chain reaction (PCR)  
CLINICAL USE: A genotypic test for use prior to treatment, to help determine patient candidacy for AZA/6-MP therapy and to aid in individualizing patient dose  
CPT: 83896 x 6; 83898 x 3; 83907; 83912

<table>
<thead>
<tr>
<th>[TPP1-PPT1]</th>
<th>TPPI &amp; PPT1</th>
</tr>
</thead>
</table>
| SPECIMEN REQUIRED: Refrigerated whole blood  
TUBE OR CONTAINER: Yellow (ACD)  
SPECIAL HANDLING: Specimen must be received in laboratory by 1:30 pm, Monday through Friday only  
Must be received at performing lab within 48 hours of collection  
SPECIMEN VOLUME: 7 mL  
MINIMUM VOLUME: 5 mL  
TEST INCLUDES: Tripeptidyl Peptidase 1 (TPP1) and Palmitoyl-Protein Thioesterase 1 (PPT1)  
TEST AVAILABILITY: Monday-Thursday only  
REFERENCE RANGE: TPP1: 85 - 326 nmol/hr/mg protein  
PPT1: 20 - 93 nmol/hr/mg protein  
OTHER NAMES: Tripeptidyl Peptidase 1 (TPP1) and Palmitoyl-Protein Thioesterase 1 (PPT1)  
METHODOLOGY: Fluorometric  
CLINICAL USE: Aid in the evaluation of patients with clinical presentations suggestive of NCL; Aid in the differential diagnosis of infantile and late infantile NCL  
CPT: 82657

<table>
<thead>
<tr>
<th>[TrAB]</th>
<th>Anti-Tr Antibody</th>
</tr>
</thead>
</table>
| SPECIMEN REQUIRED: Serum at room temperature  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-5 days  
REFERENCE RANGE: Negative: < 1:10 Units  
METHODOLOGY: Indirect Immunofluorescence (IFA)  
CLINICAL USE: Associated with paraneoplastic cerebellar degeneration and Hodgkin's disease  
CPT: 86255

<table>
<thead>
<tr>
<th>[TRAB]</th>
<th>TSH Receptor Antibody</th>
</tr>
</thead>
</table>
| SPECIMEN REQUIRED: Refrigerated or frozen serum  
TUBE OR CONTAINER: Red or Gold |
SPECIAL HANDLING: No radioisotopes administered 24 hours prior to venipuncture
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.4 mL (this volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10 days
REFERENCE RANGE: TSH binding inhibition index:
Negative: Borderline: 10-15
Positive: > 15
OTHER NAMES: LATS; Long-Acting Thyroid Stimulator; Thyrotropin-Binding Inhibitory Immunoglobulin; TRAb; TSH Receptor Antibody; TSH Receptor Binding Inhibitory Immunoglobulin
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: Aid in diagnosis of hyperthyroidism and Graves' disease
CPT: 83519

<table>
<thead>
<tr>
<th>TRAM</th>
<th>TRAMADOL &amp; METABOLITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen serum or plasma</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Dark green (heparin)</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 2 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: Tramadol and O-desmethyltramadol</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 3-4 days</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Ultram</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Therapeutic drug monitoring</td>
<td></td>
</tr>
<tr>
<td>CPT: 82492</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TRANSA</th>
<th>Tissue Transglutaminase IgA Ab</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Gold or Red</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 0.4 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-4 days</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative: 0 - 3 U/mL</td>
<td></td>
</tr>
<tr>
<td>Weak positive: 4 - 10 U/mL</td>
<td></td>
</tr>
<tr>
<td>Positive: &gt;10 U/mL</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme immunoassay (EIA)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Aid in the diagnosis of gluten-sensitive enteropathy (GSE), such as celiac disease and dermatitis herpetiformis</td>
<td></td>
</tr>
<tr>
<td>CPT: 83516</td>
<td></td>
</tr>
</tbody>
</table>
**[TRANSF] Transferrin**

SPECIMEN REQUIRED: Refrigerated plasma or serum  
TUBE OR CONTAINER: Light Green (heparin) or Gold  
SPECIAL HANDLING: Hemolyzed specimens will be rejected  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
REFERENCE RANGE: Female: 171 - 305 mg/dL  
Male: 105 - 284 mg/dL  
METHODOLOGY: Turbidimetric  
CLINICAL USE: Aids in diagnosis of malnutrition, acute inflammation, infection, assessment of renal function and RBC disorders, such as iron deficiency anemia  
CPT: 84466

**[TRANSG] Tissue Transglutaminase IgG Ab**

SPECIMEN REQUIRED: Refrigerated serum  
TUBE OR CONTAINER: Gold or Red  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-4 days  
REFERENCE RANGE: Negative: < 6 U/mL  
Weak positive: 6 - 9 U/mL  
Positive: > 9 U/mL  
METHODOLOGY: Enzyme immunoassay (EIA)  
CLINICAL USE: Aid in the diagnosis of gluten-sensitive enteropathy (GSE), such as celiac disease and dermatitis herpetiformis  
CPT: 83516

**[TRAP] Tartrate Resistant Acid Phosphatase**

SPECIMEN REQUIRED: Frozen serum  
TUBE OR CONTAINER: Red or gold  
SPECIAL HANDLING: Separate serum from clot promptly after blood collection prior to freezing. Acid Phosphatase at normal pH is very labile; therefore, separate and freeze immediately  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Monday-Thursday  
TURNAROUND TIME: 8-14 days  
CLINICAL USE: Non-specific indicator of lipid storage and may be useful in monitoring treatment of Gaucher disease  
CPT: 84060

**[TRAPS] TNFRSF1A MUTATION IN TRAPS**

SPECIMEN REQUIRED: Whole blood on ice pack or buccal swab
<table>
<thead>
<tr>
<th>Test Description</th>
<th>Specimen</th>
<th>Tube or Container</th>
<th>Special Handling</th>
<th>Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Methodology</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBE OR CONTAINER: EDTA (lavender) or swab</td>
<td>SPECIMEN VOLUME: 5 mL</td>
<td>MINIMUM VOLUME: 3 mL</td>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME: 4 weeks (new patient)</td>
<td>METHODOLOGY: Bi-directional sequence analysis of exons 2, 3, and 4, amplified from genomic DNA</td>
<td>CPT: 83891 x 5; 83892 x 2; 83894 x 5; 83898 x 5; 83904; x 10; 83912</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated serum or plasma</td>
<td>TUBE OR CONTAINER: Red, Dark green (heparin) or Lavender (EDTA)</td>
<td>SPECIAL HANDLING: Do NOT collect in gel barrier tube</td>
<td>SPECIMEN VOLUME: 2 mL</td>
<td>MINIMUM VOLUME: 0.6 mL</td>
<td>TEST AVAILABILITY: Daily</td>
<td>TURNAROUND TIME: 48 hours</td>
<td>REFERENCE RANGE: Therapeutic: 0.8-1.6 ug/mL Potentially toxic: &gt;5.0 ug/mL</td>
<td>METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS) CLINICAL USE: Therapeutic monitoring and toxicity assessment</td>
<td>CPT: 80299</td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Whole blood at room temperature</td>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
<td>SPECIAL HANDLING: Specimen must be received in Laboratory by 1:30 pm, Monday through Thursday only; Must be received at performing lab within 48 hours of collection</td>
<td>SPECIMEN VOLUME: 20 mL</td>
<td>MINIMUM VOLUME: 5 mL</td>
<td>TEST AVAILABILITY: Monday-Thursday</td>
<td>TURNAROUND TIME: 6-8 days</td>
<td>OTHER NAMES: T-Cell Receptor Excision Circles (TREC) Analysis for Immune Reconstitution</td>
<td>METHODOLOGY: Polymerase Chain Reaction (PCR)</td>
<td>CPT: 83896 x 4; 83898 x 2; 83907; 83912</td>
</tr>
<tr>
<td>SPECIMEN REQUIRED: Frozen plasma</td>
<td>TUBE OR CONTAINER: PTH-RP</td>
<td>SPECIAL HANDLING: Collect blood in a special PTH-RP tube and gently invert the tube twice; centrifuge immediately, transfer and freeze</td>
<td>SPECIMEN VOLUME: 5 mL</td>
<td>MINIMUM VOLUME: 1 mL</td>
<td>TEST AVAILABILITY: Daily</td>
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</tbody>
</table>

**[TRAZP] Tramadol (Desyrel) Profile**

**[TREC] T-Cell Receptor Excision Circles**

**[TRH] Thyroid Releasing Hormone**
TRICYCLIC ANTIDEPRESSANT QNT

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 1.2 mL
MINIMUM VOLUME: 0.6 mL
TESTS INCLUDES: Amitryptiline, Doxepin, Desipramine, Imipramine, Nortriptyline, Nordoxepine
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-2 days
METHODOLOGY: High-pressure liquid chromatography (HPLC)
CPT: 80299

TRIAZOLAM & METABOLITES

SPECIMEN REQUIRED: Serum or plasma at room temperature
TUBE OR CONTAINER: Red, Lavender (EDTA) or Dark green (heparin)
SPECIAL HANDLING: Do NOT use gel barrier tube; protect from light
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1.5 mL
TEST INCLUDES: Triazolam and its metabolite Hydroxytriazolam
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-5 days
OTHER NAMES: Halcion
CLINICAL USE: Therapeutic drug monitoring
METHODOLOGY: High Performance Liquid Chromatography (HPLC)
CPT: 80154

Trichinella IgG Antibody

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
CPT: 86784

1,1,1-Trichloroethane

SPECIMEN REQUIRED: Refrigerated whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Submit original full, unopened tube
SPECIMEN VOLUME: 7 mL
MINIMUM VOLUME: 2.1 mL
TEST AVAILABILITY: Daily
REFERENCE RANGE: Environmental exposure: none detected
Occupational exposure: levels of 1.4 mg/L and
1.5-6.5 mg/L were found to be consistent with exposure to 250 ppm and 500 ppm, respectively; (the current recommended allowable threshold limit value (TLV)

METHODOLOGY: Gas chromatography (GC)

CLINICAL USE: Monitor exposure to trichloroethane

CPT: 84600

<table>
<thead>
<tr>
<th>[TRIFL]</th>
<th>Trifluoperazine Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Room temperature serum or plasma</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Dark green (heparin)</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Do NOT use gel barrier tube; protect from light</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 3 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
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<tr>
<td>TURNAROUND TIME: 6-8 days</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: 4.0 - 40.0 ng/mL</td>
<td></td>
</tr>
<tr>
<td>OTHER NAMES: Stelazine</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Therapeutic drug monitoring</td>
<td></td>
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<tr>
<td>CPT: 84022</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>[TRIG]</th>
<th>Triglycerides Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated plasma or serum</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Light Green (heparin) or Gold</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 hours</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: 0-9 years: Female: 35-135 mg/dL Male: 27-129 mg/dL &gt; 9 years: Female: 35-135 mg/dL Male: 40-160 mg/dL</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Timed endpoint</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Aid in diagnosis and treatment of patients with diabetes mellitus, nephrosis, liver obstruction, and other diseases involving lipid metabolism, or various endocrine disorders</td>
<td></td>
</tr>
<tr>
<td>CPT: 84478</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>[TRIGFL]</th>
<th>Body Fluid Triglycerides</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated body fluid</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile container</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Specify source of fluid</td>
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</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 8 hours</td>
<td></td>
</tr>
<tr>
<td>Test Code</td>
<td>Test Name</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>TRIGPC</td>
<td>Pericardial Fluid Triglycerides</td>
</tr>
<tr>
<td>TRIGPL</td>
<td>Pleural Fluid Triglycerides</td>
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<tr>
<td>TRIGPT</td>
<td>Peritoneal Fluid Triglycerides</td>
</tr>
<tr>
<td>TRIGSY</td>
<td>Synovial Fluid Triglycerides</td>
</tr>
<tr>
<td>TRISCR</td>
<td>Tricyclic Antidepressants Screen</td>
</tr>
</tbody>
</table>

| REFERENCE RANGE: None established |
| METHODOLOGY: Timed endpoint |
| CPT: 84478 |
TUBE OR CONTAINER: Gold, Red or Light Green (heparin)
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Qualitative estimate of combined amount of
Amitryptiline, Doxepine Desipramine, Imipramine,
Nortiptyline and metabolites
TEST AVAILABILITY: Stat basis
REFERENCE RANGE: Negative
METHODOLOGY: Homogeneous enzyme immunoassay
CLINICAL USE: Detect possible toxicity in emergency overdose
situations
CPT: 80101

**[TROFDNA] HIV Co-receptor Tropism Assay**

SPECIMEN REQUIRED: Frozen whole blood
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must be frozen in a screw top tube
Place in -20°C freezer
SPECIMEN VOLUME: 6 mL
MINIMUM VOLUME: 4 mL
TEST AVAILABILITY: Daily
CLINICAL USE: To be used when a patient's viral load is
undetectable, tropism is unknown, and substitution
with a CCR5 antagonist-containing regimen is
desired
CPT: 87906

**[TROFILE] HIV Co-receptor Tropism Assay**

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA) or PPT (white)
SPECIAL HANDLING: Specimen must be frozen in a screw top tube
or a PPT tube
Place in -20°C freezer
SPECIMEN VOLUME: 6 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
CLINICAL USE: Identifies the tropism of a patient's HIV
CPT: 87906

**[TROPI] Troponin I**

SPECIMEN REQUIRED: Refrigerated plasma (preferred) or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2 hours
REFERENCE RANGE: Negative: 0.0-0.39 ng/mL
Suggestive of myocardial injury: 0.4-1.2 ng/mL
Consistent with recent myocardial necrosis:
>1.5 ng/mL
METHODOLOGY: Chemiluminescence
CLINICAL USE: Detect cardiac injury and diagnose acute myocardial infarction
CPT: 84484

[TRPS1] TRICHRORHINOPHALANGEAL SYNDROME
SPECIMEN REQUIRED: Room temperature whole blood
TUBE OR CONTAINER: Dark green (sodium heparin)
SPECIMEN VOLUME: 5 mL (child/adult)
2 mL (newborn-< 3 months)
MINIMUM VOLUME: 3 mL (child/adult)
0.5 mL (newborn-< 3 months)
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 10-12 days
REFERENCE RANGE: No deletion detected
METHODOLOGY: Fluorescence in situ hybridization (FISH)
CLINICAL USE: Identify the chromosome deletion associated with trichorhinophalangeal syndrome, type 1 (TRPS1)
CPT: 88230; 88271; 88273

[TRY] Tryptase
SPECIMEN REQUIRED: Frozen/refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIAL HANDLING: Obtain specimen between 15 minutes and 3 hours after event suspected of causing mast cell activation
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-8 days
METHODOLOGY: ImmunoCAP
CLINICAL USE: Elevated levels of tryptase are found following mast cell activation in anaphylaxis in serum and in allergic rhinitis in nasal fluid. Elevated levels of tryptase are also found in serum in systemic mastocytosis
CPT: 83520

[TRYP] Trypsin Level
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red, Gold, Green (heparin), or Lavender(EDTA)
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-7 days
REFERENCE RANGE: 10.0 - 57.0 ng/mL
OTHER NAMES: Cathodic Trypsinogen; TLI; Trypsinogen
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: Specific indicator of pancreatic damage; this
assay is useful in the evaluation of acute pancreatitis
CPT: 83519

<table>
<thead>
<tr>
<th><strong>[TRYPG]</strong> Trypanosoma cruzi IgG Antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated or frozen serum</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Separate from cells within 45 minutes of collection</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-10 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0.20 - 1.20 O.D. - Equivocal</td>
</tr>
<tr>
<td>( \geq 1.21 ) O.D. - Positive</td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme-Linked Immunosorbent Assay (ELISA)</td>
</tr>
<tr>
<td>CLINICAL USE: Support clinical diagnosis of Chagas Disease</td>
</tr>
<tr>
<td>CPT: 86753</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[TRYPM]</strong> Trypanosoma cruzi IgM Antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated or frozen serum</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Red or Gold</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Separate from cells within 45 minutes of collection</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-10 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: (&lt; 1:16:) Negative</td>
</tr>
<tr>
<td>( \geq 1:16:) Positive</td>
</tr>
<tr>
<td>METHODOLOGY: Indirect Fluorescent Antibody (IFA)</td>
</tr>
<tr>
<td>CLINICAL USE: Support clinical diagnosis of Chagas Disease</td>
</tr>
<tr>
<td>CPT: 86753</td>
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<thead>
<tr>
<th><strong>[TRYPT]</strong> Tryptophan Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Green (heparin)</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 4 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 1 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 5-9 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Neonate: (&lt; 1) month: 1.0-8.7 umol/dL</td>
</tr>
<tr>
<td>1 month - 16 years: 1.5-10.9 umol/dL</td>
</tr>
<tr>
<td>Adult: ( &gt; 16) years: 2.1-9.4 umol/dL</td>
</tr>
<tr>
<td>METHODOLOGY: High-pressure liquid chromatography (HPLC)</td>
</tr>
<tr>
<td>CPT: 82131</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>[TRYPU]</strong> Tryptase</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Random urine at room temperature</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Urine container</td>
</tr>
</tbody>
</table>
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-8 days
CPT: 83520

[TSC1DEL]  TSC1 DNA DELETION
SPECIMEN REQUIRED: Whole Blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Must be received in lab by 1:30 pm Monday -
Thursday only; Ship to performing lab same
day as received
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 3-4 weeks
REFERENCE RANGE: No deletions detected
METHODOLOGY: Multiplex-Ligation Probe Amplification (MLPA)
CLINICAL USE: Detects exonic deletions of the TSC1 gene
CPT: 83891; 83900; 83901 x 35; 83909; 83914; 83912

[TSC1DNA]  TSC1 DNA SEQUENCING
SPECIMEN REQUIRED: Whole Blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Must be received in lab by 1:30 pm Monday -
Thursday only; Ship to performing lab same
day as received
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 10 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 3-4 weeks
REFERENCE RANGE: No sequence variation detected
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA sequencing
CLINICAL USE: Detects sequence variations in TSC1 genes
CPT: 83891; 83898 x 22; 83904 x 22; 83909; 83912

[TSC2DEL]  TSC2 DNA DELETION
SPECIMEN REQUIRED: Whole Blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Must be received in lab by 1:30 pm Monday -
Thursday only; Ship to performing lab same
day as received
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 3-4 weeks
REFERENCE RANGE: No deletions detected
METHODOLOGY: Dosage analysis of all exons in the TSC2 gene
CLINICAL USE: Detects exonic deletions of the TSC2 gene
CPT: 83891; 83900; 83901 x 41; 83909; 83914; 83912
[TSC2DNA]  TSC2 DNA SEQUENCING
SPECIMEN REQUIRED: Whole Blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Must be received in lab by 1:30 pm Monday - Thursday only; Ship to performing lab same day as received
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 10 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 3-4 weeks
REFERENCE RANGE: No sequence variation detected
METHODOLOGY: Polymerase Chain Reaction (PCR) and DNA sequencing
CLINICAL USE: Detects sequence variations in TSC2 genes
CPT: 83891; 83898 x 42; 83904 x 42; 83909; 83912

[TSEXAM]  TX EXT AND AMP FOR PCR
SPECIMEN REQUIRED: Frozen fresh tissue or fluid
Also accepted: Paraffin embedded or formalin-fixed
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83894; 83898 x 2; 83912

[TSH]  Thyroid Stimulating Hormone (TSH)
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: 0.35-4.940 uIU/mL
OTHER NAMES: Third-Generation TSH; Thyrotropin; TSH
METHODOLOGY: Chemiluminescence
CLINICAL USE: Primary thyroid function test
CPT: 84443

[TSHFLD]  Body Fluid TSH
SPECIMEN REQUIRED: Refrigerated fine needle aspirate or body fluid
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Indicate source of specimen; specimen must be clear, not viscous or bloody
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
**[TSI] Thyroid Stimulating Immunoglobulin**

**SPECIMEN REQUIRED:** Refrigerated serum  
**TUBE OR CONTAINER:** Red or Gold  
**SPECIAL HANDLING:** Centrifuge and separate cells within 2 hours of collection  
**SPECIMEN VOLUME:** 3 mL  
**MINIMUM VOLUME:** 0.3 mL (this volume does not allow for repeat testing)  
**TEST AVAILABILITY:** Daily  
**REFERENCE RANGE:** < 130% normal  
**OTHER NAMES:** Human Thyroid Stimulator (HTS); Long-Acting Thyroid Stimulator (LATS); Thyroid-Stimulating Antibody (TSAb); TSI  
**METHODOLOGY:** Chinese hamster ovary cell line transfected with both the thyrotropin receptor and a luciferase reporter gene  
**CLINICAL USE:** Detected in the majority of patients (77.8%) with Graves' disease; also associated with a small portion (15.9%) of patients with toxic multinodular goiter  

**CPT:** 84443

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**[TT] THROMBIN TIME**

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Blue (Citrate)  
**SPECIAL HANDLING:** Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anticoagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma  
**SPECIMEN VOLUME:** 1 full tube  
**Testing volume:** 2 mL of PLASMA  
**MINIMUM VOLUME:** 1 full tube  
**Testing volume:** 1 mL of PLASMA  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-3 days  
**REFERENCE RANGE:** 0.0 20.0 seconds  
**OTHER NAMES:** Thrombin Clotting Time (TCT); TT  
**METHODOLOGY:** Clot detection (Photometric)  
**CLINICAL USE:** Determine severe hypofibrinogenemia, dysfibrinogenemia, and the presence of heparin-like anticoagulants; diagnose and monitor disseminated intravascular coagulation (DIC) and fibrinolysis; monitor fibrinolytic therapy  

**CPT:** 85670
**[TTC8-BBS8] BARDET-BIEDL (TTC8/BBS8)**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-5 weeks  
METHODOLOGY: Polyermase Chain Reaction (PCR)  
CPT: 83890; 83891; 83894; 83895 x 15; 83904 x 15; 83912

**[TTR] TRANSTHYRETIN DNA TEST**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 4-6 weeks  
OTHER NAMES: TTR Gene Analysis for Transthyretin Amyloidosis:  
Familial Amyloid Polyneuropathy and Familial  
Amyloid Cardiomyopathy  
METHODOLOGY: Polymerase Chain Reaction (PCR)  
CLINICAL USE: Detects sequence variations in the Transthyretin  
(TTR) gene  
CPT: 83891 x 4; 83892 x 2; 83894 x 4; 83898 x 8; 83904 x 8; 83912

**[TUBSCLER] COMPLETE TUBEROUS SCLEROSIS**

SPECIMEN REQUIRED: Whole Blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 20 mL  
MINIMUM VOLUME: 10 mL  
TEST AVAILABILITY: Monday-Friday  
TURNAROUND TIME: 4-6 weeks  
REFERENCE RANGE: No sequence alteration detected  
METHODOLOGY: Polyermase Chain Reaction (PCR) and DNA sequencing  
CLINICAL USE: Detects sequence variations and exonic deletions  
to the TSC1 and TSC2 genes  
CPT: 83891; 83896 x 63; 83898 x 62; 83900 x 2; 83901 x 59; 83904 x 6; 83909; 83914 x 63; 83912

**[TUMNEC] Tumor Necrosis Factor**

SPECIMEN REQUIRED: Frozen serum  
TUBE OR CONTAINER: Red or Gold  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.4 mL (this volume does not allow for repeat testing)  
TEST AVAILABILITY: Daily  
REFERENCE RANGE: < 8.1 pg/mL  
OTHER NAMES: Cachectin; TNFa
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CLINICAL USE: Levels may be elevated in sepsis, autoimmune diseases, various infectious diseases and transplant rejection
CPT: 83520

**[TWIST] CRANIOSYN/SAETHRE-CHOTZEN(TWIS)**

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 2 tubes of 3-5 mL (children & adults)
MINIMUM VOLUME: 1-2 mL (newborn)
TEST AVAILABILITY: Daily
TURNAROUND TIME: 15-20 days
METHODOLOGY: PCR amplification and DNA sequencing
CLINICAL USE: Confirm the nature of the dwarfism in affected individual; Determine whether Saethre-Chotzen syndrome is responsible for abnormalities in skull eyes, or limbs; Discriminate between syndromes with different but overlapping clinical symptoms in affected individual; To establish whether symptoms are spontaneous or inherited within a family; Evaluate risk of having a child with Saethre-Chotzen Syndrome
CPT: 83890; 83894; 83898 x 3; 83904 x 6; 83912

**[TXUA] UA FOR TRANSFUSION REACTION**

**[TYPHUS] TYPHUS FEVER GROUP-RICKETTSIA**

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: IgG and IgM
TEST AVAILABILITY: Daily
METHODOLOGY: Immunofluorescence (IF)
CPT: 86757 x 2

**[TYROS] Tyrosine Level**

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Green (heparin)
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7-9 days
REFERENCE RANGE: Neonate: < 1 month: 3.9-12.9 umol/dL
1 month - 16 years: 3.3-11.9 umol/dL
Adult: > 16 years: 3.2-12.2 umol/dL
METHODOLOGY: High-Pressure Liquid Chromatography (HPLC)
CLINICAL USE: Detection of a specific amino acid deficiency
CPT: 82131
[TYSAB] TYSABRI AB (NATALIZUMAB)

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Red or Gold separate within 1 hour of collection
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-9 days
METHODOLOGY: Enzyme linked immunoassay (ELISA)
CPT: 83516

[UA] URINALYSIS COMPLETE

SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Urine cup
SPECIAL HANDLING: Indicate clean catch, midstream, or cath specimen
SPECIMEN VOLUME: 15 mL
MINIMUM VOLUME: 6 mL
PEDIATRIC TEST INFO: Order UAP for patients < 2 years old
TEST INCLUDES: Color, appearance, specific gravity, pH, protein, glucose, occult blood, ketones, leukocyte esterase, nitrite, bilirubin, urobilinogen, and microscopic examination of urine sediment
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-8 hours
METHODOLOGY: Reagent strip and light microscopy
REFLEX TEST INFORMATION: Order UAC for a urinalysis that will reflex a culture on positives
CLINICAL USE: Detect abnormalities of urine; diagnose and manage renal diseases, urinary tract infection, urinary tract neoplasms, systemic diseases, and inflammatory or neoplastic diseases adjacent to the urinary tract
CPT: 81001

[UAC] URINALYSIS / CULT IF INDICATED

SPECIMEN REQUIRED: Random urine specimen
TUBE OR CONTAINER: Urine cup
SPECIAL HANDLING: Indicate clean catch, midstream, or cath specimen
SPECIMEN VOLUME: 15 mL
MINIMUM VOLUME: 6 mL
TEST INCLUDES: Color, appearance, specific gravity, pH, protein, glucose, ketones, occult blood, leukocyte esterase, nitrite, bilirubin and urobilinogen
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-8 hours (UA)
2 days (culture)
METHODOLOGY: Reagent strip and light microscopy
REFLEX TEST INFORMATION: A urine culture will reflex (at an additional charge) from the following results: Positive leukocyte esterase; WBC > 6

Moderate or heavy bacteria

CLINICAL USE: Detect abnormalities of urine; diagnose and manage renal diseases, urinary tract infection, urinary tract neoplasms, systemic diseases & inflammatory or neoplastic diseases adjacent to urinary tract

CPT: 81001

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### [UAP] Urinalysis Complete Pediatric

| SPECIMEN REQUIRED: Refrigerated urine (random) |
| TUBE OR CONTAINER: Urine cup |
| SPECIAL HANDLING: Indicate clean catch, midstream, or cath specimen |
| Use for patients < 2 years old |
| SPECIMEN VOLUME: 15 mL |
| MINIMUM VOLUME: 6 mL |
| TEST INCLUDES: Complete urinalysis and Clinitest |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 4-8 hours |

METHODOLOGY: Reagent strip and light microscopy

CLINICAL USE: Detect abnormalities of urine, diagnose and manage renal diseases, urinary tract infections, urinary tract neoplasms, systemic diseases & inflammatory or neoplastic diseases adjacent to urinary tract

CPT: 81003; 81005

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### [UBT] Urea Breath Test (Timed)

| SPECIMEN REQUIRED: Breath samples at room temperature on adults only ( > 18 year) |
| TUBE OR CONTAINER: One blue sample bag (baseline) and one pink sample bag (post-dose) |
| SPECIAL HANDLING: Call laboratory to obtain specimen collection kit; Collect sample only on patient 18 years old or greater |
| SPECIMEN VOLUME: One blue sample bag and one pink sample bag |

PEDIATRIC TEST INFO: The test has not been cleared for pediatric use

TEST AVAILABILITY: Daily

REFERENCE RANGE: Negative

METHODOLOGY: IR (Infrared) spectroscopy to assess the presence of (13) CO2

CLINICAL USE: Aid in the diagnosis of H. pylori infection

CPT: 83013

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### [UCMD] Ullrich Congenital Muscular Dystrophy

| SPECIMEN REQUIRED: Whole blood or fibroblasts at room temperature |
TUBE OR CONTAINER: Lavender (EDTA) or flasks
SPECIAL HANDLING: Refrigerate until shipped
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 4 mL
TEST AVAILABILITY: Daily
OTHER NAMES: COL6A1/COL6A2/COL6A3 gene sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83894 x 107; 83898 x 107; 83904 x 115; 83912

[UCRCL] UR CREATININE CLEARANCE
SPECIMEN REQUIRED: Refrigerated aliquot of 24 hour urine collection AND refrigerated serum
TUBE OR CONTAINER: Plastic urine container (urine) AND Red or Gold (serum)
SPECIAL HANDLING: Collect 24-hour urine in "P" container (no preservative); also, collect blood to obtain current serum creatinine value in order to calculate clearance
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 0-18 years: 70-140 mL/min
> 18 years (Female): 75-115 mL/min
> 18 years (Male): 85-125 mL/min
METHODOLOGY: Jaffe rate
CLINICAL USE: Renal function test, estimate glomerular filtration rate, follow possible progression of renal disease, adjust medications
CPT: 82575

[UETAFB] E-TEST MIC, AFB

[UETANA] E-TEST MIC, ANAEROBES

[UETMISC] E-TEST MIC, MISC

[UKBGN] KIRBY BAUER, MISC GRAM NEG

[UKBGP] KIRBY BAUER, MISC GRAM POS

[UMOD] HERED INTERSTITIAL KIDNEY-UMOD
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Must be shipped within 24 hours of collection; Must be in laboratory by 2:00 pm, Monday-Thursday only
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
**TEST AVAILABILITY**: Monday-Thursday  
**TURNAROUND TIME**: 3 weeks  
**OTHER NAMES**: Hereditary Interstitial Kidney Disease; Uromodulin gene (UMOD)  
**METHODOLOGY**: Polymerase chain reaction (PCR)  
**CPT**: 83891; 83898 x 3; 83904 x 3; 83909; 83912

### [UNHGB] Unstable Hemoglobin

**SPECIMEN REQUIRED**: Whole blood at room temperature  
**TUBE OR CONTAINER**: Lavender (EDTA)  
**SPECIAL HANDLING**: Must be received at performing lab within 24 hours of collection; Collect Monday through Thursday only and send to lab by 1:00 pm  
Do NOT perform test on patients < 6 months  
**SPECIMEN VOLUME**: 5 mL  
**MINIMUM VOLUME**: 2 mL  
**TEST AVAILABILITY**: Monday-Thursday only  
**TURNAROUND TIME**: 2-3 days  
**REFERENCE RANGE**: Negative  
**METHODOLOGY**: Visual identification of Hemoglobin precipitates  
**CPT**: 83068

### [UNTM] UR UREA NITROGEN TIMED

**SPECIMEN REQUIRED**: Refrigerated aliquot of a 24-hour urine  
**TUBE OR CONTAINER**: Plastic urine container  
**SPECIAL HANDLING**: Collect 24-hour urine in container "P" (no preservative)  
**SPECIMEN VOLUME**: 30 mL  
**MINIMUM VOLUME**: 1 mL  
**TEST AVAILABILITY**: Daily  
**TURNAROUND TIME**: 24 hours  
**REFERENCE RANGE**: 12000-20000 mg/24 hour  
**METHODOLOGY**: Enzymatic rate reaction  
**CLINICAL USE**: Renal function test  
**CPT**: 84540

### [UNUR] Urine Random Urea Nitrogen

**SPECIMEN REQUIRED**: Refrigerated random urine  
**TUBE OR CONTAINER**: Plastic urine container  
**SPECIMEN VOLUME**: 10 mL  
**MINIMUM VOLUME**: 1 mL  
**TEST AVAILABILITY**: Daily  
**TURNAROUND TIME**: 24 hours  
**REFERENCE RANGE**: None established  
**METHODOLOGY**: Enzymatic rate reaction  
**CPT**: 84540

### [UPD] UNIPARENTAL DISOMY

**SPECIMEN REQUIRED**: Room temperature whole blood; amniotic fluid or culture
TUBE OR CONTAINER: EDTA (lavender) or T-25 flasks
SPECIAL HANDLING: Collect specimen from the patient and both parents (specimen from one parent may be sufficient in some cases). Parents' samples MUST be ordered separately under each individual parent's name.
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83894 x 3; 83898; 83912

[UPERAN]  UR PROT ELECTROPHORESIS RANDOM

SPECIMEN REQUIRED: Refrigerated urine (random)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: First morning specimen is preferred
SPECIMEN VOLUME: 20 mL
MINIMUM VOLUME: 5 mL
TEST INCLUDES: Densitometric scan; quantitation of total urine protein, urine albumin, urine alpha 1 and 2, urine beta, urine gamma globulin fractions if present; quantitation of M-spike if present
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: Normal pattern
METHODOLOGY: Electrophoresis on agarose media
CLINICAL USE: Evaluate myeloma, macroglobulinemia, lymphoma, amyloidosis; differentiate between normal renal function, glomerular proteinuria, and tubular proteinuria
CPT: 84166

[UPEST] PESTICIDE/INSECTICIDE PANEL

SPECIMEN REQUIRED: Frozen urine
TUBE OR CONTAINER: Urine container
SPECIMEN VOLUME: 8 mL
MINIMUM VOLUME: 5 mL
TEST INCLUDES: 1-Naphthol; Azinphos-methyl; Bendiocarb; Carbaryl; Carbofuran; Carbophenthion; Chlorpyrifos; Coumaphos; Diazinon; Dichlorvos; Dimethoate; EPN; Ethion; Fenchlorphos; Fenthion; Fonofos; Malathion; Metasystox; Methyl; Parathion Mevinphos; Paraoxon; Parathion Phorate; Propoxur; Terbufos; p-Nitrophenol
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-12 days
METHODOLOGY: High Performance Liquid Chromatography (HPLC) High Performance Thin Layer Chromatography (HPTLC)
CLINICAL USE: Overexposure/Poisoning determination
CPT: 82489; 82492
**[UR FLUORIDE] UR FLUORIDE**

SPECIMEN REQUIRED: Random urine at room temperature  
TUBE OR CONTAINER: Plastic urine container  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 2.2 mL  
TEST INCLUDES: Creatinine urine; fluoride urine; ratio  
TEST AVAILABILITY: Daily  
REFERENCE RANGE: Environmental exposure: 0.2-3.2 mg/L  
Occupational exposure: 3.00 mg/g creatinine  
METHODOLOGY: Ion-selective electrode (ISE) potentiometry  
CLINICAL USE: Monitor chronic exposure to fluoride  
CPT: 82570; 82735

**[UR AA QNTR] UR AMINO ACIDS QUANT RANDOM**

SPECIMEN REQUIRED: Frozen random urine  
TUBE OR CONTAINER: Plastic urine container  
SPECIMEN VOLUME: 10 mL  
MINIMUM VOLUME: 2 mL  
TEST AVAILABILITY: Daily  
METHODOLOGY: High-pressure liquid chromatography (HPLC) separation with postcolumn Ninhydrin quantitation of each amino acid  
CLINICAL USE: Evaluate inborn errors of metabolism for amino acids  
CPT: 82139

**[UREA PL] Ureaplasma Culture**

SPECIMEN REQUIRED: Urogenital, urine, joint fluid, CSF; Refrigerate after collection and during transport  
TUBE OR CONTAINER: Micro-Test Multi-Microbe  
TURNAROUND TIME: 1-2 weeks  
CLINICAL INFORMATION: Ureaplasma has been indicated as a cause of infertility and should be considered in an infertility workup

**[URFEP] URINE IRON PROFILE**

SPECIMEN REQUIRED: Refrigerated urine (24 hour)  
TUBE OR CONTAINER: Plastic urine container (no preservative)  
SPECIAL HANDLING: 24 hour urine collected in "P" container (no preservative)  
SPECIMEN VOLUME: 6 mL  
MINIMUM VOLUME: 3 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-8 days  
METHODOLOGY: Inductively Coupled Plasma/Optical Emission (ICP/OES)  
CLINICAL USE: Monitor exposure  
CPT: 83540

**[UR HIP] UR HIP PURIC ACID**
SPECIMEN REQUIRED: Random urine at room temperature
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: Creatinine; Hippuric Acid
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-6 days
METHODOLOGY: Colorimetry (C); Ion Chromatography (IC)
CPT: 82570; 83918

[URIC] Uric Acid
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Female: 2.6-6.0 mg/dL
Male: 3.5-7.2 mg/dL
METHODOLOGY: Timed endpoint
CPT: 84550

[URICPC] Pericardial Fluid Uric Acid
SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Timed endpoint
CPT: 84560

[URICPL] Pleural Fluid Uric Acid
SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Timed endpoint
CPT: 84560

[URICPOST ELITEK] Uric Acid
SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: Female: 2.6-6.0 mg/dL
Male: 3.5-7.2 mg/dL
METHODOLOGY: Timed endpoint
CPT: 84550

**[URICPT] Peritoneal Fluid Uric Acid**

SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Timed endpoint
CPT: 84560

**[URICSY] Synovial Fluid Uric Acid**

SPECIMEN REQUIRED: Refrigerated fluid
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: None established
METHODOLOGY: Timed endpoint
CPT: 84560

**[URICTM] UR URIC ACID TIMED**

SPECIMEN REQUIRED: Refrigerated aliquot of 24-hour urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect 24-hour urine in container "P" (no preservative)
Acidified urine cause for rejection
SPECIMEN VOLUME: 30 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: 250.0-750.0 mg/24 hour
METHODOLOGY: Uricase method of direct measurement using bichromatic endpoint
CLINICAL USE: Renal function test
CPT: 84560

**[URICUR] Urine Random Uric Acid**

SPECIMEN REQUIRED: Refrigerated random urine
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
<table>
<thead>
<tr>
<th>Test Code</th>
<th>Test Name</th>
<th>Specimen Required</th>
<th>Tube or Container</th>
<th>Special Handling</th>
<th>Specimen Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
<th>Turnaround Time</th>
<th>Methodology</th>
<th>CLINICAL USE</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>[URMMARP]</td>
<td>UR METHYLMALONIC ACID RAN PROF</td>
<td>Refrigerated random urine</td>
<td>Plastic urine container</td>
<td></td>
<td>5 mL</td>
<td>0.6 mL</td>
<td>Daily</td>
<td>24 hours</td>
<td>Gas chromatography/mass spectrometry (GC/MS)</td>
<td>Diagnose cobalamin (vitamin B12) deficiency</td>
<td>83921</td>
</tr>
<tr>
<td>[UROBTM]</td>
<td>UR UROBILINOGEN TIMED</td>
<td>Refrigerated urine (24-hour or random)</td>
<td>Urine container</td>
<td>Collect 24-hour urine in &quot;P&quot; container (no preservative); Protect specimen from light</td>
<td>25 mL</td>
<td>15 mL</td>
<td>Daily</td>
<td>8-11 days</td>
<td>Colorimetric</td>
<td>Evaluation of biliary and liver disease, obstructive jaundice</td>
<td>84583</td>
</tr>
<tr>
<td>[UROD]</td>
<td>UROPORPHYRIN DECARBOXYLASE(UT)</td>
<td>Frozen whole blood</td>
<td>Dark Green (heparin)</td>
<td>Keep specimen protected from light</td>
<td>2 mL</td>
<td>1 mL</td>
<td>Daily</td>
<td></td>
<td></td>
<td></td>
<td>82657</td>
</tr>
<tr>
<td>[URPORPH]</td>
<td>UR PORPHYRIA PANEL (U of TX)</td>
<td>Frozen urine</td>
<td>Plastic urine container</td>
<td>Collect 24 hour urine in a &quot;B&quot; container (5 grams of sodium carbonate)</td>
<td>50 mL</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
MINIMUM VOLUME: 30 mL
TEST INCLUDES: Porphobilinogen; total Porphyrins and
delta-aminolevulinic acid
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-8 days
REFLEX TEST INFORMATION: Fractionation by HPLC will reflex at
an additional charge if total
porphyrin is increased
CPT: 84110; 84120; 82135

[URUROQNT] UR UROPORPHYRIN QUANT PROFILE
SPECIMEN REQUIRED: Refrigerated urine (24-hour)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect urine in P container (no additive)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6 days
METHODOLOGY: High-pressure liquid chromatography (HPLC)
CPT: 84120

[VADEFA] ADENOVIRUS DIRECT FA
ADENOVIRUS ANITGEN, DFA OR FA.
NASOPHARYNGEAL WASH+NP INSTRUCTIONS:
1. DRAW UP 1-2 ML OF STERILE SALINE INTO A 3-5 ML SYRINGE.
2. REMOVE THE NEEDLE FORM THE SYRINGE AND PUT ON A BUTTERFLY
WITH A LARGE TUBING . CUT THE TUBING TO A LENGTH OF 2-3".
3. PLACE THE TUBING IN THE NASOPHARYNGEAL PASSAGE. INJECT THE
SALINE RAPIDLY AND DRAW BACK RAPIDLY.
4. INJECT SALINE AND NASAL MATERIAL INTO THE VIRAL TRANSPORT
MEDIUM. (IF VIRAL TRANSPORT MEDIUM IS NOT AVAILABLE, THE NP
WASH MAY BE ADDED TO 1.0 ML OF Trypticase SOY BROTH OR
STERILE SALINE.)
5. AFTER OR BEFORE DOING THE WASH, USE A DACRON NP SWAB TO DO A
GOOD EPITHELIAL CELL SCRAPING OF THE NASOPHARYNGEAL AREA.
PLACE AND CUT OR BREAK THE SWAB INTO THE SAME VIAL AS THE
WASH. (IMMUNOFLUORESCENT TESTING IS DONE ON THE EPITHELIAL
CELLS THE COMBINATION OF BOTH THE WASH AND NASOPHARYNGEAL
SCRAPING ARE ESSENTIAL TO OBTAIN ENOUGH CELLS TO PERFORM
THE TEST.)
ALTERNATE NP COLLECTION INSTRUCTIONS:
1. INSERT A TYPE 1 (NP) DACRON TIPPED, ALUMINUM-SHAFTED SWAB TO
THE BACK OF THE NASOPHARYNX, PRESS DOWN AND HOLD IN PLACE
FOR 1 MINUTE.
2. IMMEDIATELY FOLLOWING THE REMOVAL OF THE SWAB ROLL THE
SWAB
ONTO THE CENTER OF A GLASS SLIDE. KEEP THE AREA CONFINED TO
TO THE SIZE OF A DIME. DO NOT LEAVE ANY LARGE CLUMPS OF
MUCOUS; SPREAD THE SPECIMEN OUT EVENLY OVER THE DIME SIZE.
AREA. (THIS COLLECTION WILL MAKE A MAXIMUM OF 2 SLIDES)
SEND TO THE LAB IMMEDIATELY IN GLASS SLIDE HOLDERS (SAME AS SENDING A PAP SMEAR).
3. REPEAT STEP 1 AND CUT OR BREAK THE SWAB INTO VIRAL TRANSPORT MEDIUM OR HAVE THE PATIENT GARLE 3ML OF STERILE SALINE FOR 10 SECONDS; EXPPELL THE GARGLE INTO A STERILE CONTAINER THIS IS FOR A VIRAL CULTURE IF THE SLIDE COLLECTION IS POOR OR IF THE FA IS NEGATIVE. THE CULTURE IS NOT PERFORMED IF THE FA IS POSITIVE.

<table>
<thead>
<tr>
<th>VADEFAI</th>
<th>ADENOVIRUS FA + CULTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED:</td>
<td></td>
</tr>
<tr>
<td>COLLECTION INSTRUCTIONS:</td>
<td></td>
</tr>
<tr>
<td>Nasopharyngeal wash+NP:</td>
<td></td>
</tr>
<tr>
<td>1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.</td>
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<tr>
<td>2. Remove the needle form the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3&quot;.</td>
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<tr>
<td>3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.</td>
<td></td>
</tr>
<tr>
<td>4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.</td>
<td></td>
</tr>
<tr>
<td>5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)</td>
<td></td>
</tr>
<tr>
<td>Alternate NP collection instructions:</td>
<td></td>
</tr>
<tr>
<td>1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.</td>
<td></td>
</tr>
<tr>
<td>2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).</td>
<td></td>
</tr>
<tr>
<td>Send to the lab immediately in glass slide holders</td>
<td></td>
</tr>
<tr>
<td>3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Viral Transport Media</td>
<td></td>
</tr>
<tr>
<td>ORDERING MODULE: MIC</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: FA and culture</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 24 hours</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative</td>
<td></td>
</tr>
</tbody>
</table>
METHODOLOGY: Direct Fluorescent antibody (DFA)
CLINICAL USE: Rapid diagnosis of adenovirus
CPT: 87260; 87252

[VADEIA]  ADENOVIRUS 40/41 (STOOL ONLY)

SPECIMEN REQUIRED: Refrigerated stool specimen
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Do NOT submit diapers, dried out stool, or specimens that are soaked into wooden sticks
All positives are telephoned and/or faxed immediately
ORDERING MODULE: MIC
SPECIMEN VOLUME: Greater than or equal to jelly bean size
MINIMUM VOLUME: Pea size
TEST AVAILABILITY: Monday, Wednesday, and Friday
TURNAROUND TIME: 24 Hours
REFERENCE RANGE: Negative
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Rapid detection of adenovirus (type 40/41) from stool specimens of patients suspected of having viral gastroenteritis
CPT: 87301

[VADESVI]  ADENOVIRUS SHELL V. + CULTURE

SPECIMEN REQUIRED
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3”.
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)
Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container.
this is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral transport media
TEST AVAILABILITY: Daily
TURNAROUND TIME: 48-96 hours
METHODOLOGY: Shell vial
CPT: 87254; 87252

[VADEVVC] ADENOVIRUS CULTURE

SPECIMEN REQUIRED: Any specimen source in viral TM, urines and stools do not have to be in viral TM. See collection for nasopharyngeal wash and swab

COLLECTION INSTRUCTIONS:
Nasopharyngeal wash + NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle form the syringe and put on a butterfly with large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expel the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral transport media
SPECIAL HANDLING: Refrigerate specimens after collection and transport on ice. Indicate source
Any clinical history or differential diagnostic information provided is helpful
ORDERING MODULE: MIC
SPECIMEN VOLUME: 1-3 ML
MINIMUM VOLUME: 1-3 ML
TEST AVAILABILITY: Monday-Saturday  
TURNAROUND TIME: 2-14 Days  
REFERENCE RANGE: No growth  
METHODOLOGY: Cytopathic Effect (CPE)  
CLINICAL USE: Identify Adenovirus  
CPT: 87252

### [VALP] Valproic Acid (Depakene) Level

SPECIMEN REQUIRED: Refrigerated plasma or serum  
TUBE OR CONTAINER: Light Green (heparin) or Gold  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
REFERENCE RANGE: 40-120 mg/L  
OTHER NAMES: Depakene; Depakote; Valproate; Dipropylacetic Acid  
METHODOLOGY: Turbidimetric inhibition immunoassay  
CLINICAL USE: Monitor therapeutic drug level and assess toxicity  
CPT: 80164

### [VALPF] Free Valproic Acid Level

SPECIMEN REQUIRED: Refrigerated serum or plasma  
TUBE OR CONTAINER: Red or Lavender (EDTA)  
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube  
SPECIMEN VOLUME: 3 mL  
MINIMUM VOLUME: 1.1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 2-4 days  
REFERENCE RANGE: Therapeutic: 4.0-12.0 ug/mL  
METHODOLOGY: Ultrafiltrate assayed by immunoassay  
CLINICAL USE: Therapeutic drug monitoring  
CPT: 80299

### [VANCO] Random Vancomycin Level

SPECIMEN REQUIRED: Refrigerated plasma or serum  
TUBE OR CONTAINER: Light Green (heparin) or Gold  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8 hours  
REFERENCE RANGE: None established  
METHODOLOGY: Turbidimetric inhibition immunoassay  
CLINICAL USE: Monitor therapeutic drug level and assess toxicity  
CPT: 80202

### [VANCP] Vancomycin Level Peak

SPECIMEN REQUIRED: Refrigerated plasma or serum  
TUBE OR CONTAINER: Light Green (heparin) or Gold  
SPECIAL HANDLING: Peak samples should be drawn 60 minutes after an I.M. injection, 30 minutes, 1 hour or 2
hours after a 60-minute I.V. infusion
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 30-40 mg/L
OTHER NAMES: Vancocin
METHODOLOGY: Turbidimetric inhibition immunoassay
CLINICAL USE: Monitor therapeutic drug level and assess toxicity
CPT: 80202

[VANCT]  Vancomycin Level Trough

SPECIMEN REQUIRED: Refrigerated plasma or serum
TUBE OR CONTAINER: Light Green (heparin) or Gold
SPECIAL HANDLING: Draw immediately prior to the next dose
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8 hours
REFERENCE RANGE: 5-10 mg/L
OTHER NAMES: Vancocin
METHODOLOGY: Turbidimetric inhibition immunoassay
CLINICAL USE: Monitor therapeutic drug level and assess toxicity
CPT: 80202

[VAP]  VAP CHOLESTEROL PROFILE

SPECIMEN REQUIRED: Frozen serum
TUBE OR CONTAINER: Gold or Red
SPECIAL HANDLING: 10-12 hour fasting specimen is required; separate within 45 minutes of collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Total LDL-cholesterol (direct); Total HDL-cholesterol (direct); total VLDL-Cholesterol (direct); Triglycerides (direct); Total Non-HDL cholesterol (LDL+VLDL); Lp(a); Real LDL cholesterol; LDL-C pattern size; Remnant lipoproteins; subclass information
TEST AVAILABILITY: Daily
OTHER NAMES: Lipoprotein Subfractionation Profile; Expanded Lipoprotein Analysis; HDL Subfractions; LDL Particle Size; LDL Subfractions; Vertical Auto Profile
METHODOLOGY: Vertical density-gradient ultracentrifugation followed by measurement of the cholesterol distribution and Enzymatic
CLINICAL USE: Comprehensive lipoprotein analysis
CPT: 83701

[VARG]  Varicella-Zoster IgG Antibody
**SPECIMEN REQUIRED:** Serum  
**TUBE OR CONTAINER:** Gold or Red  
**SPECIAL HANDLING:** Refrigerate at 2-8 degrees C for up to 5 days  
Freeze at -20 degrees C for up to 2 months  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**PEDIATRIC TEST INFO:** 0.5 mL; 1 Gold microtainer  
**TEST AVAILABILITY:** Monday - Friday  
**TURNAROUND TIME:** 1-2 days  
**REFERENCE RANGE:** Negative:  
Equivocal: 0.60-0.89  
Positive: >0.89  
**OTHER NAMES:** Chickenpox IgG; Herpes Zoster Antibodies; VZV IgG  
**METHODOLOGY:** Enzyme-Linked Liquid Fluorescent Assay (ELFA)  
**CLINICAL USE:** Diagnose VZV infection; determine adult susceptibility to infection  
**CPT:** 86787

### [VARM] Varicella-Zoster IgM Antibody

**SPECIMEN REQUIRED:** Serum at room temperature  
**TUBE OR CONTAINER:** Red or Gold  
**SPECIMEN VOLUME:** 1 mL  
**MINIMUM VOLUME:** 0.5 mL  
**TEST AVAILABILITY:** Daily  
**REFERENCE RANGE:** Negative: < 0.91 AU  
Borderline: 0.91 - 1.09 AU  
Positive: > 1.09 AU  
**OTHER NAMES:** Chickenpox IgM; Herpes Zoster Antibodies; VZV IgM  
**METHODOLOGY:** Enzyme immunoassay (EIA)  
**CLINICAL USE:** Aid in confirmation of acute VZV infection  
**CPT:** 86787

### [VASO] Vasoactive Intestinal Polypeptide

**SPECIMEN REQUIRED:** Frozen plasma with trasylol  
**TUBE OR CONTAINER:** Lavender (EDTA) -chilled  
**SPECIAL HANDLING:** Collect in chilled EDTA tube; transfer to red top tube with 0.25 mL Trasylol solution. Mix well, centrifuge, transfer plasma to specially labeled transport tube and freeze. Contact laboratory for collection kit.  
Patient must not have received radioactive substances 24 hours prior to test. Patient should receive at least 300 grams of carbohydrate daily for 3 days before fasting 12 hours  
**SPECIMEN VOLUME:** 2 mL  
**MINIMUM VOLUME:** 0.4 mL (this volume does not allow for repeat testing)  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 7 days  
**REFERENCE RANGE:** 23.0-63.0 pg/mL  
**OTHER NAMES:** VIP
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: VIP can be secreted by pancreatic or ectopic islet cell tumors, and in islet-cell hyperplasia
CPT: 84586

<table>
<thead>
<tr>
<th>VBG</th>
<th>VENOUS BLOOD GAS W/MEAS O2 SAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Whole blood in heparinized syringe</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Heparinized syringe</td>
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</tr>
<tr>
<td>SPECIAL HANDLING: Transport immediately at room temp</td>
<td></td>
</tr>
<tr>
<td>Test should be performed within 30 minutes</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: Adult: 2 mL</td>
<td></td>
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<tr>
<td>Pediatric: 0.5 mL</td>
<td></td>
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<tr>
<td>MINIMUM VOLUME: Adult: 1 mL</td>
<td></td>
</tr>
<tr>
<td>Pediatric: 0.3 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: pH, pCO2, pO2, HCO3, base excess, measured % saturation</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 10 minutes</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Potentiometry</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Evaluate O2 and CO2 gas exchange, respiratory function including hypoxia and acid-base status</td>
<td></td>
</tr>
<tr>
<td>CPT: 82805</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VC</th>
<th>Virus Culture (Not Specified)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Any specimen source in viral transport media, urine, CSF, blood and stool do not have be in viral transport media</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Viral transport media</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Indicate source of specimen; refrigerate following collection and during transport; Deliver to lab immediately</td>
<td></td>
</tr>
<tr>
<td>Clinical information is particularly important for this test order code</td>
<td></td>
</tr>
<tr>
<td>Indicate virus(s) suspected and any antiviral therapy.</td>
<td></td>
</tr>
<tr>
<td>ORDERING MODULE: MIC</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Set up Monday-Saturday</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 1-14 Days</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: No growth</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Conventional tissue culture only</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VCHLFA</th>
<th>CHLAMYDIA TRACH. DIRECT FA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Good epithelial scraping</td>
<td></td>
</tr>
<tr>
<td>Recommended sources include: cervix, conjunctival, nasopharengeal, rectal, and urethral. Use an NP/male swab, break off swab into transport media. Transport immediately.</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Viral/Chlamydia transport media</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Friday</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 24 hours</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Direct Fluorescent Antibody (DFA)</td>
<td></td>
</tr>
</tbody>
</table>
CLINICAL INFORMATION: Aid in the diagnosis of disease caused by Chlamydia (e.g., pneumonitis, sexually transmitted disease, inclusion conjunctivitis, trachoma, and pneumonia).

[VCHLPN] CHLAMYDIA PNEUMONIAE CULTURE

SPECIMEN REQUIRED: Refrigerated epithelial cell scraping; Break swab into the transport medium
COLLECTION INSTRUCTIONS: Swab affected area with sterile Dacron or Nylon swab and place in viral transport media
BRONCHIAL/SPUTUM: Submit deeply coughed morning specimen in tightly capped sterile collection cup.
Transfer one tube of viral transport media to the sterile cup. Note on label or requisition
No genital specimens accepted
Any respiratory specimen is acceptable
TUBE OR CONTAINER: Viral/Chlamydia transport media
SPECIAL HANDLING: This is a specific organism; it is not the only chlamydia species that can cause pneumonia or respiratory illness
ORDERING MODULE: MIC
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 5-7 Days
REFERENCE RANGE: No growth
METHODOLOGY: Shell Vial
CLINICAL USE: Isolate Chlamydia pneumoniae
CPT: 87110

[VCHLPS] CHLAMYDIA PSITTACI CULTURE

SPECIMEN REQUIRED: Refrigerated epithelial cell scraping; Break swab into the transport medium
COLLECTION INSTRUCTIONS: Swab affected area with sterile Dacron or Nylon swab and place in viral transport media
BRONCHIAL/SPUTUM: Submit deeply coughed morning specimen in tightly capped sterile collection cup.
Transfer one tube of viral transport media to the sterile cup. Note on label or requisition
No genital specimens accepted
Any respiratory specimen is acceptable
TUBE OR CONTAINER: Viral/Chlamydia transport media
SPECIAL HANDLING: This chlamydia organism is associated with being in contact with birds. Do not send dead birds, the organism dies when the cells die
ORDERING MODULE: MIC
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 5-7 days
REFERENCE RANGE: No growth
METHODOLOGY: Shell Vial
CLINICAL USE: Aid in the diagnosis of infection caused by Chlamydia psittaci (psittacosis)
CPT: 87110

[VCHLTR] CHLAMYDIA TRACHOMATIS CULTURE
SPECIMEN REQUIRED: Refrigerated epithelial cell scraping; Break swab into the transport medium
EYE: Remove any exudate from eye before collecting specimen. Swab affected area with sterile Dacron or Nylon swab and place in thawed viral transport media.
BRONCHIAL/SPUTUM: Submit deeply coughed morning specimen in tightly capped sterile collection cup.
GENITAL: We recommend PCR for Chlamydia (test CHLDNA)
URINE: Collect the first 3-5 mL only of a voided urine in a tightly capped sterile specimen container. Any specimen source acceptable
TUBE OR CONTAINER: Viral/Chlamydia transport media
SPECIAL HANDLING: State specimen source; refrigerate after collection and transport on ice
This is the recommended test for infertility and medical legal cases that cannot be performed by the chlamydia PCR or FA test.
ORDERING MODULE: MIC
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: No growth
METHODOLOGY: Conventional tissue culture (Shell Vial)
CLINICAL USE: Aid in the diagnosis of infections, including medical/legal cases caused by Chlamydia trachomatis
CPT: 87110

[VCMVAG] CMV ANTIGENEMIA (EDTA)
SPECIMEN REQUIRED: Whole blood; do NOT centrifuge
TUBE OR CONTAINER: Lavender (EDTA) or Dark Green (heparin)
SPECIAL HANDLING: Specimens must be processed within 18-24 hours of collection; transport immediately to the Virology lab.
ORDERING MODULE: MIC
SPECIMEN VOLUME: 7 mL (NOTE: If WBC count is whole blood-4, 5 mL EDTA tubes)
MINIMUM VOLUME: 5 mL (NOTE: If WBC count is whole blood-2, 5 mL EDTA tubes)
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 1-3 days (A TAT of 24 hours can be expected on specimens received in the lab between Sunday afternoon and 0900 Friday.
Specimens received between 0900 and 1200 Friday.
will be processed but not stained and evaluated until the following Monday
Special arrangements must be made with the Viro lab for specimens that must be obtained on weekends after 12 PM Friday and before 12 PM on Sunday; On holidays, specimens received before 10:00 AM will be processed but not stained and evaluated until the following work day
REFERENCE RANGE: Negative
METHODOLOGY: Direct Fluorescent Antibody (Quantitation)
CLINICAL USE: Rapid diagnosis of cytomegalovirus
CPT: 87271

[VCMVFAI] CMV FA + CULTURE

SPECIMEN REQUIRED: Acceptable specimens: Bronchial/ respiratory or biopsy material
NASOPHARYNGEAL WASH (NPW) Instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the CHO viral transport media; if viral transport medium is not available, NP was may be added to 1.0 mL of trypticase soy broth or saline.
5. If immunofluorescent antibody (FA) testing is ordered after or before doing th wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasoparyngeal area. Place and cut the swab into the same vial as the wash.
(Immunofluorescent testing is done on epithelial cells).
Alternate FA Collection
1. Insert a type 1 NP swab into the back of the nasopharynx. (Clear mucous from infants and children by aspirating the mucous or NPW before performing specimen collection)*
2. Press down firmly and hold swab in place for one minute..
3. Remove the swab quickly to avoid drying and roll onto the center of 2 slides. Keep smear to dime size on each slide.
4. Place slides in holder, label, seal, and transport.
The aspirate can be put in viral transport medium and used for culture backup. Culture backup for adults requires a throat swab or gargle placed in viral transport medium. If FA is positive the culture is not performed. Select any 2 viruses to be tested for, RSV, Parainfluenza virus, Influenza A/B, Adenovirus. Influenza A and B can be tested for separately or pooled.
TUBE OR CONTAINER: Viral transport media
SPECIAL HANDLING: Transport immediately
TEST AVAILABILITY: Monday-Saturday
METHODOLOGY: Direct fluorescent antibody (DFA)
CPT: 87271; 87252

[VCMVPCR] CYTOMEGALOVIRUS PCR

(Immunofluorescent testing is done on epithelial cells).
SPECIMEN REQUIREMENTS: 1ML OF CSF
SPECIMENS MUST BE SENT TO THE LAB IMMEDIATELY AND FROZEN AT -70 C IN LESS THAN 6 HOURS OF COLLECTION.

<table>
<thead>
<tr>
<th>[VCMVSIVI] CMV SHELL VIAL + CULTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated from any source; whole blood is also acceptable</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Viral transport media, Lavender (EDTA) or sterile container (urine, CSF or stool)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Any specimen source, transport immediately on wet ice. Do not collect blood or biopsy specimens between 10:00 AM Saturday and 10:00 AM Sunday</td>
</tr>
<tr>
<td>ORDERING MODULE: MIC</td>
</tr>
<tr>
<td>TEST INCLUDES: Shell vial and culture</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Saturday</td>
</tr>
<tr>
<td>TURNAROUND TIME: 1-3 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: No growth</td>
</tr>
<tr>
<td>METHODOLOGY: Shell vial and conventional tissue culture</td>
</tr>
<tr>
<td>CLINICAL USE: CMV shell vials will pick up 90% of the CMV isolates. CMV cultures are kept for 14-21 days depending on the cell culture monolayer.</td>
</tr>
<tr>
<td>CPT: 87254; 87252</td>
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<table>
<thead>
<tr>
<th>[VCMVVC] CYTOMEGALOVIRUS (CMV) CULTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Any specimen source in viral culture media; keep refrigerated</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Viral transport media, Lavender (EDTA) or sterile container (urine, CSF or stool)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Any specimen source, transport immediately on wet ice. Do not collect blood or biopsy specimens between 10:00 AM Saturday and 10:00 AM Sunday</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 1-21 Days</td>
</tr>
<tr>
<td>METHODOLOGY: Cytopathic Effect (CPE)</td>
</tr>
<tr>
<td>CLINICAL INFORMATION: CMV cultures are kept for 14-21 days depending on the cell culture monolayer. For rapid CMV isolation results + culture, order VCMVSIVI</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[VDRLCSF] CSF VDRL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated CSF</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile container</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME: 1-3 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: Nonreactive</td>
</tr>
<tr>
<td>METHODOLOGY: Agglutination</td>
</tr>
</tbody>
</table>
| REFLEX TEST INFORMATION: Reactive tests will be reflexed to a
quantitative test at an additional charge
CLINICAL USE: Test for syphilis/neurosyphilis
CPT: 86592

<table>
<thead>
<tr>
<th>[VEBVPCR] EPSTEIN BAR VIRUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIREMENTS: 1ML OF CSF</td>
</tr>
<tr>
<td>SPECIMENS MUST BE SENT TO THE LAB IMMEDIATELY AND FROZEN AT -70 C IN LESS THAN 6 HOURS OF COLLECTION.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[VEGF] Vascular Endothelial Growth Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen plasma</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Separate and freeze immediately</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
</tr>
<tr>
<td>TURNAROUND TIME:</td>
</tr>
<tr>
<td>REFERENCE RANGE: 0-115 pg/mL</td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme immunoassay (EIA)</td>
</tr>
<tr>
<td>CLINICAL USE: Assessment of tumor progression and prognosis</td>
</tr>
<tr>
<td>CPT: 83520</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[VENTSVI] ENTEROVIRUS SV+CULT.(CSF ONLY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated CSF</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile CSF tube</td>
</tr>
<tr>
<td>SPECIAL HANDLING: Transport immediately</td>
</tr>
<tr>
<td>ORDERING MODULE: MIC</td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL</td>
</tr>
<tr>
<td>TEST INCLUDES: Coxsackie A, B, Echovirus, Enterovirus, and Poliovirus</td>
</tr>
<tr>
<td>TEST AVAILABILITY: Monday-Saturday</td>
</tr>
<tr>
<td>TURNAROUND TIME: &lt; 72 hours (Shell vial); cultures are held for 10-14 days</td>
</tr>
<tr>
<td>REFERENCE RANGE: No growth</td>
</tr>
<tr>
<td>METHODOLOGY: Shell Vial</td>
</tr>
<tr>
<td>CLINICAL USE: Isolate and identify Enterovirus</td>
</tr>
<tr>
<td>CPT: 87254; 87252</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[VENTTY] ENTEROVIRUS TYPING OF ISOLATES</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>[VENTVC] ENTEROVIRUS CULTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated CSF or other source (stool, throat/NP wash or swab</td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Viral Transport media or tightly sealed sterile container (CSF)</td>
</tr>
<tr>
<td>SPECIAL HANDLING: State source of specimen; Inclusion of patient clinical history and differential diagnostic considerations is very helpful</td>
</tr>
</tbody>
</table>
ORDERING MODULE: MIC
SPECIMEN VOLUME: 1 mL (CSF)
MINIMUM VOLUME: 0.5 mL (CSF)
TEST INCLUDES: Coxsackie A, B, Echovirus, Enterovirus, and Poliovirus
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 10 days
REFERENCE RANGE: No growth
METHODOLOGY: Cytopathic Effect (CPE)
CLINICAL USE: Isolate and identify Enterovirus
CPT: 87252

[VFA4I] RESPIRATORY FA (FA4 WO ADENO)

SPECIMEN REQUIRED: Viral transport of epithelial scrapings

COLLECTION INSTRUCTIONS:
Nasopharyngeal wash+NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.

If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area.
Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral transport tube

ORDERING MODULE: MIC
TEST INCLUDES: RSV; Parainfluenza Pool; Influenza A & B
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
SPECIMEN REQUIRED: Viral transport of epithelial scrapings

COLLECTION INSTRUCTIONS:

Nasopharyngeal wash+NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
3. Send to the lab immediately in glass slide holders.
4. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3 mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral transport tube

ORDERING MODULE: MIC

TEST INCLUDES: RSV; Parainfluenza Pool; Influenza A & B, Adenovirus and hMetapnuemovirus

TEST AVAILABILITY: Daily

TURNAROUND TIME: 24 hours

REFERENCE RANGE: Negative

METHODOLOGY: Direct fluorescent antibody (DFA)

CPT: 87252; 87260; 87275; 87276; 87279; 87280
SPECIMEN REQUIRED: Viral transport of epithelial scrapings

COLLECTION INSTRUCTIONS:

Nasopharyngeal wash+NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3”.
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells; the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
3. Send to the lab immediately in glass slide holders.

TUBE OR CONTAINER: Viral transport tube

ORDERING MODULE: MIC

TEST INCLUDES: RSV; Parainfluenza Pool; Influenza A & B, Adenovirus and hMetapneumovirus

TEST AVAILABILITY: Daily

TURNAROUND TIME: 24 hours

REFERENCE RANGE: Negative

METHODOLOGY: Direct fluorescent antibody (DFA)

CPT: 87260; 87275; 87276; 87279; 87280; 87299

[VFA6] RESPIRATORY FA (FA6 W hMPV)

SPECIMEN REQUIRED: Viral transport of epithelial scrapings

COLLECTION INSTRUCTIONS:

Nasopharyngeal wash+NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3”.
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides). Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral transport tube
ORDERING MODULE: MIC
TEST INCLUDES: RSV; Parainfluenza Pool; Influenza A & B, Adenovirus and hMetapnuemovirus
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Negative
METHODOLOGY: Direct fluorescent antibody (DFA)
CPT: 87252; 87260; 87275; 87276; 87279; 87280

**[VGCCAB] Voltage-Gated Calcium Channel Ab**

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Separate serum from cells within 1 hour of collection
SPECIMEN VOLUME: 0.2 mL
MINIMUM VOLUME: 0.1 (this volume does not allow for repeat testing)
TEST AVAILABILITY: Daily
REFERENCE RANGE: OTHER NAMES: Lambert-Eaton Myasthenic Syndrome Antibody; LEMS Autoantibody; VGCCA; VGCC Antibody
METHODOLOGY: Radioimmunoassay (RIA)
CLINICAL USE: Aid in the diagnosis of Lambert-Eaton myasthenic syndrome (LEMS)
CPT: 83519

**[VGKCAB] Voltage-Gated Potassium Channel Ab**

- **SPECIMEN REQUIRED:** Refrigerated serum
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIMEN VOLUME:** 4 mL
- **MINIMUM VOLUME:** 1 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 3-10 days
- **METHODOLOGY:** Quantitative Radiobinding Assay
- **CLINICAL USE:** Associated with neuromuscular weakness as found in neuromyotonia; VGKC antibodies are also associated with paraneoplastic neurological syndromes and limbic encephalitis
- **CPT:** 83519

**[VHHV6] HHV6 PCR**

- **SPECIMEN REQUIREMENTS:** 1ML OF CSF
- **SPECIMENS MUST BE SENT TO THE LAB IMMEDIATELY AND FROZEN AT -70 C IN LESS THAN 6 HOURS OF COLLECTION.

**[VHL] VON HIPPEL-LINDAU DISEASE**

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 10 mL
- **MINIMUM VOLUME:** 3 mL
- **TEST AVAILABILITY:** Monday-Friday
- **TURNAROUND TIME:** 4 weeks
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83891; 83894; 83898 x 3; 83904 x 6; 83904 x 6; 83912

**[VHSV1PCR] HERPES SIMPLEX VIRUS 1 PCR**

- **SPECIMEN REQUIREMENTS:** 1ML OF CSF
- **SPECIMENS MUST BE SENT TO THE LAB IMMEDIATELY AND FROZEN AT -70 C IN LESS THAN 6 HOURS OF COLLECTION.

**[VHSV2PCR] HERPES SIMPLEX VIRUS 2 PCR**

- **SPECIMEN REQUIREMENTS:** 1ML OF CSF
- **SPECIMENS MUST BE SENT TO THE LAB IMMEDIATELY AND FROZEN AT -70 C IN LESS THAN 6 HOURS OF COLLECTION.

**[VHSVFA] HERPES SIMPLEX VIRUS FA**

- **SPECIMEN REQUIRED:**
  1. You need a #15 Bard-Parker scalpel, a Dacron swab, viral transport medium and two glass slides for the FA test and a slide holder.
  2. It is important to collect the viral culture first. Select
the freshest lesion or vesicle (dew drop fluid).
3. Unroof the vesicle with a needle or #15 Bard-Parker scalpel and swab the base of the lesion. Cut or break the swab off in to the viral transport medium.
4. After collecting the specimen for culture use a #15 Bard-Parker scalpel to scrape the base of the lesion with the scalpel. It is essential to obtain basal and parabasal cells from the base of the lesion.
5. In the center of 2 glass slides, smear the specimen in a circular motion out to the size of a dime. Air dry slides, place in holder, label, seal, and transport to the lab immediately.

If FA is positive, the culture is not performed.

TUBE OR CONTAINER: Viral transport media
SPECIAL HANDLING: Indicate source on requisition
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 1-2 days
METHODOLOGY: Direct fluorescent antibody (DFA)
CLINICAL INFORMATION: Culture is the preferred method for recovery of Herpes virus. Use this order for a viral, skin lesion or vesicle.

[VHSVFAI] HSV FA + CULTURE (SKIN LESION)

SPECIMEN REQUIRED: Refrigerated specimen
COLLECTION INSTRUCTIONS:
1. Pick freshest vesicle, aspirate fluid with tuberculin syringe and place in viral transport medium
2. Collect culture first
3. Unroof vesicle with #15 Bard-Parker scalpel
4. Scrape the base of the vesicle (obtain basal and parabasal cells)
5. In the center of 2 glass slides smear the specimen in a circular motion out to the size of a dime
TUBE OR CONTAINER: Viral transport media, 2 glass slides
SPECIAL HANDLING: Transport to the lab immediately
ORDERING MODULE: MIC
TEST INCLUDES: HSV FA and viral culture; if FA is positive, culture is not performed
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 1-10 days
REFERENCE RANGE: Negative
METHODOLOGY: Cytopathic effect (CPE) and Direct fluorescent antibody (DFA)
CLINICAL USE: Isolate and identify Herpes simplex virus
CPT: 87299; 87252

[VHSVSV] HSV 1&2 POOL SHELL VIAL ISO

[VHSVSVI] HSV SHELL VIAL + HSV CULTURE

SPECIMEN REQUIRED: Refrigerated specimen from any source including vesicles or lesions
VESICLE/LESION COLLECTION:
1. Unroof vesicle with #15 Bard-Parker scalpel
2. Scrape the base of the vesicle (obtain basal and parabasal cells with a swab)
3. Break swab into viral transport medium and keep on ice during transport

TUBE OR CONTAINER: Viral transport medium or sterile container (urine, CSF or stool)

SPECIAL HANDLING: Indicate specimen source and transport to lab immediately; Do NOT collect blood or biopsy specimens between 10:00 AM Saturday and 10:00 AM Sunday

ORDERING MODULE: MIC
TEST INCLUDES: Shell vial and culture
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 2-3 days (Results are available next day Monday-Thursday; Friday-Sunday in < 72 hours)
REFERENCE RANGE: Negative

METHODOLOGY: Shell Vial

CLINICAL USE: HSV shell vials will pick up 90% of the HSV isolates

CPT: 87254; 87252

[HSVVTY] HSV 1&2 ISOLATE TYPING

[HHSVVC] HERPES (HSV) CULTURE

SPECIMEN REQUIRED: Refrigerated specimen

COLLECTION INSTRUCTIONS:
Use a viral swab to collect specimen from vesicles, stool, or throat. Respiratory specimens, CSF, or urine for HSV may be submitted in a tightly sealed container. All specimens should be collected with a Dacron or Nylon swab and placed immediately into viral transport media available from the lab. Please contact the laboratory to obtain appropriate viral transport media.

TUBE OR CONTAINER: Viral transport media

SPECIAL HANDLING: Deliver to lab immediately

Inclusion of patient clinical history and differential diagnostic considerations is very helpful. Indicate source of specimen

ORDERING MODULE: MIC

TEST AVAILABILITY: Monday-Saturday

TURNAROUND TIME: 10 days

REFERENCE RANGE: No growth

METHODOLOGY: Cytopathic Effect (CPE)

CLINICAL USE: Isolate Herpes virus (HSV typing is available upon request at an additional charge)

CPT: 87252

[VHSVZFAI] HSV-VARICELLA FA (SKIN LESION)
**SPECIMEN REQUIRED:** Refrigerated specimen  
**COLLECTION INSTRUCTIONS:**  
1. Pick freshest vesicle  
2. Collect culture first, aspirate the fluid from the vesicle into the tuberculin syringe and inject it into the cell culture tubes. Obtain collection materials from Virology M-F 7 am to 5 pm and Saturday 10 am to 12 pm.  
3. Unroof vesicle with #15 Bard-Parker scalpel.  
4. Scrape the base of the vesicle (obtain basal and parabasal cells).  
5. In the center of 2 glass slides smear the specimen in a circular motion out to the size of a dime.  
6. Air dry and transport to the lab immediately  
If Virology is closed use following method for VZ culture only.  
1. Unroof vesicle with #15 Bard-Parker scalpel.  
2. Scrape the base of the vesicle (obtain basal and parabasal cells) with a NP/male swab.  
3. Break swab in to viral transport media.  
4. Transport to the lab immediately. Keep refrigerated.  
**TUBE OR CONTAINER:** Viral transport media  
**SPECIAL HANDLING:** Call 271-3586 for collection materials and questions about specimen collection  
**ORDERING MODULE:** MIC  
**TEST INCLUDES:** VZV FA, HSV FA and viral culture; if FA is positive, culture is not performed  
**TEST AVAILABILITY:** Monday-Saturday  
**TURNAROUND TIME:** 2-3 days  
**REFERENCE RANGE:** Negative  
**METHODOLOGY:** Direct fluorescent antibody (DFA)  
**CLINICAL USE:** Rapid identification of HSV and/or VZV  
**CPT:** 87252; 87290; 87299

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**[VIMMSVC] RESP. CULT. VIRAL + CMV SV**  
**SPECIMEN REQUIRED:** Any specimen source on ice  
**COLLECTION INSTRUCTIONS:**  
Nasopharyngeal wash+NP:  
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.  
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".  
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.  
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.  
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash.  
**TUBE OR CONTAINER:** Viral transport tube, Lavender (EDTA) or Sterile container (urine)
SPECIAL HANDLING: Do not collect blood or biopsy specimens between 10:00 AM Saturday and 10:00 am Sunday
CMV cultures are kept for 14-21 days depending on the cell culture monolayer
ORDERING MODULE: MIC
TEST INCLUDES: CMV Shell vial and a respiratory culture
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 24 hours (results are available next day, Monday-Thursday. Friday-Sunday in < 72 hours.
REFERENCE RANGE: No growth
METHODOLOGY: Shell vial and culture
CLINICAL USE: CMV shell vials will pick up 90% of the CMV isolates
CPT: 87252; 87254

**[VINAANT] INFLUENZA A (FA/DIRECT) + CULT**

SPECIMEN REQUIRED: Refrigerated viral transport of epithelial scrapings
COLLECTION INSTRUCTIONS:
Nasopharyngeal wash+NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells; the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)
Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
3. Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.
TUBE OR CONTAINER: Viral transport tube
ORDERING MODULE: MIC
TEST INCLUDES: Influenza A Direct FA/EIA and respiratory culture (IF Direct test is positive, culture is not performed)
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Negative
METHODOLOGY: Fluorescent antibody/enzyme immunoassay (FA/EIA)
CLINICAL USE: Rapid identification of Influenza A virus
CPT: 87276; 87804; 87252

**[VINABANT] INFLUENZA A/B (EIA/FA) + CULT**

SPECIMEN REQUIRED: Refrigerated viral transport of epithelial scrapings

**COLLECTION INSTRUCTIONS:**

**Nasopharyngeal wash+NP:**
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3”.
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
3. Send to the lab immediately in glass slide holders.
4. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral transport tube
ORDERING MODULE: MIC
TEST INCLUDES: Influenza A&B Direct FA/EIA and respiratory
culture (if direct test is positive, culture is not performed
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Negative
METHODOLOGY: Enzyme immunoassay (EIA)
CLINICAL USE: Rapid identification of Influenza virus
CPT: 87276; 87275; 87804 x 2; 87252

[VINABFA] INFLUENZA A/B (EIA/FA) + CULT

SPECIMEN REQUIRED: Refrigerated viral transport of epithelial scrapings
COLLECTION INSTRUCTIONS:
Nasopharyngeal wash+NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)
Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucus; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.
TUBE OR CONTAINER: Viral transport tube
ORDERING MODULE: MIC
TEST INCLUDES: Influenza A and B Direct FA/EIA and respiratory culture (IF Direct test is positive, culture is not performed
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Negative
METHODOLOGY: Fluorescent antibody/enzyme immunoassay (FA/EIA)
CLINICAL USE: Rapid identification of Influenza virus
CPT: 87276; 87275; 87804 x 2; 87252

**[VINABFA6] INFLUENZA A/B (EIA/FA6)**

SPECIMEN REQUIRED: Refrigerated viral transport of epithelial scrapings

COLLECTION INSTRUCTIONS:

Nasopharyngeal wash+NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells. The combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral transport tube

ORDERING MODULE: MIC

TEST INCLUDES: Influenza A and B Direct FA/EIA and respiratory culture (IF Direct test is positive, culture is not performed)

TEST AVAILABILITY: Monday-Saturday

REFERENCE RANGE: Negative

METHODOLOGY: Fluorescent antibody/enzyme immunoassay (FA/EIA)
CLINICAL USE: Rapid identification of Influenza virus
CPT: 87276; 87275; 87804 x 2; 87252

[VINABFAI] INFLUENZA A/B FA + CULT

[VINABPFA6] INFLUENZA A/B (EIA/PCR-FA 6)

SPECIMEN REQUIRED: Refrigerated viral transport of epithelial scrapings

COLLECTION INSTRUCTIONS:
Nasopharyngeal wash+NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells; the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucus; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
3. Send to the lab immediately in glass slide holders.
4. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral transport tube
ORDERING MODULE: MIC
TEST INCLUDES: Influenza A and B Direct FA/EIA and respiratory culture (IF Direct test is positive, culture is not performed)
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Negative
METHODOLOGY: Fluorescent antibody/enzyme immunoassay (FA/EIA)
CLINICAL USE: Rapid identification of Influenza virus
CPT: 87276; 87275; 87804 x 2; 87252

**[VINAEIA] INFLUENZA A EIA**

**[VINAFIA] INFLUENZA A DIRECT FA**

**SPECIMEN REQUIRED:**
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly
   with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the
   saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport
   medium. (If viral transport medium is not available, the NP
   wash may be added to 1.0 mL of trypticase soy broth or
   sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a
   good epithelial cell scraping of the nasopharyngeal area.
   Place and cut or break the swab into the same vial as the
   wash. (Immunofluorescent testing is done on the epithelial
   cells. The combination of both the wash and nasopharyngeal
   scraping are essential to obtain enough cells to perform
   the test.)
Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab
   into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the
   swab onto the center of a glass slide. Keep the area
   confined to the size of a dime. Do not leave any large
   clumps of mucous; spread the specimen out evenly over the
dime size area. (This will make a maximum of 2 slides).
   Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport
   medium or have the patient gargle 3 mL of sterile saline for
   10 seconds; expell the gargle into a sterile container.
   This is for a viral culture if the slide collection is poor
   or if the FA is negative. The culture is not performed if
   the FA is positive.
The aspirate can be put in viral transport medium and used for
culture backup. Culture backup for adults requires a throat swab
or gargle placed in viral transport medium. If FA is positive
the culture is not performed. Select any 2 viruses to be tested
for: RSV, Parainfluenza virus, Influenza A/B, Adenovirus.
Influenza A and B can be tested for separately or pooled.
Draw up 1-2 mL sterile saline into a 3-5 mL syringe. Attach 2
inches of 18-20 guage tubing to syringe tip. Insert tube end
into nostril. Quickly instill saline into nostril. Aspirate the
recoverable nasal specimen. Inject nasal specimen from syringe
into viral transport media tube. Refrigerate following
collection and during transport.
NP swab: Collect with rayon or Dacron wire swab; place swab into viral transport media tube. Refrigerate following collection and during transport.
TUBE OR CONTAINER: Viral transport media
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 24 hours
METHODOLOGY: Direct fluorescent antibody (DFA)

<table>
<thead>
<tr>
<th>[VINASVI] INFLUENZA A SHELL V. + CULTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasopharyngeal wash+NP instructions:</td>
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<td>1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.</td>
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<td>2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3&quot;.</td>
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<tr>
<td>3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.</td>
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<td>4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)</td>
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<td>5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells. The combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)</td>
</tr>
<tr>
<td>6. Transport immediately</td>
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</tbody>
</table>

TUBE OR CONTAINER: Viral transport media
TEST INCLUDES: Influenza A Shell Vial, and Viral Respiratory Culture
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 48-96 hours
METHODOLOGY: Shell Vial
CPT: 87254; 87252

<table>
<thead>
<tr>
<th>[VINAVC] INFLUENZA A CULTURE</th>
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</thead>
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<tr>
<td>SPECIMEN REQUIRED: Any respiratory sample on ice</td>
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<tr>
<td>COLLECTION INSTRUCTIONS:</td>
</tr>
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<td>Nasopharyngeal wash+NP:</td>
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Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container.

**TUBE OR CONTAINER:** Viral transport tube

**SPECIAL HANDLING:** Keep specimen refrigerated

**ORDERING MODULE:** MIC

**TEST INCLUDES:** Influenza A culture ONLY

**TEST AVAILABILITY:** Monday-Saturday

**TURNAROUND TIME:** 10-12 days

**REFERENCE RANGE:** No growth

**METHODOLOGY:** Culture

**CLINICAL USE:** Isolate and identify Influenza type A

**CPT:** 87252

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**[VINBANT] INFLUENZA B (FA/DIRECT) + CULT**

**SPECIMEN REQUIRED:**
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe. 
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells. The combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3 mL of sterile saline for 10 seconds; expell the gargle into a sterile container.
This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA or EIA is positive.
TUBE OR CONTAINER: Viral transport tube
TEST INCLUDES: Influenza B direct FA/EIA and respiratory culture; no culture on positive specimens
TEST AVAILABILITY: Monday-Saturday
TURN-AROUND-TIME: 24 hours
METHODOLOGY: Fluorescent antibody (FA)/Enzyme immunoassay (EIA)
CPT: 87804; 87275; 87252

[VINBEIA] INFLUENZA B EIA

[VINBFA] INFLUENZA B DIRECT FA

SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3”.
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells. The combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)
Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3 mL of sterile saline for 10 seconds; expell the gargle into a sterile container.
This is for a viral culture if the slide collection is
poor or if the FA is negative. The culture is not performed if the FA is positive.
TUBE OR CONTAINER: Viral transport media
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 24 hours
METHODOLOGY: Direct fluorescent antibody (DFA)

[VINBFAI] INFLUENZA B FA + CULTURE

SPECIMEN REQUIRED: Refrigerated viral transport of epithelial scrapings

COLLECTION INSTRUCTIONS:

Nasopharyngeal wash+NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells; the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expel the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral transport media
ORDERING MODULE: MIC
TEST INCLUDES: Influenza B Direct FA and respiratory culture (IF Direct test is positive, culture is not performed)
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 24 hours (FA)
REFERENCE RANGE: Negative
METHODOLOGY: Fluorescent antibody (FA)
CLINICAL USE: Rapid identification of Influenza virus
CPT: 87275; 87252

[VINBSVI] INFLUENZA B SHELL V. + CULTURE

SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells. The combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3 mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA or EIA is positive.
The aspirate can be put in viral transport medium and used for culture backup. Culture backup for adults requires a throat swab or gargle placed in viral transport medium. If FA is positive the culture is not performed. Select any 2 viruses to be tested for, RSV, Parainfluenza virus, Influenza A/B, Adenovirus. Influenza A and B can be tested for separately or pooled.

Draw up 1-2 mL sterile saline into a 3-5 mL syringe. Atatch 2 inches of 18-20 gauge tubing to syringe tip. Insert tube end into nostril. Quickly instill saline into nostril. Aspirate the recoverable nasal specimen. Inject nasal specimen from syringe into viral transport media tube. Refrigerate following collection and during transport.

NP swab: Collect with rayon or Dacron wire swab; place swab into
viral transport media tube. Refrigerated following collection and during transport.

**TUBE OR CONTAINER:** Viral transport media

**TEST INCLUDES:** Influenza Shell Vial B and Viral Respiratory Culture

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 48-96 hours

**METHODOLOGY:** Shell vial

**CPT:** 87254; 87252

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**[VINBVC] INFLUENZA B CULTURE**

**SPECIMEN REQUIRED:** Any respiratory sample; transport immediately

**COLLECTION INSTRUCTIONS:**

*Nasopharyngeal wash+NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

*Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container.

**TUBE OR CONTAINER:** Viral transport tube

**SPECIAL HANDLING:** Keep specimen refrigerated

**ORDERING MODULE:** MIC

**TEST INCLUDES:** Influenza B culture ONLY

**TEST AVAILABILITY:** Monday-Saturday

**TURNAROUND TIME:** 10-12 days

**REFERENCE RANGE:** No growth

**METHODOLOGY:** Culture

**CLINICAL USE:** Isolate and identify Influenza type B

**CPT:** 87252

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**[VIPER] RUSSELL VIPER VENOM TIME**

**SPECIMEN REQUIRED:** Frozen plasma
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 1 full tube
Testing volume: 2 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
TEST INCLUDES: Screen, confirmation and ratio
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1-7 days
REFERENCE RANGE: 31-44 seconds (screen)
30-38 seconds (confirmation)
0.8 - 1.2 ratio
OTHER NAMES: Stypven Time; Dilute Russell Viper Venom Test (dRVVT)
METHODOLOGY: Clot detection
CLINICAL USE: Detect deficiencies of prothrombin, factor V, or factor X
CPT: 85613

[VISC] Blood Viscosity
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: 1.6-1.9 relative to saline
METHODOLOGY: Viscosimetry (Ostwald)
CLINICAL USE: Evaluate hyperviscosity syndrome associated with monoclonal gammopathy state
CPT: 85810

[VISCBF] Body Fluid Viscosity
SPECIMEN REQUIRED: Refrigerated body fluid
TUBE OR CONTAINER: Sterile tube
SPECIAL HANDLING: Specify source of fluid
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
METHODOLOGY: Viscometry
CLINICAL USE: Evaluate hyperviscosity syndrome associated with monoclonal gammopathy state
CPT: 85810
### [VITA] Vitamin A Level

- **SPECIMEN REQUIRED:** Refrigerated serum (protect from light)
- **TUBE OR CONTAINER:** Red or Gold
- **SPECIAL HANDLING:** Collect specimen in chilled tube from a fasting patient; place on ice and protect from light
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 1.2 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8-10 days
- **REFERENCE RANGE:** 19-83 ug/dL
- **METHODOLOGY:** High-pressure liquid chromatography (HPLC) with UV detection
- **CLINICAL USE:** Differential diagnosis of hypervitaminosis A
- **CPT:** 84590

### [VITB12] Vitamin B12 Level

- **SPECIMEN REQUIRED:** Refrigerated or frozen serum. Can use Lithium Heparin if not ordered with Folate.
- **TUBE OR CONTAINER:** Gold or Red
- **SPECIAL HANDLING:** Draw before Schilling test, transfusion, or B12 therapy; Protect specimen from light
- **SPECIMEN VOLUME:** 1 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Monday-Friday
- **TURNAROUND TIME:** 24 hours
- **REFERENCE RANGE:** 193 - 982 pg/mL
- **OTHER NAMES:** B12; Cobalamin
- **METHODOLOGY:** Chemiluminescence
- **CLINICAL USE:** Detect B12 deficiency as in pernicious anemia; diagnose folic acid deficiency
- **CPT:** 82607

### [VITB12UN] Vitamin B12 Unsaturated Binding Cap

- **SPECIMEN REQUIRED:** Refrigerated serum or plasma
- **TUBE OR CONTAINER:** Red, Gold or Lavender(EDTA)
- **SPECIAL HANDLING:** Must draw before Schilling test, transfusions, or B12 therapy is started. No isotopes administered 24 hours prior to venipuncture
- **Discontinue B12 supplements at least 72 hours prior to specimen collection**
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 0.5 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 2-8 days
- **REFERENCE RANGE:** 725-2045 pg/mL
- **METHODOLOGY:** Radioimmunoassay (RIA)
- **CLINICAL USE:** Differential diagnosis of polycythemia vera from secondary/relative polycythemias; evaluate macrocytic/megaloblastic anemia
<table>
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<tr>
<th>Test</th>
<th>Specimen Required</th>
<th>Container</th>
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<th>Volume</th>
<th>Minimum Volume</th>
<th>Test Availability</th>
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<th>Reference Range</th>
<th>Other Names</th>
<th>Methodology</th>
<th>Clinical Use</th>
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</thead>
<tbody>
<tr>
<td><strong>[VITB1B] Whole Blood Vitamin B1 Level</strong></td>
<td>Frozen whole blood</td>
<td>Lavender (EDTA)</td>
<td>Protect from light</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>Daily</td>
<td>10 days</td>
<td>66.5 - 200.0 nmol/L</td>
<td>Thiamine</td>
<td>High-pressure liquid chromatography (HPLC) with fluorescence detection</td>
<td>Important cofactor for the transketolation reactions of the pentose phosphate cycle, which provides pentose phosphate for nucleotide synthesis and for the reduced NADP required for various synthetic pathways</td>
</tr>
<tr>
<td><strong>[VITB2] Vitamin B2 Level</strong></td>
<td>Frozen whole blood</td>
<td>Lavender (EDTA)</td>
<td>Freeze immediately and protect from light</td>
<td>1.5 mL</td>
<td>1 mL</td>
<td>Daily</td>
<td>137-370 g/L</td>
<td>Riboflavin</td>
<td>High-pressure liquid chromatography (HPLC) with fluorescence detector</td>
<td>Detect riboflavin deficiency</td>
<td></td>
</tr>
<tr>
<td><strong>[VITB3] Vitamin B3 (Niacin)</strong></td>
<td>Refrigerated serum plasma</td>
<td>Gold, Red or Lavender (EDTA)</td>
<td>Centrifuge and separate within 45 minutes of collection. Sample must be light protected.</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>Daily</td>
<td>4-9 days</td>
<td>0.0-0.7 ng/mL</td>
<td>Niacin; Nicotinic acid</td>
<td>Liquid chromatography/tandem mass spectrometry (LC/MS-MS)</td>
<td></td>
</tr>
</tbody>
</table>
### [VITB5] Pantothenic Acid Level

SPECIMEN REQUIRED: Refrigerated serum plasma  
TUBE OR CONTAINER: Red or Lavender (EDTA)  
SPECIAL HANDLING: Separate plasma from cells within 45 minutes of collection; Protect from light (wrap in foil)  
Do NOT collect in gel barrier tube  
SPECIMEN VOLUME: 1 mL  
MINIMUM VOLUME: 0.5 mL  
TEST AVAILABILITY: Daily  
REFERENCE RANGE: 12.9-253.1 ng/mL  
OTHER NAMES: Pantothenic acid  
METHODOLOGY: Liquid chromatography/tandem mass spectrometry (LC/MS-MS)  
CPT: 84591

### [VITB6] Vitamin B6 Level

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIAL HANDLING: Separate and freeze immediately; protect specimen from light  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 1.2 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-7 days  
REFERENCE RANGE: Male: 5.3 - 46.7 ng/mL  
Female: 2.0 - 32.8 ng/mL  
OTHER NAMES: PLP; Pyridoxal 5-Phosphate; Pyridoxine  
METHODOLOGY: High-pressure liquid chromatography (HPLC) with electrochemical (EC) detection  
CLINICAL USE: Detect vitamin B6 deficiency  
CPT: 84207

### [VITC] Vitamin C level

SPECIMEN REQUIRED: Frozen serum or plasma  
TUBE OR CONTAINER: Red, Gold or Green (heparin)  
SPECIAL HANDLING: Draw in chilled tube and place in ice  
Protect specimen from light  
SPECIMEN VOLUME: 2 mL  
MINIMUM VOLUME: 0.7 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-7 days  
REFERENCE RANGE: 0.4 - 2.0 mg/dL  
OTHER NAMES: Ascorbic Acid  
METHODOLOGY: High-pressure liquid chromatography (HPLC) with electrochemical (EC) detection  
CLINICAL USE: Evaluation of vitamin C deficiency  
CPT: 82180

### [VITD125] Vitamin D 1,25-Dihydroxy
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA), or Green (heparin)
SPECIAL HANDLING: No isotopes administered 24 hours prior to venipuncture
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1.0 mL (this volume does not allow for repeat testing)
PEDIATRIC TEST INFO: Order PEDVITD125 for pediatric testing to be performed by Esoterix
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: 15.9-55.6 pg/mL
OTHER NAMES: Calcitriol; 1,25-Dihydroxycholecalciferol; 1,25-Dihydroxy Vitamin D3; 1,25(OH)2 D3

METHODOLOGY: Column chromatography; radioimmunoassay (RIA)
CLINICAL USE: Aid in the diagnosis of hyperparathyroidism, hypoparathyroidism, pseudohypoparathyroidism, renal osteodystrophy, vitamin D resistant rickets
CPT: 82652

[VITD2-3] VITAMIN D (D2+D3)

SPECIMEN REQUIRED: Frozen serum (preferred) or plasma
TUBE OR CONTAINER: Red, Gold, Lavender (EDTA) or Green (heparin)
SPECIAL HANDLING: Separate within 1 hour of collection
SPECIMEN VOLUME: 1.0 mL
MINIMUM VOLUME: 0.5 mL (this volume does not allow for repeat testing)
TEST INCLUDES: Total Vitamin D, Vitamin D-2 and Vitamin D-3
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-7 days
REFERENCE RANGE: Age-specific
METHODOLOGY: High-performance liquid chromatography (HPLC); Tandem Mass Spectrometry
CPT: 82306

[VITD25] 25-Hydroxy Vitamin D3

SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
Green (heparin) will be rejected
SPECIMEN VOLUME: 0.5 mL
MINIMUM VOLUME: 0.3 mL (this volume does not allow for repeat testing)
PEDIATRIC TEST INFO: Order PEDVITD25 for pediatric testing to be performed by Esoterix
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-3 days
REFERENCE RANGE: 30-100 ng/mL
OTHER NAMES: Cholecalciferol Metabolite; 25-Hydroxycalciferol; 25-OH-D; Vitamin D3 Metabolite
METHODOLOGY: Immunochemiluminometric Assay (ICMA)
CLINICAL USE: Rule out vitamin D deficiency as cause of bone disease; differential diagnosis of hypercalcemia
CPT: 82306

[VITE] Vitamin E Level
SPECIMEN REQUIRED: Refrigerated serum (protected from light)
TUBE OR CONTAINER: Red or Gold
SPECIAL HANDLING: Protect specimen from light
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 8-10 days
REFERENCE RANGE: Alpha: 3.0-15.8 mg/L
OTHER NAMES: Alpha Tocopherol; Vitamin E1
METHODOLOGY: High-pressure liquid chromatography (HPLC) with fluorometric detection
CLINICAL USE: Evaluate vitamin E deficiency in hemolytic disease in premature infants and neuromuscular diseases
CPT: 84446

[VITK] Vitamin K Level
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red or Gold (preferred) or Lavender (EDTA)
SPECIAL HANDLING: Protect specimen from light
SPECIMEN VOLUME: 1.5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-5 days
REFERENCE RANGE: 0.28-1.78 ng/mL
OTHER NAMES: Phylloquinone; Phytonadione
METHODOLOGY: High-pressure liquid chromatography (HPLC) with electrochemical (EC) detection
CPT: 84597

[VLCAD] VERY LONG CHAIN ACYL-CoA DEHYD
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 7 days
REFERENCE RANGE: No mutation detected
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83900; 83901 x 11; 83904 x 2; 83909; 83912

[VLCFA] VERY LONG CHAIN FATTY ACIDS
SPECIMEN REQUIRED: Plasma or whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen should be fasting or preprandial
SPECIMEN VOLUME: 3 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Phytanic Acid (screening test for peroxisomal disorders)
TEST AVAILABILITY: Daily
CPT: 82726

[VMA24] UR VANILLYLMANDELIC ACID 24

SPECIMEN REQUIRED: Refrigerated aliquot (24-hour urine)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: 24 hour urine collected in "D" container (30mL 6N HCl); patient should avoid salicylates, caffeine, phenothiazine, and anti-hypertension agents; VMA is stable for 5 days at room temp
Adjust final pH to 1-3 with 6N HCL
SPECIMEN VOLUME: 30 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6 days
REFERENCE RANGE: 0.0-7.5 mg/24 hours
OTHER NAMES: 3-Methoxy-4-Hydroxymandelic Acid, 24-Hour Urine METHODOLOGY: Liquid chromatography/Tandem Mass Spectrometry (LC-MS/MS)
CLINICAL USE: Diagnose pheochromocytoma; evaluation of hyper tension, diagnosis and follow up neuroblastoma, ganglioneuroma, and ganglioneuroblastoma
CPT: 84585

[VMAGCMS] Urine Vanillylmandelic Acid

SPECIMEN REQUIRED: Frozen urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Adjust final pH to 1-3 with 6N HCL
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-4 days
METHODOLOGY: Gas chromatography/Mass Spectrometry (GC/MS)
CLINICAL USE: Work-up of catecholamine-secreting tumors
CPT: 84585

[VMARAN] UR VANILLYLMANDELIC ACID RAND

SPECIMEN REQUIRED: Refrigerated random urine
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Adjust final pH to < 3 with 6N HCL
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Urine creatinine, VMA and VMA:creatinine ratio
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6 days
REFERENCE RANGE: Age specific
OTHER NAMES: 3-Methoxy-4-Hydroxymandelic Acid
METHODOLOGY: Liquid chromatography/Tandem Mass Spectrometry (LC-MS/MS)
CLINICAL USE: Diagnose pheochromocytoma; evaluation of hypertension, diagnosis and follow up neuroblastoma, ganglioneuroma, and ganglioneuroblastoma
CPT: 82570; 84585

[VMEAFAI] MEASLES VIRUS FA + CULTURE

SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells. The combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)
Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3 mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral tranport tube
TEST INCLUDES: Measles FA and culture
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 1-14 days
METHODOLOGY: Cytopathic effect (CE); Fluorescent antibody (FA)
CPT: 87252; 87283

[VMEASVI] MEASLES SHELL VIAL + CULTURE

SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3”.
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash.

TEST AVAILABILITY: Daily
TURNAROUND TIME: 48-96 hours
CPT: 87254; 87252

**[VMEAVC] MEASLE VIRUS CULTURE**

SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3”.
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash.

TUBE OR CONTAINER: Viral transport media
TURNAROUND TIME: 1-14 Days
METHODOLOGY: Cytopathic Effect (CE)

**[VMETAFA] hMETAPNEUMOVIRUS DIRECT FA**

SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3”.
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP+ wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash.
Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides). Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3 mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral transport tube
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 3 Days
NORMAL TEST VALUES: Negative
METHODOLOGY: Direct Fluorescent antibody (DFA)
CLINICAL INFORMATION: Evaluate lower respiratory infections

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[VMUMFAI] MUMPS FA + CULTURE

SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells. The combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area
confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides). Send to the lab immediately in glass slide holders.

3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3 mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

  TUBE OR CONTAINER: Viral transport media
  TEST INCLUDES: Mumps FA and culture
  TEST AVAILABILITY: Daily
  TURNAROUND TIME: 24 hours
  METHODOLOGY: Direct fluorescent antibody (DFA)
  CPT: 87299; 87252

[VMUMSVI]  MUMPS SHELL VIAL + CULTURE

SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash.

  TUBE OR CONTAINER: Viral transport media
  TEST INCLUDES: Mumps Shell Vial & Culture
  TEST AVAILABILITY: Daily 48-96 hours
  CPT: 87252; 87254

[VMUMVC]  MUMPS CULTURE

SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash.
TUBE OR CONTAINER: Viral transport media
TURNAROUND TIME: 1-14 Days
METHODOLOGY: Cytopathic Effect (CPE)

[VORIC] Voriconazole Level
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red or Lavender (EDTA)
SPECIAL HANDLING: Do NOT collect specimen in gel barrier tube
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-7 days
METHODOLOGY: High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)
CLINICAL USE: Therapeutic Drug Monitoring
CPT: 80299

[VPADE] ADENOVIRUS PCR
SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells. The combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)
Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides). Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport
medium or have the patient gargle 3 mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive. The aspirate can be put in viral transport medium and used for culture backup. Culture backup for adults requires a throat swab or gargle placed in viral transport medium. If FA is positive the culture is not performed. Select any 2 viruses to be tested for: RSV, Parainfluenza virus, Influenza A/B, Adenovirus. Influenza A and B can be tested for separately or pooled. Draw up 1-2 mL sterile saline into a 3-5 mL syringe. Attach 2 inches of 18-20 guage tubing to syringe tip. Insert tube end into nostril. Quickly instill saline into nostril. Aspirate the recoverable nasal specimen. Inject nasal specimen from syringe into viral transport media tube. Refrigerate following collection and during transport.

NP swab: Collect with rayon or Dacron wire swab; place swab into viral transport media tube. Refrigerate following collection and during transport.

**TUBE OR CONTAINER:** Viral transport media

**TEST AVAILABILITY:** Monday-Saturday

**TURNAROUND TIME:** 24 hours

**METHODOLOGY:** Direct fluorescent antibody (DFA)

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**[VPARFAI] PARAINFLUENZA FA + CULTURE**

**SPECIMEN REQUIRED:**

**COLLECTION INSTRUCTIONS:**

Nasopharyngeal wash+NP:

1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3''.
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:

1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large
clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides). Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.
TUBE OR CONTAINER: Viral transport media
SPECIAL HANDLING: Keep specimen refrigerated
ORDERING MODULE: MIC
TEST INCLUDES: Parainfluenza Direct FA/EIA and respiratory culture (IF Direct test is positive, culture is not performed)
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 24 hours (FA)
REFERENCE RANGE: Negative
METHODOLOGY: Direct fluorescent antibody (DFA)
CLINICAL USE: Rapid identification of Parainfluenza virus
CPT: 87252; 87279

[VPARSVI] PARAINFLUENZA POOL SV/ISO

SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Optimal testing requires epithelial cells. The combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test).
TUBE OR CONTAINER: Viral transport media
TEST INCLUDES: Parainfluenza shell vial and culture
CLINICAL INFORMATION: Shell vial results in are held 10-14 days
CPT: 87252; 87254

[VPARVC] PARAINFLUENZA CULTURE

SPECIMEN REQUIRED: Any respiratory sample on ice
COLLECTION INSTRUCTIONS:
Nasopharyngeal wash+NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash.

THROAT:
Collect with viral swab. Refrigerate following collection and during transport.
TUBE OR CONTAINER: Viral transport tube
SPECIAL HANDLING: Indicate source of specimen; Inclusion of patient clinical history and differential diagnostic considerations is very helpful
ORDERING MODULE: MIC
TEST INCLUDES: Parainfluenza 1,2,3 & 4 culture ONLY
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: < 96 hours for final
REFERENCE RANGE: No growth
METHODOLOGY: Culture
CLINICAL USE: Isolate and identify Parainfluenza
CPT: 87252

[VPCHLDNAP] CHLAMYDIA-PCR

SPECIMEN REQUIRED: Frozen media or refrigerated urine
COLLECTION:
Endocervical specimens:
OBTAIN A GOOD EPITHELIAL CELL SCRAPING
1. Remove excess mucus from the cervical Os and surrounding mucosa using one of the swabs provided in the cervical collection kit and discard the swab.
2. Insert the second swab from the collection kit into the endocervical canal.
3. Rotate the swab for 10-30 seconds in the endocervical canal to ensure adequate sampling.
4. Withdraw the swab careful; avoid any contact with the vaginal mucosa. (Examine the swab for the presence of surgical lubricants. And if present, indicate this on the specimen label. Do not use the lubricant Replense as it may interfere with the test results.)
5. Immediately place the swab into the M-4 transport tube
6. Break the swab shaft at the scoreline to fit the tube and cap the tube tightly.
Urethral specimens:
OBTAIN A GOOD EPITHELIAL CELL SCRAPING

[VPCHLDNAP] CHLAMYDIA-PCR

SPECIMEN REQUIRED: Frozen media or refrigerated urine
COLLECTION:
Endocervical specimens:
OBTAIN A GOOD EPITHELIAL CELL SCRAPING
1. Remove excess mucus from the cervical Os and surrounding mucosa using one of the swabs provided in the cervical collection kit and discard the swab.
2. Insert the second swab from the collection kit into the endocervical canal.
3. Rotate the swab for 10-30 seconds in the endocervical canal to ensure adequate sampling.
4. Withdraw the swab careful; avoid any contact with the vaginal mucosa. (Examine the swab for the presence of surgical lubricants. And if present, indicate this on the specimen label. Do not use the lubricant Replense as it may interfere with the test results.)
5. Immediately place the swab into the M-4 transport tube
6. Break the swab shaft at the scoreline to fit the tube and cap the tube tightly.
Urethral specimens:
OBTAIN A GOOD EPITHELIAL CELL SCRAPING
1. Patient should not have urinated for at least 2 hours prior to sample collection.
2. Insert the Male urethral/NP swab, provided separately from the collection kit, 2-4 cm into the urethra using a rotating motion to facilitate insertion.
3. Once inserted, rotate the swab gently using sufficient pressure to ensure the swab comes into contact with all urethral surfaces. Allow the swab to remain inserted for 3-5 seconds.
4. Withdraw the swab
5. Immediately place the swab into the M-4 transport tube

Urine specimens for Males or Females:
Urine not as sensitive of test as swab- do only if there is no other way to collect the sample.
1. Patient should not have urinated for at least 2 hours prior to sample collection.
2. Specimen should be collected in a plastic, preservative-free sterile urine collection cup with a secure lid
3. Instruct the patient to catch the FIRST 10-50 mL of the urine stream. (You may want to mark the outside of the cup to show the desired volume.)
Caution the patient not to begin urinating until the collection cup is in position.
4. Check the lid to make sure it is on tight before placing in a specimen transport bag.

TUBE OR CONTAINER: M-4 transport media or tightly sealed sterile urine cup
SPECIAL HANDLING: Indicate source; Female kits are distributed routinely. Request male swabs if needed.
Do not use for medical legal purposes; order chlamydia cultures instead.
For conjunctival specimens order a chlamydia FA (VCHLFA) or a chlamydia culture
ORDERING MODULE: LAB
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 1 day
REFERENCE RANGE: Negative

METHODOLOGY: Polymerase Chain Reaction (PCR)

CLINICAL USE: Detection of Chlamydia
CPT: 87491

[VPENT]  CSF Enterovirus RNA Qual (PCR)

SPECIMEN REQUIRED: Frozen CSF
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Send to the lab immediately; Specimens must be frozen @ -70 in less than 6 hours of collection
ORDERING MODULE: LAB
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 36 hours
REFERENCE RANGE: Not detected
METHODOLOGY: DNA probe
CLINICAL USE: Detection of Enterovirus
CPT: 87498

[VPFA6] RESPIRATORY PCR/FA

SPECIMEN REQUIRED: Viral transport of epithelial scrapings
COLLECTION INSTRUCTIONS:
Nasopharyngeal wash+NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells the combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides). Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral transport tube
ORDERING MODULE: MIC
TEST INCLUDES: RSV; Parainfluenza Pool; Influenza A & B, Adenovirus and hMetapnuemovirus
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Negative
METHODOLOGY: Direct fluorescent antibody (DFA)
CPT: 87252; 87260; 87275; 87276; 87279; 87280
SPECIMEN REQUIRED: Frozen media or refrigerated urine (males only)

COLLECTION:
Endocervical specimens:
OBTAIN A GOOD EPITHELIAL CELL SCRAPING
1. Remove excess mucus from the cervical Os and surrounding mucosa using one of the swabs provided in the cervical collection kit and discard the swab.
2. Insert the second swab from the collection kit into the endocervical canal.
3. Rotate the swab for 10-30 seconds in the endocervical canal to ensure adequate sampling.
4. Withdraw the swab careful; avoid any contact with the vaginal mucosa. (Examine the swab for the presence of surgical lubricants. And if present, indicate this on the specimen label. Do not use the lubricant Replense as it may interfere with the test results.)
5. Immediately place the swab into the M-4 transport tube

Urethral specimens:
OBTAIN A GOOD EPITHELIAL CELL SCRAPING
1. Patient should not have urinated for at least 2 hours prior to sample collection.
2. Insert the Male urethral/NP swab, provided separately from the collection kit, 2-4 cm into the urethra using a rotating motion to facilitate insertion.
3. Once inserted, rotate the swab gently using sufficient pressure to ensure the swab comes into contact with all urethral surfaces. Allow the swab to remain inserted for 3-5 seconds.
4. Withdraw the swab
5. Immediately place the swab into the M-4 transport tube

Urine (Male only)
1. Patient should not have urinated for at least 2 hours prior to sample collection
2. Specimen should be collected in a plastic, preservative-free sterile urine collection cup with a secure lid.
3. Instruct the patient to catch the FIRST 10-50 mL of the urine stream. (You may want to mark the outside of the cup to show the desired volume.)
Caution the patient not to begin urinating until the collection cup is in position.
4. Check the lid to make sure it is on tight before placing in a specimen transport bag

TUBE OR CONTAINER: M4 transport media or tightly sealed urine cup

ORDERING MODULE: LAB
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 1 day
REFERENCE RANGE: Negative
METHODOLOGY: Polymerase Chain Reaction (PCR)
CLINICAL USE: Detection of Neisseria gonorrhoeae
CPT: 87591

<table>
<thead>
<tr>
<th>VPHCVQ</th>
<th>HCV RNA (QUANTITATIVE)</th>
</tr>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen plasma</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
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<tr>
<td>SPECIAL HANDLING: Separate plasma and freeze in plastic container within 6 hours of collection. Do NOT collect in green tube</td>
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<tr>
<td>SPECIMEN VOLUME: 5 mL</td>
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<tr>
<td>MINIMUM VOLUME: 3.5 mL</td>
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<tr>
<td>TEST AVAILABILITY: Monday-Friday</td>
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<tr>
<td>TURNAROUND TIME: 7 days</td>
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<tr>
<td>REFERENCE RANGE: Not detected</td>
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<tr>
<td>OTHER NAMES: Hepatitis C Virus RNA PCR, quantitative; Hepatitis C Viral load; HCV Viral load</td>
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<tr>
<td>METHODOLOGY: Polymerase chain reaction (PCR)</td>
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<tr>
<td>CLINICAL USE: Detect and confirm hepatitis C virus infection</td>
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<tr>
<td>CPT: 87522</td>
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<table>
<thead>
<tr>
<th>VPHCVQG</th>
<th>HCV QUANT WITH GENOTYPE</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen plasma</td>
<td></td>
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<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA)</td>
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<tr>
<td>SPECIAL HANDLING: Separate plasma and freeze in plastic container within 6 hours of collection. Do NOT collect in green tube</td>
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<tr>
<td>SPECIMEN VOLUME: 10 mL</td>
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<tr>
<td>MINIMUM VOLUME: 6.5 mL</td>
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<tr>
<td>TEST INCLUDES: Quantitative HCV and HCV genotype when quantitation values are &gt; 100 IU/mL</td>
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<tr>
<td>TEST AVAILABILITY: Monday-Friday</td>
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<tr>
<td>TURNAROUND TIME: 7 days</td>
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<tr>
<td>OTHER NAMES: Hepatitis C Virus RNA PCR, quantitative with reflex to genotyping; HCV Viral load with reflex to genotyping</td>
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<tr>
<td>METHODOLOGY: Polymerase chain reaction (PCR) and Fluorescence Resonance Energy Transfer (FRET), Genotypes 1-6</td>
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<tr>
<td>CLINICAL USE: Detect and confirm hepatitis C virus infection</td>
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<td>CPT: 87522; 87902</td>
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<thead>
<tr>
<th>VPHERCON</th>
<th>Herpes Virus Group DNA (PCR)</th>
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<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozen CSF</td>
<td></td>
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<tr>
<td>TUBE OR CONTAINER: Sterile CSF tube</td>
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<tr>
<td>SPECIAL HANDLING: Send to the lab immediately; Specimens must be frozen @ -70 in less than 6 hours of collection</td>
<td></td>
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<tr>
<td>ORDERING MODULE: LAB</td>
<td></td>
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<tr>
<td>SPECIMEN VOLUME: 1 mL</td>
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</table>
MINIMUM VOLUME: 0.5 mL
TEST INCLUDES: Detection of HSV 1 & 2; CMV; EBV; VZV and HHV6
TEST AVAILABILITY: Monday-Friday (Specimens received after 8 am on Friday, will not be tested until Monday)
TURNAROUND TIME: 1-3 days
REFERENCE RANGE: Not detected
METHODOLOGY: DNA probe
REFLEX TEST INFORMATION: If detected, Herpes consensus identification will be performed, at additional charges
CPT: 87801

[VPHV1] HIV-1 RNA VIRAL LOAD

SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Send to lab immediately, specimen must be separated and frozen within 6 hours of collection
For patients with 48 to 5,000 copies/mL
ORDERING MODULE: LAB
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 2-8 days
REFERENCE RANGE: No HIV detected
METHODOLOGY: Polymerase chain reaction (PCR) amplification
CLINICAL USE: Detect and quantitate HIV in plasma
CPT: 87536

[VPHSV] CSF Herpes Simplex I&II DNA (PCR)

SPECIMEN REQUIRED: Frozen CSF
TUBE OR CONTAINER: Sterile container
SPECIAL HANDLING: Send to the lab immediately; Specimens must be frozen @ -70 in less than 6 hours of collection
ORDERING MODULE: LAB
SPECIMEN VOLUME: 1 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3 days
REFERENCE RANGE: Not detected
METHODOLOGY: DNA probe
CLINICAL USE: Detection of Herpes simplex 1/2
CPT: 87801

[VPINA] INFLUENZA A PCR

SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly
with a large tubing. Cut the tubing to a length of 2-3”.
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells. The combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)
Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
Send to the lab immediately in glass slide holders.
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3 mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.
The aspirate can be put in viral transport medium and used for culture backup. Culture backup for adults requires a throat swab or gargle placed in viral transport medium. If FA is positive the culture is not performed. Select any 2 viruses to be tested for: RSV, Parainfluenza virus, Influenza A/B, Adenovirus. Influenza A and B can be tested for separately or pooled. Draw up 1-2 mL sterile saline into a 3-5 mL syringe. Attach 2 inches of 18-20 guage tubing to syringe tip. Insert tube end into nostril. Quickly instill saline into nostril. Aspirate the recoverable nasal specimen. Inject nasal specimen from syringe into viral transport media tube. Refrigerate following collection and during transport.
NP swab: Collect with rayon or Dacron wire swab; place swab into viral transport media tube. Refrigerate following collection and during transport.
TUBE OR CONTAINER: Viral transport media
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 24 hours
METHODOLOGY: Direct fluorescent antibody (DFA)

[VPINB] INFLUENZA B PCR
SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells. The combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)
Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3 mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.
The aspirate can be put in viral transport medium and used for culture backup. Culture backup for adults requires a throat swab or gargle placed in viral transport medium. If FA is positive the culture is not performed. Select any 2 viruses to be tested for: RSV, Parainfluenza virus, Influenza A/B, Adenovirus. Influenza A and B can be tested for separately or pooled.
Draw up 1-2 mL sterile saline into a 3-5 mL syringe. Attach 2 inches of 18-20 guage tubing to syringe tip. Insert tube end into nostril. Quickly instill saline into nostril. Aspirate the recoverable nasal specimen. Inject nasal specimen from syringe into viral transport media tube. Refrigerate following collection and during transport. NP swab: Collect with rayon or Dacron wire swab; place swab into viral transport media tube. Refrigerate following collection and during transport.
TUBE OR CONTAINER: Viral transport media
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 24 hours
METHODOLOGY: Direct fluorescent antibody (DFA)
SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells. The combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)
Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3 mL of sterile saline for 10 seconds; expell the gargle into a sterile container.
This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive. The aspirate can be put in viral transport medium and used for culture backup. Culture backup for adults requires a throat swab or gargle placed in viral transport medium. If FA is positive the culture is not performed. Select any 2 viruses to be tested for: RSV, Parainfluenza virus, Influenza A/B, Adenovirus. Influenza A and B can be tested for separately or pooled.
Draw up 1-2 mL sterile saline into a 3-5 mL syringe. Attach 2 inches of 18-20 guage tubing to syringe tip. Insert tube end into nostril. Quickly instill saline into nostril. Aspirate the recoverable nasal specimen. Inject nasal specimen from syringe into viral transport media tube. Refrigerate following collection and during transport.
NP swab: Collect with rayon or Dacron wire swab; place swab into viral transport media tube. Refrigerate following collection and during transport.
TUBE OR CONTAINER: Viral transport media
VRE Surveillance Screen

**[VRES]**

**RESPIRATORY SHELL VIAL + CULT**

**SPECIMEN REQUIRED:** Any respiratory specimen

Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash.
6. Transport immediately

**TUBE OR CONTAINER:** Viral transport media

**TEST INCLUDES:** RSV; Parainfluenza Pool; Influenza A & B; Adenovirus; and CMV

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 48-96 hours

**CLINICAL INFORMATION:** Shell vial results in are held 10-14 days

**CPT:** 87252; 87254 x 5

**[VRHIVC]**

**RHINOVIRUS CULTURE**

**SPECIMEN REQUIRED:**

Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash.

**TUBE OR CONTAINER:** Viral transport media

**TURNAROUND TIME:** 1-14 DAYS

**TEST INCLUDES:** Rhinovirus culture ONLY
**[VROTA] ROTAVIRUS ANTIGEN (EIA-STOOL)**

SPECIMEN REQUIRED: Refrigerated fresh stool specimen  
TUBE OR CONTAINER: Sterile container  
SPECIAL HANDLING: Keep refrigerated and transport immediately  
Do NOT submit diapers, dried out stool, or specimens that are soaked into wooden sticks  
(the sticks may absorb all of the moisture out of the fecal material and may affect results)  
ORDERING MODULE: MIC  
SPECIMEN VOLUME: Greater than or equal to jelly bean size  
MINIMUM VOLUME: Pea size  
TEST AVAILABILITY: Monday, Wednesday, and Friday  
TURNAROUND TIME: 2 days  
REFERENCE RANGE: Negative  
METHODOLOGY: Enzyme immunoassay (EIA)  
CLINICAL USE: Detect rotavirus in patients suspected of having gastroenteritis  
CPT: 87425

**[VRSVANT] RSV RAPID + RSV CULTURE**

SPECIMEN REQUIRED: Respiratory specimen on ice  
COLLECTION INSTRUCTIONS:  
Nasopharyngeal wash+NP:  
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.  
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".  
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.  
4. Inject saline and nasal material into the viral transport medium. If viral transport medium is not available, the NP wash may be added to 1.0 mL of trypticase soy broth or sterile saline.  
5. After or before doing the wash, use a dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells; the combination of both the wash and nasopharyngeal scraping is essential to obtain enough cells to perform the test.)  
Alternate NP collection instructions:  
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.  
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides). Send to the lab immediately in glass slide holders.  
3. Repeat step 1 and cut or break the swab into viral trans-
port medium or have the patient gargle 3mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral transport tube
SPECIAL HANDLING: Indicate source of specimen
ORDERING MODULE: MIC
TEST INCLUDES: RSV direct FA/EIA and respiratory culture
TEST AVAILABILITY: Daily
TURNAROUND TIME: 24 hours
REFERENCE RANGE: Negative
METHODOLOGY: FA/EIA membrane diffusion
CLINICAL USE: Rapid diagnosis of the presence of respiratory syncytial virus; FA and Cultures are not performed on positive specimens.
CPT: 87252; 87280; 87420

[VRSSVA] RSV DIRECT FA

SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP+ wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash.
Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides).
Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3 mL of sterile saline for 10 seconds; expell the gargle into a sterile container.
This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.
TUBE OR CONTAINER: Viral transport tube
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 3 Days
NORMAL TEST VALUES: Negative
METHODOLOGY: Direct Fluorescent antibody (DFA)
CLINICAL INFORMATION: Evaluate lower respiratory infections

**[VRSVFA5] RSV EIA/FA5**

**[VRSVFA6] RSV EIA/FA6**

**[VRSVPFA6] RSV EIA/PCR-FA 6**

**[VRSVSVI] RSV SHELL VIAL + CULTURE**

SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP+ wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. Optimal testing requires epithelial cells. The combination of both the wash and nasopharyngeal scrapings are essential to obtain enough cells to perform the test.
6. Transport Immediately
TUBE OR CONTAINER: Viral transport media
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 48-96 hours
METHODOLOGY: Shell Vial
CPT: 87252; 87254

**[VRSVVC] RSV CULTURE**

SPECIMEN REQUIRED: Any respiratory specimen on ice
COLLECTION INSTRUCTIONS:
Nasopharyngeal wash+NP:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP+ wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a dacron NP swab to do...
a good epithelial cell scraping of the nasopharyngeal area
Place and cut or break the swab into the same vial as the
wash.
TUBE OR CONTAINER: Viral transport media
SPECIAL HANDLING: Indicate source of specimen; Inclusion of
patient's clinical history and differential
diagnostic considerations is very helpful.
Deliver to lab immediately
ORDERING MODULE: MIC
TEST INCLUDES: Culture ONLY
TEST AVAILABILITY: Monday-Saturday
TURNAROUND TIME: 10-12 days
REFERENCE RANGE: No growth
METHODOLOGY: Cytopathic Effect (CPE)
CLINICAL USE: Isolate and identify Respiratory syncytial virus
CPT: 87252

[VSX2] VSX2 GENE ANALYSIS
SPECIMEN REQUIRED: Whole blood room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 6-8 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891 x 5; 83892 x 2; 83894 x 5; 83898 x 10; 83904 x 10;
83912

[VVCBF] VIRAL CULTURE BODY FLUID

[VVCBL] VIRAL CULTURE BLOOD

[VVCBM] VIRAL CULTURE BONE MARROW

[VVCCF] VIRAL CULTURE CSF

[VVCEY] VIRAL CULTURE EYE

[VVCGEN] VIRAL CULTURE GENITAL

[VVCLE] VIRAL CULTURE SKIN/VES/LES/PET

[VVCMO] VIRAL CULTURE MOUTH

[VVCNOS] VIRAL CULTURE NOS NONRESP.

[VVCRESP] VIRAL CULTURE RESPIRATORY
SPECIMEN REQUIRED:
Nasopharyngeal wash+NP instructions:
1. Draw up 1-2 mL of sterile saline into a 3-5 mL syringe.
2. Remove the needle from the syringe and put on a butterfly with a large tubing. Cut the tubing to a length of 2-3".
3. Place the tubing in the nasopharyngeal passage. Inject the saline rapidly and draw back rapidly.
4. Inject saline and nasal material into the viral transport medium. (If viral transport medium is not available, the NP+ wash may be added to 1.0 mL of trypticase soy broth or sterile saline.)
5. After or before doing the wash, use a Dacron NP swab to do a good epithelial cell scraping of the nasopharyngeal area. Place and cut or break the swab into the same vial as the wash. (Immunofluorescent testing is done on the epithelial cells. The combination of both the wash and nasopharyngeal scraping are essential to obtain enough cells to perform the test.)

Alternate NP collection instructions:
1. Insert a type 1 (NP) dacron tipped, aluminum-shafted swab into nasopharyngeal passage for 1 minute.
2. Immediately following the removal of the swab roll the swab onto the center of a glass slide. Keep the area confined to the size of a dime. Do not leave any large clumps of mucous; spread the specimen out evenly over the dime size area. (This will make a maximum of 2 slides). Send to the lab immediately in glass slide holders
3. Repeat step 1 and cut or break the swab into viral transport medium or have the patient gargle 3 mL of sterile saline for 10 seconds; expell the gargle into a sterile container. This is for a viral culture if the slide collection is poor or if the FA is negative. The culture is not performed if the FA is positive.

TUBE OR CONTAINER: Viral transport media
TEST INCLUDES: RSV; Parainfluenza 1, 2, & 3; Influenza A & B; Adenovirus, Herpes Simplex, Rhinovirus; Enterovirus; and Cytomegalovirus
TURNAROUND TIME: 1-14 Days

| [VVCSL] VIRAL CULTURE STOOL |
| [VVCTH] VIRAL CULTURE THROAT |
| [VVCTIS] VIRAL CULTURE TISSUE |
| [VVCUR] VIRAL CULTURE URINE |
| [VVCVAG] VIRAL CULTURE VAGINAL |
| [VVZFAI] VARICELLA ZOSTER FA + CULTURE |
**SPECIMEN REQUIRED:** Refrigerated specimen  
**COLLECTION INSTRUCTIONS:**  
1. Pick freshest vesicle  
2. Collect culture first, aspirate the fluid from the vesicle into the tuberculin syringe and inject it into the cell culture tubes. Obtain collection materials from Virology M-F 7 am to 5 pm and Saturday 10 am to 12 pm.  
3. Unroof vesicle with #15 Bard-Parker scalpel.  
4. Scrape the base of the vesicle (obtain basal and parabasal cells).  
5. In the center of 2 glass slides smear the specimen in a circular motion out to the size of a dime.  
6. Air dry and transport to the lab immediately.  

If Virology is closed use following method for VZ culture only.  
1. Unroof vesicle with #15 Bard-Parker scalpel.  
2. Scrape the base of the vesicle (obtain basal and parabasal cells) with a NP/male swab.  
3. Break swab in to viral transport media.  
4. Transport to the lab immediately.  

**TUBE OR CONTAINER:** Viral transport media.  
**SPECIAL HANDLING:** Call 271-3586 for collection materials and questions about specimen collection.  
**ORDERING MODULE:** MIC  
**TEST INCLUDES:** VZV FA and viral culture; if FA is positive, culture is not performed.  
**TEST AVAILABILITY:** Monday-Saturday.  
**TURNAROUND TIME:** 24 hours.  
**REFERENCE RANGE:** Negative.  
**METHODOLOGY:** Direct fluorescent antibody (DFA).  
**CLINICAL USE:** Rapid diagnosis of varicella-zoster virus.  
**CPT:** 87252; 87290.  

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**[VZVZPC] VARICELLA ZOSTER PCR**  
**SPECIMEN REQUIREMENTS:** 1ML OF CSF.  
**SPECIMENS MUST BE SENT TO THE LAB IMMEDIATELY AND FROZEN AT -70 C IN LESS THAN 6 HOURS OF COLLECTION.**  

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**[VZVZSV] VARICELLA ZOSTER SV + CULTURE**  
**SPECIMEN REQUIRED:**  
1. Pick freshest vesicle.  
2. Collect culture first, aspirate the fluid from the vesicle into the tuberculin syringe and inject it into the cell culture tubes. Obtain collection materials from Virology M-F 7 am to 5 pm and Saturday 10 am to 12 pm.  
3. Unroof vesicle with #15 Bard-Parker scalpel.  
4. Scrape the base of the vesicle (obtain basal and parabasal cells).  
5. In the center of 2 glass slides smear the specimen in a circular motion out to the size of a dime.  
6. Air dry and transport to the lab immediately. Keep refrigerated.
If Virology is closed use following method for VZ culture only.
1. Unroof vesicle with #15 Bard-Parker scalpel.
2. Scrape the base of the vesicle (obtain basal and parabasal cells) with a NP/male swab.
3. Break swab in to viral transport media.
4. Transport to the lab immediately. Keep refrigerated.

**TUBE OR CONTAINER:** Viral transport media

**SPECIAL HANDLING:** Call 271-3586 for collection materials and questions about specimen collection

**TEST AVAILABILITY:** Monday-Saturday

**TURNAROUND TIME:** 48-96 hours

**METHODOLOGY:** Shell vial

**CPT:** 87252; 87254

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### [VVZVC] VARICELLA ZOSTER CULTURE

**SPECIMEN REQUIRED:** Refrigerated specimen

**COLLECTION INSTRUCTIONS:**
1. Pick freshest vesicle
2. Collect culture first, aspirate the fluid from the vesicle into the tuberculin syringe and inject it into the cell culture tubes. Obtain collection materials from Virology M-F 7 am to 5 pm and Saturday 10 am to 12 pm.

If Virology is closed use following method for VZ culture only.
1. Unroof vesicle with #15 Bard-Parker scalpel.
2. Scrape the base of the vesicle (obtain basal and parabasal cells) with a NP/male swab.
3. Break swab in to viral transport media.
4. Transport to the lab immediately. Keep refrigerated.

**SOURCE:**

**VESICLE FLUID:** Collect specimen with viral culture swab; refrigerate following collection and during transport.

**LUNG TISSUE:** Submit lung biopsy material in sterile screw-cap container. Add a small amount of sterile saline to prevent drying. Do not add formalin; if pathology exam is ordered also, submit separate specimen.

**TUBE OR CONTAINER:** Viral transport media

**SPECIAL HANDLING:** Indicate source of specimen; inclusion of patient's clinical history and/or differential diagnostic considerations is very helpful; Call 271-3586 for collection materials and questions about specimen collection

**ORDERING MODULE:** MIC

**TEST INCLUDES:** VZV culture ONLY

**TEST AVAILABILITY:** Set up Monday-Saturday

**TURNAROUND TIME:** 10 days

**REFERENCE RANGE:** No growth

**METHODOLOGY:** Cytopathic Effect (CPE)

**CLINICAL USE:** Aid in diagnosis of disease caused by varicella-zoster virus (ie, chickenpox and shingles)

**CPT:** 87252
**[VW2B] Von Willebrand Type 2B Binding**

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Blue (Citrate)  
SPECIAL HANDLING: Draw 2 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma  
SPECIMEN VOLUME: 2 full tubes  
Testing specimen: 2 aliquot tubes with 1 mL plasma each  
MINIMUM VOLUME: 2 full tubes  
Testing specimen: 2 transport tubes with 0.5 ml plasma each  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8-12 days  
METHODOLOGY: Binding assay, Electrophoresis  
CPT: 85247; 85319

**[VW2N] Von Willebrand Type 2N Binding**

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Blue (Citrate)  
SPECIAL HANDLING: Draw 3 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma  
SPECIMEN VOLUME: 3 full tubes  
Testing specimen: 3 transport tubes with 1 mL plasma each  
MINIMUM VOLUME: 2 full tubes  
Testing specimen: 3 transport tubes with 0.5 ml plasma each  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 8-12 days  
METHODOLOGY: Enzyme-linked immunoassay (ELISA); Chromogenic  
CPT: 85246; 85240

**[VWAG] Von Willebrand Factor Antigen**

SPECIMEN REQUIRED: Frozen plasma  
TUBE OR CONTAINER: Blue (Citrate)  
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma  
SPECIMEN VOLUME: 1 full tube
Testing volume: 1 mL of PLASMA
MINIMUM VOLUME: 1 full tube
Testing volume: 0.5 mL of PLASMA
TEST AVAILABILITY: Monday-Friday
TURNAROUND TIME: 1-3 days
REFERENCE RANGE: 60-150%
CLINICAL USE: A coagulation parameter useful in the
differential diagnosis of hemophilia A and von
Willebrand disease
CPT: 85246

[VWF28] von WILLEBRAND FACTOR EXON 28
SPECIMEN REQUIRED: Whole blood at room temperature or
refrigerated
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 7 mL
MINIMUM VOLUME: 5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10-14 days
REFERENCE RANGE: Normal
METHODOLOGY: Polymerase Chain Reaction (PCR) and direct DNA
sequencing
CPT: 83891; 83892 x 2; 83904 x 4; 83909 x 8; 83912

[VWFCBA] vWF COLLAGEN BINDING ACTIVITY
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 3 FULL citrate tubes; tube must be filled
to the fill line to ensure proper anti-
coagulant to blood ratio; Invert gently 3-4
times to prevent clotting
Send to lab immediately or centrifuge and
freeze plasma
SPECIMEN VOLUME: 4 mL
MINIMUM VOLUME: 2 mL
TEST INCLUDES: von Willebrand Collagen binding activity; von
Willebrand antigen and Collagen binding ratio
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: CBA activity: 50% to 150%
CBA ratio: 0.6:5.0
vWF antigen: 50% to 150%
METHODOLOGY: Enzyme-linked immunosorbent assay (ELISA)
CLINICAL USE: Screen for the presence of type II von Willebrand
disease in plasma
CPT: 83520; 85246

[VWFNa] VON WILLEBRAND FACTOR NORMANDY
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIAL HANDLING: Must be received in laboratory by 2:00 pm, Monday-Thursday only
SPECIMEN VOLUME: 6 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 4 weeks
OTHER NAMES: von Willebrand Disease 2N Gene Mutation Analysis; von Willebrand Factor Normandy
METHODOLOGY: Polymerase chain reaction (PCR)
CPT: 83890; 83894; 83898 x 6; 83904 x 3; 83912

[VWFSEQ] von WILLEBRAND FACTOR SEQ
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 6 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83894; 83898 x 54; 83904 x 54; 83912

[VWINH] von WILLEBRAND INHIBITOR
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 3 FULL citrate tubes; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting
Send to lab immediately or centrifuge and freeze plasma
SPECIMEN VOLUME: 3 mL (3 tubes aliquotted with 1 mL each)
MINIMUM VOLUME: 2 mL (2 tubes aliquotted with 1 mL each)
TEST INCLUDES: von Willebrand Collagen binding activity; von Willebrand antigen, Collagen binding ratio, von Willebrand factor antigen and Factor VII activity
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-7 days
REFERENCE RANGE: CBA activity: 50% to 150%
CBA ratio: 0.6:5.0
vWF antigen: 50% to 150%
METHODOLOGY: Clot, Enzyme-linked immunosorbent assay (ELISA), Platelet Agglutination and LIA
CPT: 85240; 85245 x 2; 85246; 83520

[VWM] von Willebrand Factor Multimers
SPECIMEN REQUIRED: Frozen plasma
TUBE OR CONTAINER: Blue (Citrate)
SPECIAL HANDLING: Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4
times to prevent clotting
Send to lab immediately or centrifuge and
freeze plasma
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-11 days
REFERENCE RANGE: < 0.4 inhibitor units
OTHER NAMES: vWF Multimers
METHODOLOGY: Western Blot
CPT: 85247

[VWMEIF2B1] LEUKOENCEPH W/VWM (EIF2B1)

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
OTHER NAMES: EIF2B1 Sequencing; Leukoencephalopathy with
Vanishing White Matter and Ovarioleukodystrophy
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 8; 83904 x 8; 83912


SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
OTHER NAMES: EIF2B2 Sequencing; Leukoencephalopathy with
Vanishing White Matter and Ovarioleukodystrophy
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 7; 83904 x 7; 83912

[VWMEIF2B3] LEUKOENCEPH W/VWM (EIF2B3)

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
OTHER NAMES: EIF2B3 Sequencing; Leukoencephalopathy with
Vanishing White Matter and Ovarioleukodystrophy
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 11; 83904 x 11; 83912

[VWMEIF2B4] LEUKOENCEPH W/VWM (EIF2B4)

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
OTHER NAMES: EIF2B4 Sequencing; Leukoencephalopathy with Vanishing White Matter and Ovarioleukodystrophy
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 10; 83904 x 10; 83912

[**VWP**] **VON WILLEBRAND PANEL**

| SPECIMEN REQUIRED: Frozen plasma |
| TUBE OR CONTAINER: Blue (Citrate) |
| SPECIAL HANDLING: Draw 3 FULL citrate tubes; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting |
| Send to lab immediately or centrifuge and freeze plasma |
| SPECIMEN VOLUME: 3 full tubes |
| Testing specimen: 3 transport tubes with 1 ml plasma each |
| MINIMUM VOLUME: 2 full tubes |
| Testing specimen: 2 transport tubes with 1 ml plasma each |
| TEST INCLUDES: Factor VIII Activity, von Willebrand Ristocetin Activity, von Willebrand Factor Antigen and ABO reverse type (plasma) |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 1-4 days |
| CLINICAL USE: Screen for the most common worldwide coagulation disorder, which affects 1%-2% of the total population |
| CPT: 85240; 85245; 85246; 86900 |

[**VWPROTA**] **ADAMTS13 Activity**

| SPECIMEN REQUIRED: Frozen plasma |
| TUBE OR CONTAINER: Blue (Citrate) |
| SPECIAL HANDLING: Draw 2 FULL citrate tubes; tube must be filled to the fill line to ensure proper anti-coagulant to blood ratio; Invert gently 3-4 times to prevent clotting |
| Send to lab immediately or centrifuge and freeze plasma |
| SPECIMEN VOLUME: 2 full tubes |
| Testing specimen: 3 transport tubes with 1 ml plasma each |
| MINIMUM VOLUME: 1 full tube |
| Testing specimen: 3 transport tubes with 0.5 ml plasma each |
| TEST AVAILABILITY: Daily |
| TURNAROUND TIME: 7-11 days |
| REFERENCE RANGE: >= 67% |
| METHODOLOGY: Fluorescence Resonance Energy Transfer (FRET) |
based kinetic assay

**REFLEX TEST INFORMATION:** Inhibitor evaluation will be reflexed when activity level is less than or equal to 30; Antibody will be reflexed if inhibitor is less than or equal to 0.7 units

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### [VWR] von Willebrand Ristocetin Cofactor

**SPECIMEN REQUIRED:** Frozen plasma  
**TUBE OR CONTAINER:** Blue (Citrate)  
**SPECIAL HANDLING:** Draw 1 FULL citrate tube; tube must be filled to the fill line to ensure proper anticoagulant to blood ratio; Invert gently 3-4 times to prevent clotting  
Send to lab immediately or centrifuge and freeze plasma  
**SPECIMEN VOLUME:** 1 full tube  
**Testing volume:** 1 mL of PLASMA  
**MINIMUM VOLUME:** 1 full tube  
**Testing volume:** 0.5 mL of PLASMA  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 1-6 days  
**REFERENCE RANGE:** 50-150%  
**OTHER NAMES:** Ristocetin Cofactor; vW Factor Assay; von Willebrand Factor (vWF) Activity  
**CLINICAL USE:** Aid with the differential diagnosis between hemophilia and von Willebrand disease  
**CPT:** 85245

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### [VZVISH] Varicella-Zoster Interpretation

**SPECIMEN REQUIRED:** Formalin fixed or paraffin embedded tissue  
**TUBE OR CONTAINER:** Container  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 3-6 days  
**METHODOLOGY:** In Situ Hybridization with Biotin or Digoxigenin-Labeled probes

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### [VZVMCSF] CSF Varicella-Zoster IgM Antibody

**SPECIMEN REQUIRED:** Refrigerated or frozen CSF  
**TUBE OR CONTAINER:** Sterile CSF container  
**SPECIMEN VOLUME:** 0.5 mL  
**MINIMUM VOLUME:** 0.3 mL  
**TEST AVAILABILITY:** Daily  
**TURNAROUND TIME:** 2-6 days  
**REFERENCE RANGE:** 0.90 ISR or less: Negative  
0.91-1.09 ISR: Equivocal  
1.10 ISR or greater: Positive  
**METHODOLOGY:** Enzyme-linked immunosorbent assay (ELISA)  
**CPT:** 86787
### [VZVPCR] Varicella-Zoster Virus DNA (PCR)

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **Other specimens:** Bone marrow, tissue or BAL at room temperature
- **Frozen CSF**
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **Sterile tube (Bronchial lavage & CSF)**
- **Sterile tube w/saline (tissue)**
- **Sodium heparin tube (bone marrow)**
- **SPECIAL HANDLING:** Collect specimen Monday-Thursday only
- **SPECIMEN VOLUME:** 5 mL whole blood
- 4 mL (bronchial lavage), 2 mL (bone marrow), 1 mL (CSF-frozen)
- **MINIMUM VOLUME:** 3 mL whole blood; 2 mL (bronchial lavage), 1 mL (bone marrow), 0.3 mL (CSF-frozen)
- **TEST AVAILABILITY:** Monday-Thursday
- **TURNAROUND TIME:** 2 days
- **REFERENCE RANGE:** Not detected
- **METHODOLOGY:** Quantitative, Real-time PCR
- **CPT:** 87798

### [WAARD2] WAARDENBURG SYNDROME 2 (MITF)

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Daily
- **OTHER NAMES:** MITF Gene sequencing
- **METHODOLOGY:** Polymerase chain reaction (PCR)
- **CPT:** 83891; 83894 x 30; 83898 x 15; 83904 x 30; 83912

### [WARF] Warfarin (Coumadin) Level

- **SPECIMEN REQUIRED:** Refrigerated serum or plasma
- **TUBE OR CONTAINER:** Red, Dark green (heparin) or Lavender (EDTA)
- **SPECIAL HANDLING:** Do NOT collect specimen in gel barrier tube
- **SPECIMEN VOLUME:** 2 mL
- **MINIMUM VOLUME:** 0.6 mL
- **TEST AVAILABILITY:** Daily
- **REFERENCE RANGE:** 2.0-5.0 ug/mL
- **Potentially toxic:** >10.0 ug/mL
- **OTHER NAMES:** Coumadin; Jantoven
- **METHODOLOGY:** High-pressure liquid chromatography (HPLC)
- **CPT:** 80299

### [WARFGENO] WARFARIN (P450 2C9 & VKORC1)

- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA) or Yellow (ACD)
- **SPECIMEN VOLUME:** 7 mL
- **MINIMUM VOLUME:** 3 mL
- **TEST AVAILABILITY:** Daily
OTHER NAMES: Warfarin Genotyping; DME Genotyping; CYP2C9 and VKORC1 gene mutation
METHODOLOGY: Real-time Polymerase chain reaction (PCR)
CPT: 83891; 83896 x 6; 83900; 83901 x 4; 83912

[WAS] WISKOTT-ALDRICH SYNDROME (WAS)
SPECIMEN REQUIRED: Whole blood or buccal swab at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or swab
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-6 weeks
METHODOLOGY: Bi-directional DNA sequencing
CLINICAL USE: Confirmation of clinical diagnosis; prenatal diagnosis
CPT: 83890, 83891, 83894, 83898 x 9, 83904 x 9, 83912

[WBCFEC] Fecal WBC
SPECIMEN REQUIRED: Refrigerated fresh stool or fecal smear
TUBE OR CONTAINER: Tightly sealed container or slide
SPECIAL HANDLING: No preservative is required
ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 1 Day
REFERENCE RANGE: Negative
METHODOLOGY: Wright stain
CLINICAL USE: Aid in differential diagnosis of diarrheal disease
CPT: 89055

[WBP] WESTERN BLOT FOR HIV-1 PROFILE
SPECIMEN REQUIRED: Refrigerated serum or plasma
TUBE OR CONTAINER: Red, Gold or Lavender (EDTA)
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST INCLUDES: Gp41; Gp120; Gp160; p18; p24; p31; p40; p51; p55; p64; Western blot interpretation
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-5 days
REFERENCE RANGE: No band present
METHODOLOGY: Immunoblot/Western blot
CLINICAL USE: Confirmation of positive enzyme immunoassay (EIA) test results for HIV-1; Not to be used for screening purposes
CPT: 86689

[WESNIL] AB WEST NILE VIRUS
SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or gold
SPECIMEN VOLUME: 1 mL
<table>
<thead>
<tr>
<th>/WESNILECSF/</th>
<th>AB WEST NILE VIRUS CSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated CSF</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Sterile tube</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Do NOT centrifuge specimen</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 0.5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.2 mL</td>
<td></td>
</tr>
<tr>
<td>TEST INCLUDES: West Nile antibody to IgG and IgM</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 5-7 days</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Enzyme immunoassay (EIA)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Support a diagnosis of West Nile virus infection</td>
<td></td>
</tr>
<tr>
<td>CPT: 86788; 86789</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>/WESNILMSH/</th>
<th>West Nile Virus IgM Antibody</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>/WESTNILPCR/</th>
<th>West Nile Virus RNA (RT-PCR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Frozem serum or plasma</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Gold, Red, Lavender (EDTA) or Yellow (ACD)</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 3.5 mL</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 2.5 mL</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-5 days</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: UltraQual polymerase chain reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Detect West Nile virus (WNV) RNA</td>
<td></td>
</tr>
<tr>
<td>CPT: 87798</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>/WHIPPLE/</th>
<th>WHIPPLE'S DISEASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIMEN REQUIRED: Refrigerated whole blood, CSF or synovial fluid; frozen gastrointestinal biopsy sample</td>
<td></td>
</tr>
<tr>
<td>TUBE OR CONTAINER: Lavender (EDTA); sterile container</td>
<td></td>
</tr>
<tr>
<td>SPECIAL HANDLING: Transfer whole blood or fluid to sterile screw-top tube</td>
<td></td>
</tr>
<tr>
<td>SPECIMEN VOLUME: 1 mL (blood/fluuid)</td>
<td></td>
</tr>
<tr>
<td>5 mm (biopsy)</td>
<td></td>
</tr>
<tr>
<td>MINIMUM VOLUME: 0.5 mL (blood/fluuid)</td>
<td></td>
</tr>
<tr>
<td>TEST AVAILABILITY: Daily</td>
<td></td>
</tr>
<tr>
<td>TURNAROUND TIME: 2-9 days</td>
<td></td>
</tr>
<tr>
<td>REFERENCE RANGE: Negative</td>
<td></td>
</tr>
<tr>
<td>METHODOLOGY: Rapid Polymerase Chain Reaction (PCR)</td>
<td></td>
</tr>
<tr>
<td>CLINICAL USE: Aid in diagnosis of Whipple's disease, especially</td>
<td></td>
</tr>
</tbody>
</table>
for identifying inconclusive or suspicious cases
CPT: 87798

[WIDAL SALM]  WIDAL EVAL SALMONELLA AB

SPECIMEN REQUIRED: Refrigerated serum
TUBE OR CONTAINER: Red or Gold
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-4 days
METHODOLOGY: Direct Agglutination
CPT: 86000 x 4

[WILSON]  WILSON DISEASE MUTATION SCREEN

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TURNAROUND TIME: 4-5 weeks
OTHER NAMES: ATP7B gene sequencing
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83900; 83901 x 19; 83904 x 2; 83909 x 4; 83912

[WISP3]  WISP3 GENE ANALYSIS

SPECIMEN REQUIRED: Whole blood, Fibroblasts, amniocytes or CVS at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or T-25 flasks
SPECIMEN VOLUME: 10 mL or 4 T-25 flasks
MINIMUM VOLUME: 6 mL or 2 T-25 flasks
OTHER NAMES: WNT1 inducible signaling pathway protein 3
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83894 x 8; 83898 x 8; 83904 x 10; 83912

[WNILCSFPCR]  CSF West Nile Virus RNA (PCR)

SPECIMEN REQUIRED: Frozen CSF
TUBE OR CONTAINER: Sterile container
SPECIMEN VOLUME: 2.5 mL
MINIMUM VOLUME: 1.25 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 2-5 days
REFERENCE RANGE: Negative
METHODOLOGY: UltraQual polymerase chain reaction (PCR)
CLINICAL USE: Detect West Nile virus (WNV) RNA
CPT: 87798

[WP]  Wet Prep

SPECIMEN REQUIRED: Vaginal fluid specimen collected in CultureSwab Plus (Amies Gel) swab collection device (must be the GEL type).
TUBE OR CONTAINER: CultureSwab Plus (Amies Gel) swab collection
SPECIAL HANDLING: A delay of >24 hours from time of collection to time of examination will compromise the specimen for the detection of Trichomonas when submitted in swab device; a delay of >2 hours is unsatisfactory if a saline tube of specimen is used.

ORDERING MODULE: MIC
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 Hours
REFERENCE RANGE: Absence of Trichomonas, yeast, and/or clue cells in the presence of squamous epithelial cells; absence of or rare to few WBCs
METHODOLOGY: Microscopy
CLINICAL USE: Aid to determine the cause of vaginitis or bacterial vaginosis.
CPT: 87210

[WT1] WT-1 DNA SEQUENCING

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIAL HANDLING: Specimen must arrive in laboratory by 1:30 pm Monday through Thursday only
Ship within 24 hours of collection
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Monday-Thursday
TURNAROUND TIME: 2-3 weeks
METHODOLOGY: DNA Sequencing
CPT: 83891; 83894 x 20; 83898 x 10; 83904 x 20; 83912

[XALD] X-LINKED ADRENOLEUKODYSTROPHY

SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 3 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83891; 83898 x 10; 83904 x 20; 83909 x 20; 83912

[XANTHU] XANTHINE & HYPOXANTHINE URINE

SPECIMEN REQUIRED: Frozen urine (24 hour)
TUBE OR CONTAINER: Plastic urine container
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 5 mL
TEST INCLUDES: Quantitation of Hypoxanthine and Xanthine
TEST AVAILABILITY: Daily
TURNAROUND TIME: 3-9 days
REFERENCE RANGE: Hypoxanthine: 20 - 100 umol/24 hours
Xanthine: 20 - 60 umol/24 hours
METHODOLOGY: Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
CPT: 83789

[XHIM] X-LINKED HYPER IGM MUTATION
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10 weeks
METHODOLOGY: Direct DNA sequence analysis
CPT: 83891; 83898; 83904 x 2; 83912

[XICHTH] X-LINKED ICHTHYOSIS (STER SULF)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Dark Green (Heparin)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 0.5 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10-14 days
METHODOLOGY: Fluorescence in situ hybridization (FISH)
CPT: 88230; 88271; 88273

[XINACT] X-INACTIVATION
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 15 days
METHODOLOGY: Polymerase Chain Reation (PCR)
CPT: 83890; 83892 x 3; 83898 x 7; 83903 x 7; 83912

[XLMR] XLMR PANEL (FULL MUTATION)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 6 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 10 weeks
METHODOLOGY: Direct DNA sequence analysis
CPT: 83890 x 2; 83894 x 5; 83898 x 66; 83904 x 66; 83912

[XLMR14] XLMR 14 SYNDROMIC (UPF3B GENE)
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA) or Yellow (ACD)
SPECIMEN VOLUME: 10 mL
MINIMUM VOLUME: 1 mL
| **TEST AVAILABILITY:** Daily |
| **TURNAROUND TIME:** 4 weeks |
| **METHODOLOGY:** Polymerase Chain Reaction (PCR) |
| **CPT:** 83891; 83894; 83898 x 14; 83904 x 28; 83909 x 28; 83912 |

### [XLOA] X-LINKED OCULAR ALBINISM (XLOA)
- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIMEN VOLUME:** 14 mL
- **MINIMUM VOLUME:** 6 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 4 weeks
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
- **CPT:** 83891; 83894; 83898 x 28; 83904 x 9; 83909 x 18; 83912

### [XLPBIRC4] X-LINKED LYMPHOPROLIF-BIRC4
- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIAL HANDLING:** Specimen must arrive in laboratory by 1:30 pm Monday through Thursday only
- **Ship within 24 hours of collection**
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Monday-Thursday
- **TURNAROUND TIME:** 4 weeks
- **METHODOLOGY:** Polymerase Chain Reaction
- **CPT:** 83890; 83891 x 6; 83894 x 6; 83898 x 6; 83904 x 12; 83912

### [XLPSH2D1A] X-LINKED LYMPHOPROLIF-SH2D1A
- **SPECIMEN REQUIRED:** Whole blood at room temperature
- **TUBE OR CONTAINER:** Lavender (EDTA)
- **SPECIAL HANDLING:** Specimen must arrive in laboratory by 1:30 pm Monday through Thursday only
- **Ship within 24 hours of collection**
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 2 mL
- **TEST AVAILABILITY:** Monday-Thursday
- **TURNAROUND TIME:** 4 weeks
- **METHODOLOGY:** Polymerase Chain Reaction
- **CPT:** 83890; 83891 x 4; 83894 x 4; 83898 x 4; 83904 x 8; 83912

### [XLR51] X-LINKED RETINOSCHISIS
- **SPECIMEN REQUIRED:** Whole blood at room temperature or buccal swab
- **TUBE OR CONTAINER:** Lavender (EDTA) or swab
- **SPECIMEN VOLUME:** 5 mL
- **MINIMUM VOLUME:** 3 mL
- **TEST AVAILABILITY:** Daily
- **TURNAROUND TIME:** 8 weeks
- **METHODOLOGY:** Polymerase Chain Reaction (PCR)
**[XSCID] X-SCID**

SPECIMEN REQUIRED: Whole blood at room temperature  
TUBE OR CONTAINER: Lavender (EDTA)  
SPECIMEN VOLUME: 5 mL  
MINIMUM VOLUME: 1 mL  
TEST AVAILABILITY: Daily  
TURNAROUND TIME:  
OTHER NAMES: X-linked Severe Combined Immunodeficiency via IL2RG gene analysis  
METHODOLOGY: Direct DNA sequence analysis  
CPT: 83891 x 8; 83892 x 2; 83894 x 8; 83898 x 16; 83904 x 16; 83912

**[XYL] D-XYLOSE TOLERANCE TEST**

SPECIMEN REQUIRED: Refrigerated plasma AND urine aliquot at room temperature from a fasting patient  
TUBE OR CONTAINER: Gray(Na Fluoride) + Urine Container  
Urine: Start test in AM. Instruct patient to void completely. Discard this sample. Collect urine for 5 hours after administration of d-xylose; Include total volume  
SPECIMEN VOLUME: 2 mL plasma (each specimen) AND 10 mL urine  
MINIMUM VOLUME: 0.6 mL plasma (each specimen) AND 0.5 mL urine  
TEST INCLUDES: Fasting and 2 hour values; 5 hr urine  
TEST AVAILABILITY: Daily  
TURNAROUND TIME: 3-6 days  
REFERENCE RANGE: Plasma: 2 hours: 32-58 mg/dL  
Urine: adults 65 years or younger: >4.0 g/5 hours  
adults older than 65 years: >3.5 g/5 hours  
METHODOLOGY: Spectrophotometry  
CLINICAL USE: Evaluate possible enterogenous malabsorption syndromes; test for functional integrity of the jejunum  
CPT: 84620

**[XYL5HR] D-XYLOSE TOLERANCE 5 HR**

SPECIMEN REQUIRED: Refrigerated plasma and room temperature urine  
COLLECTION:  
PLASMA: Draw fasting sample, administer d-xylose dose and obtain 1, 2, 3, 4, and 5 hour samples postdose  
URINE: Start test in AM. Instruct patient to void completely
Discard this sample. Collect urine for 5 hours after administration of d-xylose.

**TUBE OR CONTAINER:** Gray(Na-fluoride) & plastic urine container

**SPECIAL HANDLING:** Centrifuge and separate plasma from cells immediately; indicate time drawn (ie, fasting, 1 hour, etc) on each plasma tube submitted

**SPECIMEN VOLUME:** 2 mL plasma (each specimen) AND 10 mL urine

**MINIMUM VOLUME:** 0.6 mL plasma (each specimen) AND 0.5 mL urine

**TEST INCLUDES:** Fasting, one, two, three, four, and five hours plus five-hour urine xylose result

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 3-6 days

**REFERENCE RANGE:**
- **PLASMA:** Children: 1 hour: >30 mg/dL
  - Adults: 1 hour: 21-57 mg/dL
  - 2 hours: 32-58 mg/dL
  - 3 hours: 19-42 mg/dL
  - 4 hours: 11-29 mg/dL
  - 5 hours: 6-18 mg/dL
- **URINE:** Children: 16% to 33% of ingested dose
  - Adults: 65 years or younger: >4.0 g/5 hrs
  - older than 65 years: >3.5 g/5 hrs

**METHODOLOGY:** Spectrophotometry

**CLINICAL USE:** Diagnose intestinal malabsorption syndromes

**CPT:** 84620

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**[YERSAB] AB YERSINIA ENTEROCOLITICA**

**SPECIMEN REQUIRED:** Refrigerated serum

**TUBE OR CONTAINER:** Red or Gold

**SPECIMEN VOLUME:** 1 mL

**MINIMUM VOLUME:** 0.5 mL

**TEST INCLUDES:** Yersinia species antibody IgG, IgM and IgA

**TEST AVAILABILITY:** Daily

**TURNAROUND TIME:** 2-10 days

**REFERENCE RANGE:** Negative

**METHODOLOGY:** Qualitative Immunoblot

**CPT:** 86793 x 3

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**[ZAP70] ZAP-70 BY FLOW CYTOMETRY**

**SPECIMEN REQUIRED:** Whole blood or bone marrow at room temperature

**TUBE OR CONTAINER:** Dark green (heparin) or Lavender (EDTA)

**SPECIAL HANDLING:** Must be received in laboratory by 1:30 pm, Monday through Thursday only

**SPECIMEN VOLUME:** 10 mL (whole blood)
  - 2 mL (bone marrow)

**MINIMUM VOLUME:** 3 mL (whole blood)
  - 1 ml (bone marrow)

**TEST INCLUDES:** Zap 70, CD5, CD19 and CD38

**TEST AVAILABILITY:** Monday-Thursday

**TURNAROUND TIME:** 2-3 days
**METHODOLOGY:** Flow Cytometry  
**CLINICAL USE:** Assessing the relative risk of early progression in their B-CLL patient population  
**CPT:** 88184; 88185 x 2

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Name</th>
<th>Description</th>
<th>Volume</th>
<th>Minimum Volume</th>
<th>Availability</th>
<th>Turnaround Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood</td>
<td>ZASP/LDB3 SEQUENCING</td>
<td>Whole blood at room temperature</td>
<td>5 mL</td>
<td>2 mL</td>
<td>Daily</td>
<td>6 weeks</td>
</tr>
</tbody>
</table>
|          | SPECIMEN REQUIRED: Whole blood at room temperature  
|          | TUBE OR CONTAINER: Lavender (EDTA)  
|          | SPECIAL HANDLING:  
|          | SPECIMEN VOLUME: 5 mL  
|          | MINIMUM VOLUME: 2 mL  
|          | TEST AVAILABILITY: Daily  
|          | OTHER NAMES: Z-band alternatively splice PDZ motif-containing protein gene; LIM domain-binding 3 (LDB3)  
|          | METHODOLOGY: DNA Sequencing  
|          | CPT: 83891; 83898 x 17; 83904 x 34; 83912 |
| Blood    | MOWAT-WILSON (ZEB2 GENE) | Whole blood at room temperature | 5 mL   | 2 mL           | Daily        | 6 weeks         |
|          | SPECIMEN REQUIRED: Whole blood at room temperature  
|          | TUBE OR CONTAINER: Lavender (EDTA)  
|          | SPECIMEN VOLUME: 5 mL  
|          | MINIMUM VOLUME: 2 mL  
|          | TEST AVAILABILITY: Daily  
|          | TURNAROUND TIME: 6 weeks  
|          | OTHER NAMES: Hirschsprung Disease Mental Retardation Syndrome; ZEB2 gene sequencing; Mowat-Wilson Syndrome  
|          | METHODOLOGY: Polymerase Chain Reaction (PCR)  
|          | CPT: 83891; 83894; 83898 x 8; 83904 x 28; 83909 x 28; 83912 |
| Blood    | MOWAT-WILSON (ZEB2) DUP/DEL | Whole blood at room temperature | 5 mL   | 2 mL           | Daily        | 6 weeks         |
|          | SPECIMEN REQUIRED: Whole blood at room temperature  
|          | TUBE OR CONTAINER: Lavender (EDTA)  
|          | SPECIMEN VOLUME: 5 mL  
|          | MINIMUM VOLUME: 2 mL  
|          | TEST AVAILABILITY: Daily  
|          | TURNAROUND TIME: 6 weeks  
|          | OTHER NAMES: Hirschsprung Disease Mental Retardation Syndrome; ZEB2 Duplication/Deletion; Mowat-Wilson Syndrome  
|          | METHODOLOGY: Polymerase Chain Reaction (PCR)  
|          | CPT: 83890; 83892 x 2; 83894; 83896 x 8; 83897; 83912 |
| Plasma/serum | Zinc Level | Plasma (preferred) or serum at room temperature | 2 mL | 0.6 mL | Daily | 6 weeks |
|          | SPECIMEN REQUIRED: Plasma (preferred) or serum at room temperature  
|          | TUBE OR CONTAINER: Royal Blue (EDTA) or Red-no gel  
|          | SPECIAL HANDLING: Serum should be separated from cells within 45 minutes of collection and Plasma may be separated immediately  
|          | SPECIMEN VOLUME: 2 mL  
|          | MINIMUM VOLUME: 0.6 mL |
TEST AVAILABILITY: Daily
REFERENCE RANGE: Environmental exposure: 70-150 ug/dL
OTHER NAMES: Zn
METHODOLOGY: Atomic absorption spectrometry (AAS); inductively
coupled plasma-mass spectrometry (IPC-MS)
CLINICAL USE: Monitor exposure to zinc
CPT: 84630

[ZIC2] HOLOPROSENCEPHALY-5 VIA ZIC2
SPECIMEN REQUIRED: Whole blood at room temperature
TUBE OR CONTAINER: Lavender (EDTA)
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 2 mL
TEST AVAILABILITY: Daily
TURNAROUND TIME: 4-5 weeks
METHODOLOGY: Polymerase Chain Reaction (PCR)
CPT: 83890; 83891; 83894; 83898 x 5; 83904 x 5; 83912

[ZID] Lamivudine/Zidovudine Level
SPECIMEN REQUIRED: Frozen serum or plasma
TUBE OR CONTAINER: Red or Light green (heparin)
SPECIAL HANDLING: Centrifuge and separate within 45 minutes of
collection
SPECIMEN VOLUME: 2 mL
MINIMUM VOLUME: 1 mL
TEST AVAILABILITY: Daily
OTHER NAMES: Retrovir
METHODOLOGY: Liquid Chromatography/Mass Spectrometry (LC/MS/MS)
CLINICAL USE: Monitor anti-viral drug
CPT: 80299

[ZINCTM] ZINC URINE TIMED
SPECIMEN REQUIRED: Room temperature urine (random or 24 hour)
TUBE OR CONTAINER: Plastic urine container
SPECIAL HANDLING: Collect 24 hour urine in "P" container (no
preservative) or random urine collection;
Instruct patient to void at 8 am and discard
specimen, then begin collection including
final specimen at the end of 24 hour period
SPECIMEN VOLUME: 5 mL
MINIMUM VOLUME: 1.7 mL
TEST INCLUDES: Urine creatinine, zinc, zinc:creatinine ratio
TEST AVAILABILITY: Daily
REFERENCE RANGE: Environmental exposure: 100-900 g/g creatinine
150-1200 g/24 hours
METHODOLOGY: Inductively coupled plasma-mass spectrometry
(ICP-MS)
CLINICAL USE: Evaluate zinc exposure; evaluate low serum zinc
levels; evaluate compliance in oral zinc therapy
of Wilson's disease
### Ziprasidone (Geodon) Level

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Frozen or refrigerated serum or plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Red, Lavender (EDTA) or Dark green (heparin)</td>
</tr>
<tr>
<td>Special Handling:</td>
<td>Do NOT collect specimen in gel barrier tube</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>1 mL</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>0.4 mL</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time:</td>
<td>4-11 days</td>
</tr>
<tr>
<td>Other Names:</td>
<td>Geodon, Zeldox</td>
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<tr>
<td>Methodology:</td>
<td>High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC-MS/MS)</td>
</tr>
<tr>
<td>Clinical Use:</td>
<td>Therapeutic drug monitoring</td>
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<td>CPT:</td>
<td>80299</td>
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</tbody>
</table>

### Sertraline (ZOLOFT)

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Refrigerated serum or plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Red or Dark green (heparin)</td>
</tr>
<tr>
<td>Special Handling:</td>
<td>Do NOT collect specimen in gel barrier tube</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>2 mL</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>0.5 mL</td>
</tr>
<tr>
<td>Test Includes:</td>
<td>Sertraline and its metabolite Desmethylsertraline</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time:</td>
<td>4-6 days</td>
</tr>
<tr>
<td>Reference Range:</td>
<td>30 - 200 ng/mL</td>
</tr>
<tr>
<td>Other Names:</td>
<td>Sertraline</td>
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<tr>
<td>Methodology:</td>
<td>Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)</td>
</tr>
<tr>
<td>Clinical Use:</td>
<td>Therapeutic drug monitoring</td>
</tr>
<tr>
<td>CPT:</td>
<td>80299</td>
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</tbody>
</table>

### Zonisamide (Zonegran) Level

<table>
<thead>
<tr>
<th>Specimen Required:</th>
<th>Refrigerated serum or plasma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube or Container:</td>
<td>Red or Lavender (EDTA)</td>
</tr>
<tr>
<td>Special Handling:</td>
<td>Do NOT collect specimen in gel barrier tube</td>
</tr>
<tr>
<td>Specimen Volume:</td>
<td>1.2 mL</td>
</tr>
<tr>
<td>Minimum Volume:</td>
<td>0.4 mL</td>
</tr>
<tr>
<td>Test Availability:</td>
<td>Daily</td>
</tr>
<tr>
<td>Turnaround Time:</td>
<td>3-5 days</td>
</tr>
<tr>
<td>Other Names:</td>
<td>Zonegran</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Liquid Chromatography/tandem mass spectrometry (LC/MS-MS)</td>
</tr>
<tr>
<td>Clinical Use:</td>
<td>Therapeutic drug monitoring</td>
</tr>
<tr>
<td>CPT:</td>
<td>80299</td>
</tr>
</tbody>
</table>

**Total Tests: 2543**