ARUP LABORATORIES

HOTLINE: Effective February 16, 2021

## MEDICARE COVERAGE OF LABORATORY TESTING

Please remember when ordering laboratory tests that are billed to Medicare/Medicaid or other federally funded programs, the following requirements apply:

1. Only tests that are medically necessary for the diagnosis or treatment of the patient should be ordered. Medicare does not pay for screening tests except for certain specifically approved procedures and may not pay for non-FDA approved tests or those tests considered experimental.
2. If there is reason to believe that Medicare will not pay for a test, the patient should be informed. The patient should then sign an Advance Beneficiary Notice (ABN) to indicate that he or she is responsible for the cost of the test if Medicare denies payment.
3. The ordering physician must provide an ICD-10 diagnosis code or narrative description, if required by the fiscal intermediary or carrier.
4. Organ- or disease-related panels should be billed only when all components of the panel are medically necessary.
5. Both ARUP- and client-customized panels should be billed to Medicare only when every component of the customized panel is medically necessary.
6. Medicare National Limitation Amounts for CPT codes are available through the Centers for Medicare & Medicaid Services (CMS) or its intermediaries. Medicaid reimbursement will be equal to or less than the amount of Medicare reimbursement.

The CPT Code(s) for test(s) profiled in this bulletin are for informational purposes only. The codes reflect our interpretation of CPT coding requirements, based upon AMA guidelines published annually. CPT codes are provided only as guidance to assist you in billing. ARUP strongly recommends that clients reconfirm CPT code information with their local intermediary or carrier. CPT coding is the sole responsibility of the billing party.

The regulations described above are only guidelines. Additional procedures may be required by your fiscal intermediary or carrier.

| Hotline Page # | Test Number | Summary of Changes by Test Name | Name Change | Methodology | Performed/Reported Schedule | Specimen Requirements | Reference Interval | Interpretive Data | Note | CPT Code | Component Change | Other Interface Change | New Test | Inactive |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 2002647 | Acute Lymphoblastic Leukemia (ALL) Panel by FISH, Adult | x | | | | | | | | | | | |
| 6 | 2002719 | Acute Lymphoblastic Leukemia (ALL) Panel by FISH, Pediatric | x | | | | | | | | | | | |
| 7 | 3002714 | Acute Myeloid Leukemia Mutation Panel by Next Generation Sequencing | | | | | | | | | | | x | |
| 58 | 0050671 | Albumin by Nephelometry | | | | | | | | | | | | x |
| 7 | 0050024 | Albumin, Body Fluid | | x | | x | | | | | | x | | |
| 8 | 0050200 | Albumin, CSF | | x | | x | | | | | | | | |
| 9 | 2011966 | Allergens, Food, Common Adult Food Profile 13 IgE | | | | | | | | | | | x | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 2011967 | Allergens, Pediatric, Common Profile IgE | | | | | | | | | | | x | |
| 58 | 0051786 | Alport Syndrome, X-linked (COL4A5) Sequencing | | | | | | | | | | | | x |
| 11 | 3003480 | Antithrombospondin Type-1 Domain-Containing 7A (THSD7A) Antibody, IgG with Reflex to Titer | | | | | | | | | | | x | |
| 12 | 3003393 | BCL-10 by Immunohistochemistry | | | | | | | | | | | x | |
| 58 | 2010113 | Beta Globin (HBB) Deletion/Duplication | | | | | | | | | | | | x |
| 58 | 2011450 | Carisoprodol and Meprobamate, Serum or Plasma, Quantitative | | | | | | | | | | | | x |
| 12 | 2012219 | Carisoprodol and Meprobamate, Urine, Quantitative | | | x | | | | | | | | | |
| 12 | 2011114 | *CBFB-MYH11* inv(16) Detection, Quantitative | | | | | | | | | x | | | |
| 13 | 2008114 | Celiac Disease Reflexive Cascade | | x | | x | x | | | | | | | |
| 58 | 2012717 | CHARGE Syndrome (CHD7) Sequencing, Fetal | | | | | | | | | | | | x |
| 58 | 2012609 | CHARGE Syndrome, CHD7 Sequencing | | | | | | | | | | | | x |
| 14 | 3003423 | Chymotrypsin by Immunohistochemistry | | | | | | | | | | | x | |
| 14 | 0051720 | Complement Factor B | | | x | | | | | | | | | |
| 14 | 2011480 | Copper, Random Urine | | | | | x | | | | | | | |
| 15 | 0020461 | Copper, Urine | | | | | x | | | | | | | |
| 15 | 0060046 | *Cryptosporidium* and Coccidia Exam, Fecal | x | x | | | | | x | x | | | | |
| 16 | 3003259 | Cytokine Panel 13, CSF | | | | | | | | | | | x | |
| 17 | 3003144 | Deletion/Duplication Analysis by MLPA | | | | | | | | | | | x | |
| 17 | 2002693 | Double-Stranded DNA (dsDNA) Antibody, IgG by IFA (using *Crithidia luciliae)* | | | | x | | | | | | | | |
| 58 | 2010696 | EIF2AK4-Associated Disorders (EIF2AK4) Sequencing | | | | | | | | | | | | x |
| 17 | 0051626 | Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgA | | | | | x | | | | | x | | |
| 18 | 0051627 | Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgG and IgA | | | | | x | | | | | x | | |
| 19 | 3002737 | FISH, Interphase, CD138+ Cells | | | | | | | | | | | x | |
| 20 | 0099906 | Fluphenazine | | | | x | x | x | | | | | | |
| 20 | 0099640 | Haloperidol | | | | | x | | | | | | | |
| 21 | 0025055 | Heavy Metals Panel 6, Urine with Reflex to Arsenic Fractionated | | | | | x | | | | | | | |
| 21 | 2005792 | Hemoglobin Evaluation Reflexive Cascade | | | | | | | | | x | x | | |
| 22 | 3002989 | Hepatitis Panel, Acute with Reflex to HBsAg Confirmation and Reflex to HCV by Quantitative NAAT | | | | | | | | | | | x | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 3000894 | Hereditary Hemolytic Anemia Cascade | | | | | | | | | | | x | |
| 58 | 0051381 | Hereditary Hemorrhagic Telangiectasia (ACVRL1 and *ENG*) Sequencing | | | | | | | | | | | | x |
| 24 | 3001842 | Hereditary Myeloid Neoplasms Panel, Sequencing | | | | | | | | | | | x | |
| 25 | 0092283 | Herpes Gestationis Factor (Complement-Fixing Basement Membrane Zone Antibody IgG) | | | | x | | | x | | | | | |
| 58 | 2012482 | HLA-A by Next Generation Sequencing | | | | | | | | | | | | x |
| 58 | 2012486 | HLA-B by Next Generation Sequencing | | | | | | | | | | | | x |
| 58 | 2012490 | HLA-C by Next Generation Sequencing | | | | | | | | | | | | x |
| 58 | 2012502 | HLA-DPB1 by Next Generation Sequencing | | | | | | | | | | | | x |
| 58 | 2012498 | HLA-DQB1 by Next Generation Sequencing | | | | | | | | | | | | x |
| 58 | 2001728 | HNPCC/Lynch Syndrome Deletion/Duplication | | | | | | | | | | | | x |
| 26 | 0050980 | Humoral Immunity Panel I | | x | | x | x | | | | | | | |
| 27 | 3003486 | Immunoglobulin D, Serum | | | | | | | | | | | x | |
| 27 | 3003485 | Immunoglobulin G, CSF | | | | | | | | | | | x | |
| 28 | 0050340 | Immunoglobulin A | | x | | x | x | | | | | | | |
| 28 | 0093149 | Immunoglobulin A Subclasses (1 and 2) | | x | | x | x | | | | | | | |
| 29 | 0050341 | Immunoglobulin A, CSF | | x | | x | | | | | | | | |
| 58 | 0050525 | Immunoglobulin A, Saliva | | | | | | | | | | | | x |
| 58 | 0099200 | Immunoglobulin D, Serum | | | | | | | | | | | | x |
| 29 | 0050350 | Immunoglobulin G | | x | | x | x | | | | | | | |
| 58 | 0050571 | Immunoglobulin G Subclass 1 | | | | | | | | | | | | x |
| 58 | 0050572 | Immunoglobulin G Subclass 2 | | | | | | | | | | | | x |
| 58 | 0050573 | Immunoglobulin G Subclass 3 | | | | | | | | | | | | x |
| 29 | 0050576 | Immunoglobulin G Subclass 4 | | x | x | x | x | | | | | | | |
| 30 | 0050577 | Immunoglobulin G Subclasses (1, 2, 3, 4) | | x | x | x | x | x | | | | | | |
| 58 | 0050670 | Immunoglobulin G, CSF | | | | | | | | | | | | x |
| 31 | 0050676 | Immunoglobulin G, CSF Index | | x | | x | x | | | | | x | | |
| 31 | 0050680 | Immunoglobulin G/Albumin Ratio, CSF | | x | | x | | | | | | | | |
| 32 | 0050355 | Immunoglobulin M | | x | | x | x | | | | | | | |
| 32 | 0050356 | Immunoglobulin M, CSF | | x | x | x | | | | | | | | |
| 33 | 0050630 | Immunoglobulins (IgA, IgG, IgM), Quantitative | | x | | x | x | | | | | | | |
| 33 | 0050631 | Immunoglobulins, CSF Quantitative | | x | | x | x | | | | | | | |
| 34 | 0070413 | Inhibin B | | | | x | x | | | | | | | |
| 34 | 3003261 | Interleukin 2 Receptor, Soluble, CSF | | | | | | | | | | | x | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 58 | 2004680 | Interleukin 28 B (IL28B)-Associated Variants, 2 SNPs | | | | | | | | | | | | x |
| 35 | 3003260 | Interleukin 6, CSF | | | | | | | | | | | x | |
| 35 | 3003506 | Kappa/Lambda Light Chain Panel by in situ Hybridization on Paraffin | | | | | | | | | | | x | |
| 36 | 3003525 | Kappa/Lambda Light Chain Panel by In Situ Hybridization Stain Only | | | | | | | | | | | x | |
| 58 | 2002888 | Kappa/Lambda Light Chain Panel by in situ Hybridization, Paraffin | | | | | | | | | | | | x |
| 58 | 2013595 | Kappa/Lambda Light Chain Panel by In Situ Hybridization, Stain Only | | | | | | | | | | | | x |
| 36 | 3003311 | Kratom (Mitragynine) - Screen with Reflex to Confirmation/Quantitation, Urine | | | | | | | | | | | x | |
| 58 | 3001379 | Liver Fibrosis - FibroMeter Vibration Controlled Transient Elastography (FibroMeter plus FibroScan VCTE) | | | | | | | | | | | | x |
| 37 | 0051692 | Mannose Binding Lectin | | | | x | | | | | | | | |
| 37 | 3000146 | Maternal Screening, Sequential, Specimen #1, hCG, PAPP-A, NT | | | | | | | | | x | | | |
| 37 | 3000144 | Maternal Serum Screen, Alpha Fetoprotein | | | | | | | | | x | | | |
| 37 | 3000143 | Maternal Serum Screen, Alpha Fetoprotein, hCG, Estriol, and Inhibin A (Quad) | | | | | | | | | x | | | |
| 37 | 3000145 | Maternal Serum Screen, First Trimester, hCG, PAPP-A, NT | | | | | | | | | x | | | |
| 37 | 3000147 | Maternal Serum Screening, Integrated, Specimen #1, PAPP-A, NT | | | | | | | | | x | | | |
| 38 | 3003477 | Membranous Nephropathy Comprehensive Autoantibody Panel | | | | | | | | | | | x | |
| 58 | 2011521 | Meprobamate, Serum or Plasma, Quantitative | | | | | | | | | | | | x |
| 38 | 0050184 | Metanephrines, Plasma (Free) | | | | x | | | | | | | | |
| 39 | 2002715 | Monoclonal Protein Study, Expanded Panel, Serum | | | | x | x | | | | | | | |
| 40 | 2007967 | Motor and Sensory Neuropathy Evaluation with Immunofixation Electrophoresis and Reflex to Titer and Neuronal Immunoblot | | x | | x | x | | | | | | | |
| 43 | 0051225 | Motor Neuropathy Panel | | x | | | x | | | | | | | |
| 45 | 3003566 | Mucopolysaccharidoses Type 1/2, Total Heparan Sulfate and NRE (Sensi-Pro®) Quantitative, Serum or Plasma | | | | | | | | | | | x | |
| 46 | 3003552 | Mucopolysaccharidoses Type 1/2, Total Heparan Sulfate and NRE (Sensi-Pro®) Quantitative, Urine | | | | | | | | | | | x | |

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| 47 | 3003487 | Mucopolysaccharidoses Type 4A/6 Total Chondroitin Sulfate and Dermatan Sulfate with NRE (Sensi-Pro®) Quantitative, Serum | | | | | | | | | | | x | |
| 48 | 3003539 | Mucopolysaccharidoses Type 4A/6 Total CS-DS and NRE (Sensi-Pro®) Quantitative, Urine | | | | | | | | | | | x | |
| 58 | 2007599 | Mucopolysaccharidosis Type 1, Total HS and NRE (Sensi-Pro®) Quantitative, Serum or Plasma | | | | | | | | | | | | x |
| 58 | 2007488 | Mucopolysaccharidosis Type 1, Total HS and NRE (Sensi-Pro®) Quantitative, Urine | | | | | | | | | | | | x |
| 58 | 2008775 | Mucopolysaccharidosis Type II, Total HS and NRE (Sensi-Pro®) Quantitative, Serum or Plasma | | | | | | | | | | | | x |
| 58 | 2009282 | Mucopolysaccharidosis Type II, Total HS and NRE (Sensi-Pro®) Quantitative, Urine | | | | | | | | | | | | x |
| 58 | 2001952 | Neurofibromatosis Type 1 (NF1) Deletion/Duplication | | | | | | | | | | | | x |
| 48 | 0092168 | Niacin (Vitamin $B_3$) | | | | x | | | | | | | | |
| 58 | 2004189 | Noonan Syndrome (PTPN11) Sequencing with Reflex to (*SOS1)* Sequencing | | | | | | | | | | | | x |
| 49 | 0080440 | Oligoclonal Band Profile | | x | | x | x | | | | | x | | |
| 49 | 0081135 | Oligoclonal Bands in CSF and Serum | | | | x | | | | | | | | |
| 58 | 0099289 | Organic Acids, Plasma | | | | | | | | | | | | x |
| 50 | 2007479 | Drug Profile, Targeted by Tandem Mass Spectrometry and Enzyme Immunoassay, Urine | | | | | x | | | | x | x | | |
| 51 | 2009288 | Drug Profile, Targeted with Interpretation by Tandem Mass Spectrometry and Enzyme Immunoassay, Urine | | | | | x | | | | x | x | | |
| 58 | 3001760 | Pancreatitis (PRSS1) Deletion/Duplication | | | | | | | | | | | | x |
| 58 | 3001764 | Pancreatitis (SPINK1) Deletion/Duplication | | | | | | | | | | | | x |
| 51 | 3000455 | Ph-Like Acute Lymphoblastic Leukemia (ALL) Panel by FISH | x | | | | | | | | | | | |
| 51 | 2002871 | *PML-RARA* Detection by RT-PCR, Quantitative | | | | | | | | | x | | | |
| 58 | 0051682 | Primary Carnitine Deficiency (SLC22A5) Sequencing | | | | | | | | | | | | x |
| 52 | 2002109 | Protein Electrophoresis with Reflex to Immunofixation, Serum | | x | | | x | | | | | | | |
| 52 | 2010138 | *RUNX1-RUNX1T1* (*AML1-ETO*) t(8;21) Detection, Quantitative | | | | | | | | | x | | | |
| 58 | 3001395 | SHOX-Related Disorders, Deletion/Duplication | | | | | | | | | | | | x |
| 58 | 0081054 | Squamous Cell Carcinoma Antigen, Serum | | | | | | | | | | | | x |
| 53 | 3003504 | Squamous Cell Carcinoma, Serum | | | | | | | | | | | x | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | 0092582 | *Stachybotrys chartarum/atra* Panel II | | | x | | | | | | | | | |
| 53 | 2003128 | Tapentadol and Metabolite, Urine, Quantitative | | | x | x | | | | | | | | |
| 54 | 3003458 | Trypsin by Immunohistochemistry | | | | | | | | | | | x | |
| 55 | 3002100 | Tuberous Sclerosis Complex Panel, Sequencing and Deletion/Duplication | | | | | | | | | | | x | |
| 56 | 3002096 | Tuberous Sclerosis Complex Panel, Sequencing and Deletion/Duplication, Fetal | | | | | | | | | | | x | |
| 56 | 2003184 | Vitamin $B_7$ (Biotin) | | | | x | | | | | | | | |
| 57 | 2007136 | von Willebrand Factor (VWF) Collagen Binding | x | | x | x | | | | | x | x | | |

**2002647** **Acute Lymphoblastic Leukemia (ALL) Panel by FISH, Adult** **FISH A ALL**

**HOTLINE NOTE:** Name change only.

**2002719** **Acute Lymphoblastic Leukemia (ALL) Panel by FISH, Pediatric** **FISH P ALL**

**HOTLINE NOTE:** Name change only.

**New Test** **3002714** **Acute Myeloid Leukemia Mutation Panel by Next Generation Sequencing** **AML NGS**

Click for Pricing

Additional Technical Information

**Methodology:** Massively Parallel Sequencing
**Performed:** Varies
**Reported:** 12-14 days

**Specimen Required:** Collect: Lavender (EDTA), Green (sodium heparin) Bone Marrow (EDTA) or Bone Marrow (sodium heparin), Fresh-frozen tissue.
Specimen Preparation: **Whole Blood and Bone Marrow:** Transport 3 mL whole blood. (Min: 1.5 mL)
**Fresh-frozen Tissue:** Transport 5 mg fresh-frozen tissue. (Min: 5 mg)
Separate specimens must be submitted when multiple tests are ordered
Storage/Transport Temperature: **Whole Blood or Bone Marrow**: Refrigerated.
**Fresh-frozen Tissue**: Frozen.
Unacceptable Conditions: Serum, plasma, grossly hemolyzed specimens, buccal brush or swab, FFPE tissue
Stability (collection to initiation of testing): **Whole Blood or Bone Marrow:** Ambient: 72 hours; Refrigerated: 1 week; Frozen: Unacceptable
**Fresh-frozen Tissue:** Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 1 month

**Reference Interval:** By report

**Interpretive Data:**
Refer to report.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

Counseling and informed consent are recommended for genetic testing. Consent forms are available online.

**Note:** Genes tested: *ANKRD26, ASXL1, CEBPA, DDX41, DNMT3A, ETV6, FLT3, GATA2, IDH1, IDH2, KIT, KRAS, NPM1*, NRAS, RUNX1, TP53, WT1*
* One or more exons are not covered by sequencing for the indicated gene; see Additional Technical Information.

**CPT Code(s):** 81450

New York DOH Approved.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**0050024** **Albumin, Body Fluid** **ALB-BF**

**Methodology:** Quantitative Immunoturbidimetry/Quantitative Spectrophotometry

**Specimen Required:** Collect: Body fluid.
Specimen Preparation: Centrifuge and separate to remove cellular material. Transfer 1 mL body fluid to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated.
Remarks: Indicate source on the test request form.
Unacceptable Conditions: Contaminated or grossly hemolyzed specimens. Needle sent with specimen.
Stability (collection to initiation of testing): After separation from cellular material: Ambient: Unacceptable; Refrigerated: 1 month; Frozen: 1 month (avoid repeated freeze/thaw cycles)

**HOTLINE NOTE:** There is a clinically significant charting name change associated with this test.
Change the charting name for component 0050024, Albumin Level Body Fluid from Albumin Level Body Fluid to Albumin, Body Fluid.

**0050200** **Albumin, CSF** **ALB CSF**

**Methodology:** Quantitative Immunoturbidimetry

**Specimen Required:** Collect: CSF.
Specimen Preparation: Centrifuge and separate to remove cellular material. Transfer 1 mL CSF to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly bloody, contaminated, or hemolyzed specimens.
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 1 month; Frozen: 6 months (avoid repeated freeze/thaw cycles)

**New Test** **2011966** **Allergens, Food, Common Adult Food Profile 13 IgE** **ADULTPAN13**
Click for Pricing

**Methodology:** Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
**Performed:** Sun-Sat
**Reported:** 1-2 days

**Specimen Required:** Patient Prep: Multiple patient encounters should be avoided.
Collect: Serum separator tube. Multiple specimen tubes should be avoided.
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 1.45 mL serum to an ARUP Standard Transport Tube. (Min: 0.73 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Hemolyzed, icteric, or lipemic specimens.
Stability (collection to initiation of testing): After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year

**Reference Interval:**

| Reporting Range (reported in kU/L) | Probability of IgE Mediated Clinical Reaction | Class Scoring |
|---|---|---|
| Less than 0.10 | No significant level detected | 0 |
| 0.10 - 0.34 | Clinical relevance undetermined | 0/1 |
| 0.35 - 0.70 | Low | 1 |
| 0.71 - 3.50 | Moderate | 2 |
| 3.51 - 17.50 | High | 3 |
| 17.51 - 50.00 | Very high | 4 |
| 50.01 - 100.00 | Very high | 5 |
| Greater than 100.00 | Very high | 6 |

| Test Number | Components | Reference Interval | |
|---|---|---|---|
| 0050345 | Immunoglobulin E | Effective November 17, 2014 | |
| | | **Age** | **Reference Interval** |
| | | 0-5 months | 13 kU/L or less |
| | | 6-12 months | 34 kU/L or less |
| | | 1-2 years | 97 kU/L or less |
| | | 3 years | 199 kU/L or less |
| | | 4-6 years | 307 kU/L or less |
| | | 7-8 years | 403 kU/L or less |
| | | 9-12 years | 696 kU/L or less |
| | | 13-15 years | 629 kU/L or less |
| | | 16-17 years | 537 kU/L or less |
| | | 18 years and older | 214 kU/L or less |

**Interpretive Data:**
Allergen results of 0.10-0.34 kU/L are intended for specialist use as the clinical relevance is undetermined. Even though increasing ranges are reflective of increasing concentrations of allergen-specific IgE, these concentrations may not correlate with the degree of clinical response or skin testing results when challenged with a specific allergen. The correlation of allergy laboratory results with clinical history and in vivo reactivity to specific allergens is essential. A negative test may not rule out clinical allergy or even anaphylaxis.

**Note:** Allergens included: Walnut (Juglans spp), Clam, Codfish, Corn, Egg White, Milk (Cow), Peanut, Scallop, Sesame Seed, Shrimp, Soybean, Wheat, and IgE Serum Total.

**CPT Code(s):** 86003 x12; 82785

New York DOH Approved.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **2011967** **Allergens, Pediatric, Common Profile IgE** **COMPEDPRO**
Click for Pricing

**Methodology:** Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
**Performed:** Sun-Sat
**Reported:** 1-2 days

**Specimen Required:** Patient Prep: Multiple patient encounters should be avoided.
Collect: Serum separator tube. Multiple specimen tubes should be avoided.
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 1.35 mL serum to an ARUP Standard Transport Tube. (Min: 0.69 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Hemolyzed, icteric, or lipemic specimens.
Stability (collection to initiation of testing): After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year

**Reference Interval:**

| Reporting Range (reported in kU/L) | Probability of IgE Mediated Clinical Reaction | Class Scoring |
|---|---|---|
| Less than 0.10 | No significant level detected | 0 |
| 0.10 - 0.34 | Clinical relevance undetermined | 0/1 |
| 0.35 - 0.70 | Low | 1 |
| 0.71 - 3.50 | Moderate | 2 |
| 3.51 - 17.50 | High | 3 |
| 17.51 - 50.00 | Very high | 4 |
| 50.01 - 100.00 | Very high | 5 |
| Greater than 100.00 | Very high | 6 |

| Test Number | Components | Reference Interval | |
|---|---|---|---|
| 0050345 | Immunoglobulin E | Effective November 17, 2014 | |
| | | **Age** | **Reference Interval** |
| | | 0-5 months | 13 kU/L or less |
| | | 6-12 months | 34 kU/L or less |
| | | 1-2 years | 97 kU/L or less |
| | | 3 years | 199 kU/L or less |
| | | 4-6 years | 307 kU/L or less |
| | | 7-8 years | 403 kU/L or less |
| | | 9-12 years | 696 kU/L or less |
| | | 13-15 years | 629 kU/L or less |
| | | 16-17 years | 537 kU/L or less |
| | | 18 years and older | 214 kU/L or less |

**Interpretive Data:**
Allergen results of 0.10-0.34 kU/L are intended for specialist use as the clinical relevance is undetermined. Even though increasing ranges are reflective of increasing concentrations of allergen-specific IgE, these concentrations may not correlate with the degree of clinical response or skin testing results when challenged with a specific allergen. The correlation of allergy laboratory results with clinical history and in vivo reactivity to specific allergens is essential. A negative test may not rule out clinical allergy or even anaphylaxis**.**

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**Note:** Allergens included: Cat Dander, American Cockroach, Codfish, Dog Dander, Egg White, D. farinae, Alternaria alternata (tenuis), Milk (Cow), Peanut, Soybean, Wheat, and IgE Serum Total.

**CPT Code(s):** 86003 x11; 82785

New York DOH Approved.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

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**New Test** **3003480** **Antithrombospondin Type-1 Domain-Containing 7A (THSD7A) Antibody, IgG with Reflex to Titer** **THSD7A**

Available Now
Click for Pricing

Additional Technical Information

**Methodology:** Semi-Quantitative Indirect Fluorescent Antibody
**Performed:** Tue
**Reported:** 1-8 days

**Specimen Required:** Collect: Serum Separator Tube
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP Standard Transport Tube. (Min: 0.2 mL)
Storage/Transport Temperature: Refrigerated
Unacceptable Conditions: Hemolyzed, hyperlipemic,icteric, heat-treated or contaminated
Stability (collection to initiation of testing): Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month

**Reference Interval:** Less than 1:10

**Interpretive Data:**

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**Note:** If THSD7A Antibody, IgG is positive, then a THSD7A Antibody, IgG titer will be added. Additional charges apply.

**CPT Code(s):** 86255; if reflexed, add 86256

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3003393** **BCL-10 by Immunohistochemistry** **BCL-10**
Available Now
Click for Pricing

**Methodology:** Immunohistochemistry
**Performed:** Mon-Fri
**Reported:** 1-3 days

**Specimen Required:** Collect: Tissue.
Specimen Preparation: Formalin fix (10 percent neutral buffered formalin) and paraffin embed specimen (cells must be prepared into a cellblock). Protect paraffin block and/or slides from excessive heat. Transport tissue block or 5 unstained (3- to 5-micron thick sections), positively charged slides in a tissue transport kit recommended but not required. ARUP supply #47808 available online through eSupply using ARUP Connect or contact ARUP Client Services at (800) 522-2787. (Min: 2 slides) If sending precut slides, do not oven bake.
Storage/Transport Temperature: Room temperature. Also acceptable: Refrigerated. Ship in cooled container during summer months.
Unacceptable Conditions: Specimens submitted with non-representative tissue type. Depleted specimens.
Stability (collection to initiation of testing): Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable

**Interpretive Data:**

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**Note:** This test is performed as a stain and return (technical) service only.

**CPT Code(s):** 88342

New York DOH Approved.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**2012219** **Carisoprodol and Meprobamate, Urine, Quantitative** **CARIS U**

**Performed:** Thu
**Reported:** 1-8 days

**2011114** ***CBFB-MYH11* inv(16) Detection, Quantitative** **INV 16 QNT**

**HOTLINE NOTE:** There is a component change associated with this test.
Add component 3003496, CBFB-MYH11 Source

## 2008114 Celiac Disease Reflexive Cascade CELIAC REF

**Methodology:** Quantitative Immunoturbidimetry/Semi-Quantitative Enzyme-Linked Immunosorbent Assay//Semi-Quantitative Indirect Fluorescent Antibody

**Specimen Required:** Collect: Serum separator tube.
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 3 mL serum to an ARUP Standard Transport Tube. (Min: 1.5 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Plasma. Contaminated, hemolyzed, grossly icteric or grossly lipemic specimens.
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 14 days; Frozen: 6 months (avoid repeated freeze/thaw cycles)

**Reference Interval:**

| Test Number | Components | Reference Interval | |
|---|---|---|---|
| 0050340 | Immunoglobulin A | Effective February 16, 2021 | |
| | | 0-2 years: 2-126 mg/dL<br>3-4 years: 14-212 mg/dL<br>5-9 years: 52-226 mg/dL<br>10-14 years: 42-345 mg/dL<br>15-18 years: 60-349 mg/dL<br>19 years and older: 68-408 mg/dL | |
| 0051689 | Celiac Disease Dual Antigen Screen | | |
| | | 19 Units or less | Negative - No significant level of detectable IgA or IgG antibodies against human tissue transglutaminase or gliadin peptide. |
| | | 20 Units or greater | Positive - Presence of IgA and/or IgA antibodies against human tissue transglutaminase and/or gliadin peptide; suggests possibility of certain gluten sensitive enteropathies such as celiac disease and dermatitis herpetiformis. |
| 0051357 | Deamidated Gliadin Peptide (DGP) Antibody, IgA | | |
| | | 19 Units or less | Negative |
| | | 20-30 Units | Weak Positive |
| | | 31 Units or greater | Positive |
| 0051359 | Deamidated Gliadin Peptide (DGP) Antibody, IgG | | |
| | | 19 Units or less | Negative |
| | | 20-30 Units | Weak Positive |
| | | 31 Units or greater | Positive |
| 0097709 | Tissue Transglutaminase (tTG) Antibody, IgA | | |
| | | 3 U/mL or less | Negative |
| | | 4-10 U/mL | Weak Positive |
| | | 11 U/mL or greater | Positive |
| 0050736 | Endomysial Antibody, IgA by IFA | Less than 1:10 | |
| 0056009 | Tissue Transglutaminase Antibody, IgG | | |
| | | 5 U/mL or less | Negative |
| | | 6-9 U/mL | Weak Positive |
| | | 10 U/mL or greater | Positive |

**New Test** **3003423** **Chymotrypsin by Immunohistochemistry** **CHYMO IHC**
Available Now
Click for Pricing

**Methodology:** Immunohistochemistry
**Performed:** Mon-Fri
**Reported:** 1-3 days

**Specimen Required:** Collect: Tissue.
Specimen Preparation: Formalin fix (10 percent neutral buffered formalin) and paraffin embed specimen (cells must be prepared into a cellblock). Protect paraffin block and/or slides from excessive heat. Transport tissue block or 5 unstained (3- to 5-micron thick sections), positively charged slides in a tissue transport kit (recommended but not required). ARUP supply #47808 available online through eSupply using ARUP Connect or contact ARUP Client Services at (800) 522-2787. (Min: 2 slides) If sending precut slides, do not oven bake.
Storage/Transport Temperature: Room temperature. Also acceptable: Refrigerated. Ship in cooled container during summer months.
Unacceptable Conditions: Specimens submitted with non-representative tissue type. Depleted specimens.
Stability (collection to initiation of testing): Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable

**Interpretive Data:**

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**Note:** This test is performed as a stain and return (technical) service only.

**CPT Code(s):** 88342

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**0051720** **Complement Factor B** **COMP FAC B**

**Performed:** Monday
**Reported:** 10-14 days

**2011480** **Copper, Random Urine** **U COP RAND**

**Reference Interval:**
Effective February 16, 2021

| Components | Reference Interval |
|---|---|
| Copper, Urine | Less than or equal to 3.2 µg/dL |
| Copper Urine - ratio to CRT | 10.0-45.0 µg/gCRT |

## 0020461 Copper, Urine — COPPER U

**Reference Interval:**
Effective February 16, 2021

| Test Number | Components | Reference Interval | | |
|---|---|---|---|---|
| | Copper, Urine-per volume | Less than or equal to 3.2 µg/dL | | |
| | Copper, Urine-per 24h | 3.0-45.0 µg/d | | |
| | Creatinine, Urine - per 24h | | | |
| | | **Age** | **Male** | **Female** |
| | | 3-8 years | 140-700 mg/d | 140-700 mg/d |
| | | 9-12 years | 300-1300 mg/d | 300-1300 mg/d |
| | | 13-17 years | 500-2300 mg/d | 400-1600 mg/d |
| | | 18-50 years | 1000-2500 mg/d | 700-1600 mg/d |
| | | 51-80 years | 800-2100 mg/d | 500-1400 mg/d |
| | | 81 years and older | 600-2000 mg/d | 400-1300 mg/d |
| | Copper, Urine-ratio to CRT | 10.0-45.0 µg/gCRT | | |

## 0060046 *Cryptosporidium* and Coccidia Exam, Fecal — PARAST

**Methodology:** Qualitative Concentration/Stain/Microscopy

**Note:** *Cryptosporidium* antigen detection by EIA is also available for stool samples only. Refer to *Cryptosporidium* Antigen by EIA (0060045). Nucleic Acid Amplification Testing (NAAT) for C*ryptosporidium* and *Cyclospora* also available.

**CPT Code(s):** 87177; 87207

**New Test** **3003259** **Cytokine Panel 13, CSF** **CYT13 CSF**
Click for Pricing

**Methodology:** Quantitative Multiplex Bead Assay
**Performed:** Sun-Sat
**Reported:** 1-4 days

**Specimen Required:** Collect: CSF.
Specimen Preparation: Transfer 1 mL CSF to an ARUP Standard Transport Tube. (Min: 0.4 mL)
Storage/Transport Temperature: **CRITICAL FROZEN. Additional specimens must be submitted when multiple tests are ordered. Ship in an ARUP Standard Transport Tube.**
Unacceptable Conditions: Refrigerated specimens. Contaminated or heat inactivated specimens.
Stability (collection to initiation of testing): Ambient: 30 minutes; Refrigerated: Unacceptable; Frozen: 1 month

**Reference Interval:**

| Test Number | Components | Reference Interval |
|---|---|---|
| 3003261 | Interleukin 2 Receptor, Soluble, CSF | 26.8 pg/mL or less |
| | Interleukin 12, CSF | 1.9 pg/mL or less |
| | Interferon gamma, CSF | 4.2 pg/mL or less |
| | Interleukin 4, CSF | 5.2 pg/mL or less |
| | Interleukin 5, CSF | 2.1 pg/mL or less |
| | Interleukin 10, CSF | 12.7 pg/mL or less |
| | Interleukin 13, CSF | 7.3 pg/mL or less |
| | Interleukin 1 beta, CSF | 6.5 pg/mL or less |
| 3003260 | Interleukin 6, CSF | 7.5 pg/mL or less |
| | Interleukin 8, CSF | 4.6 - 283.5 pg/mL |
| | Tumor Necrosis Factor - alpha, CSF | 1.7 pg/mL or less |
| | Interleukin 2, CSF | 2.1 pg/mL or less |
| | Interleukin 17, CSF | 4.6 pg/mL or less |

**Interpretive Data:**
Results are used to understand the pathophysiology of immune, infectious, or inflammatory disorders, or may be used for research purposes.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**Note:** Cytokine levels may demonstrate diurnal variation. For longitudinal comparison, it is recommended that cytokine levels be determined at the same time of day.

**CPT Code(s):** 83520 x13

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3003144** **Deletion/Duplication Analysis by MLPA** **DELDUP**
Click for Pricing

**Methodology:** Multiplex Ligation-dependent Probe Amplification
**Performed:** Sun- Sat
**Reported:** Within 14 days

**Specimen Required:** Collect: **Contact ARUP's genetic counselor at (800) 242-2787 extension 2141 prior to test submission.** Disease-specific patient history forms are available at www.aruplab.com/Testing-Information/consentforms-patienthistory.jsp
Remarks: **Submission of a completed patient history form is required**. If testing is ordered to assess for a large deletion/duplication previously identified in a family member, submission of the family member's laboratory report is required. Testing will begin once all required documentation is received.

**Interpretive Data:**
Refer to report.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

Counseling and informed consent are recommended for genetic testing. Consent forms are available online.

**Note:**
Deletion/duplication analysis by MLPA is offered for the following genes: *ABCD1, ACADVL, ACVRL1, APC, ATP7A, BMPR1A, BRCA1, BRCA2, CFTR, COL4A5, ENG, F8, F9, FBN1, HBB, MECP2, MEN1, MLH1/MSH2, MSH6, NF1, OTC, PKD1, PKD2, PLOD1, PMS2, PRSS1, PTEN, RASA1, SDHB, SDHC, SDHD, SLC22A5, SHOX, SMAD4, SPINK1, SPRED1, STK11, TP53, VHL*.

Suspected deletions or duplications in exons 12-15 of *PMS2*, require additional sequencing to exclude pseudogene copy number variants. Additional charges apply.

**CPT Code(s):** CPT codes vary based on gene.

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

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**2002693** **Double-Stranded DNA (dsDNA) Antibody, IgG by IFA (using *Crithidia luciliae)*** **DNA IFA**

**Specimen Required:** Collect: Serum separator tube.
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP Standard Transport Tube. (Min: 0.15 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Plasma. Cerebral spinal fluid. Contaminated, hemolyzed, or severely lipemic specimens.
Stability (collection to initiation of testing): After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)

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**0051626** **Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgA** **EBV A**

**Reference Interval:**
Effective February 16, 2021

| Reference Interval | |
|---|---|
| 0.7 U/L or less | Not Detected |
| 0.8-1.2 U/L | Indeterminate – Repeat testing in 10-14 days may be helpful. |
| 1.3 U/L or greater | Detected |

**HOTLINE NOTE:** There is a unit of measure change associated with this test.
Change the unit of measure for component 0051626, EBV Antibody To Viral Capsid Antigen IgA from U/mL to U/L.

## 0051627 Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgG and IgA — EBV PAN 3

**Reference Interval:**

| Test Number | Components | Reference Interval |
|---|---|---|
| 0050235 | Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgG | Effective February 19, 2013<br><br>17.9 U/mL or less: Not Detected<br>18.0-21.9 U/mL: Indeterminate. Repeat testing in 10-14 days may be helpful.<br>22.0 U/mL or greater: Detected |
| 0051626 | Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgA | Effective February 16, 2021<br><br>0.7 U/L or less: Not Detected<br>0.8 - 1.2 U/L: Indeterminate. Repeat testing in 10-14 days may be helpful.<br>1.3 U/L or greater: Detected |

**HOTLINE NOTE:** There is a unit of measure change associated with this test.
Change the unit of measure for component 0051626, Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgA from U/mL to U/L.

**New Test** Available Now
Click for Pricing

**3002737** **FISH, Interphase, CD138+ Cells** **FISHICD138**

Time Sensitive

Oncology Test Request Form Recommended (ARUP form #43099)

Additional Technical Information

**Methodology:** Fluorescence in situ Hybridization
**Performed:** Sun-Sat
**Reported:** 3-10 days

**Specimen Required:** Collect: Non-diluted bone marrow aspirate collected in a heparinized syringe. Also acceptable: Whole blood collected in Green (Sodium Heparin).
Specimen Preparation: Transfer 3 mL bone marrow to a green (sodium heparin) (Min: 1 mL). **OR** transport 5 mL whole blood (Min: 2 mL)
Storage/Transport Temperature: Room temperature.
Remarks: Desired FISH probe and pertinent clinical diagnosis required with test order. **Testing will not be performed until probe and diagnosis are provided**; absence of this information will delay turnaround time.
Unacceptable Conditions: Paraffin-embedded specimens. Clotted specimens.
Stability (collection to initiation of testing): Ambient: 48 hours; Refrigerated: 48 hours; Frozen: Unacceptable

**Reference Interval:** By report

**Interpretive Data:**

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**Note:** Fluorescence in situ hybridization (FISH) is performed on CD138+ sorted cells (assuming specimen is sufficient for sorting) for multiple myeloma prognosis-specific genomic abnormalities. The comprehensive multiple myeloma panel is available under mnemonic FISHMMP (3002063). The following probes may be ordered individually or in any combination: 1q (*CKS1B*) gain/amplification/17p (*TP53*) loss/deletion, t(4;14) (*IGH*/*FGFR3* and *MMSET* fusion), 8q (*MYC*) break apart, t(8;14) (*IGH/MYC* fusion), +9/9q (*ASS1*) trisomy/gain, t(11;14) (*IGH/CCND1* fusion and/or +11), 13q (D13S319) deletion, 14q *(IGH*) break apart, t(14;16) (*IGH*/*MAF* fusion), t(14;20) (*IGH*/*MAFB* fusion), +15/15q,+17/17q (*PML/RARA* gain).

When this test is ordered in conjunction with a chromosome analysis, specimen prioritization will be given to FISH for the sorting of CD138+ cells. This could impact the successful completion of the chromosome analysis.

If sorting fails to yield sufficient CD138+ cells, testing will be performed using unsorted cells, if available.

If more than one probe is ordered, additional charges will apply.

Contact ARUP Genetics Processing (extension 3301) to add a probe to a current specimen.

Other specimen types may be acceptable, contact Genetics Processing (extension 3301) for specific specimen collection and transportation instructions. ** other sample types acceptable (if reported **without disclaimer** should be added to the OMS build, but not viewable in WOE/CONNECT.

This test must be ordered using Oncology test request form #43099 or through your ARUP interface.

**CPT Code(s):** 88271; 88275; 88291

New York DOH Approved.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

## 0099906 Fluphenazine FLUPHEN

**Specimen Required:** Patient Prep: Timing of specimen collection: Pre-dose (trough) draw - At steady state concentration.
Collect: Plain red. Also acceptable: Lavender ($K_2$ or $K_3$EDTA) or pink ($K_2$ EDTA).
Specimen Preparation: Separate serum or plasma from cells within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Whole blood. Hemolyzed specimens. Gel separator tubes, light blue (citrate), or yellow (SPS or ACD solution).
Stability (collection to initiation of testing): After separation from cells: Ambient: 48 hours; Refrigerated: 1 week; Frozen: 1 month (avoid repeated freeze/thaw cycles)

**Reference Interval:**
Effective February 16, 2021

| | |
|---|---|
| Therapeutic Range: | 1.0-10.0 ng/mL |
| Toxic: | Greater than 15 ng/mL |

**Interpretive Data:**
The therapeutic range is based on serum pre-dose (trough) draw at steady-state concentration. Adverse effects may include extrapyramidal symptoms, seizures and neuroleptic malignant syndrome.

See Compliance Statement B: www.aruplab.com/CS

## 0099640 Haloperidol HALO

**Reference Interval:**
Effective February 16, 2021

| | |
|---|---|
| Therapeutic Range: | 5.0-20.0 ng/mL |
| Toxic: | Greater than 50 ng/mL |

## 0025055 Heavy Metals Panel 6, Urine with Reflex to Arsenic Fractionated — HYMET 6

**Reference Interval:**

| Test Number | Components | Reference Interval |
|---|---|---|
| 0025000 | Arsenic, Urine with Reflex to Fractionated | Effective November 13, 2017 |

| Test Number | Components | Reference Interval |
|---|---|---|
| | Arsenic, Urine - per volume | 0-34.9 µg/L (based on Biological Exposure Index) |
| | Arsenic, Urine - per 24h | 0-49.9 µg/d |
| | Arsenic, Urine-Ratio to CRT | 0.0-29.9 µg/gCRT |
| 0020734 | Arsenic, Fractionated, Urine | Refer to report |
| | Creatinine, Urine - per 24h | Refer to report |

| | | |
|---|---|---|
| 0025040 | Cadmium, Urine | Effective November 13, 2017 |

| Test Number | Components | Reference Interval |
|---|---|---|
| | Cadmium, Urine - per volume | 0.0-1.0 µg/L |
| | Cadmium, Urine - per 24h | 0.0-3.2 µg/d |
| | Cadmium, Urine - ratio to CRT | 0.0-3.2 µg/g crt |
| | Creatinine, Urine - per 24h | Refer to report |

| | | |
|---|---|---|
| 0020461 | Copper, Urine | Effective February 16, 2021 |

| Test Number | Components | Reference Interval |
|---|---|---|
| | Copper, Urine-per volume | Less than or equal to 3.2 µg/dL |
| | Copper, Urine-per 24h | 3.0-45.0 µg/d |
| | Creatinine, Urine - per 24h | Refer to report |
| | Copper, Urine-ratio to CRT | 10.0-45.0 µg/gCRT |

| | | |
|---|---|---|
| 0025060 | Lead, Urine | Effective November 12,2018 |

| Test Number | Components | Reference Interval |
|---|---|---|
| | Lead, Urine - per 24h | 0.0-8.1 µg/d |
| | Lead, Urine - per volume | 0.0-5.0 µg/L |
| | Lead Urine-ratio to CRT | 0.0-5.0 ug/gCRT |
| | Creatinine, Urine - per 24h | Refer to report |

| | | |
|---|---|---|
| 0025050 | Mercury, Urine | Effective November 12,2018 |

| Test Number | Components | Reference Interval |
|---|---|---|
| | Mercury, Urine - per 24h | 0.0-20.0 µg/d |
| | Mercury, Urine - per volume | 0.0-5.0 µg/L |
| | Mercury, Urine - ratio to CRT | 0.0-20.0 µg/gCRT |
| | Creatinine, Urine - per 24h | Refer to report |

| | | |
|---|---|---|
| 0020462 | Zinc, Urine | Effective November 13,2017 |

| Test Number | Components | Reference Interval |
|---|---|---|
| | Zinc, Urine | 15.0-120.0 µg/dL |
| | Zinc, Urine-per 24h | 150.0-1200.0 µg/d |
| | Zinc, Urine-ratio to CRT | 110.0-750.0 µg/gCRT |
| | Creatinine, Urine - per 24h | Refer to report |

## 2005792 Hemoglobin Evaluation Reflexive Cascade — HB CASCADE

**HOTLINE NOTE:** There is a component change associated with this test.
Add component 3003512, Gamma Globin (HBG1 and HBG2) Sequencing
Remove component 2005804, Hemoglobin Lepore (HBD/HBB) 3 Mutations
There is also a reflexive pattern change associated with this test.
Add reflex to 3003509, Gamma Globin (HBG1 and HBG2) Seq Bill
Remove reflex from 2005838, Hemoglobin Lepore (HBD/HBB) 3 Mut Bill

**New Test** **3002989** **Hepatitis Panel, Acute with Reflex to HBsAg Confirmation and Reflex to HCV by Quantitative NAAT** **HEPACUTEQR**

Click for Pricing

**Methodology:** Qualitative Chemiluminescent Immunoassay/Quantitative Transcription Mediated Amplification
**Performed:** Sun-Sat
**Reported:** 1-2 days
If reflexed, add 1-3 days

**Specimen Required:** Collect: Serum separator tube (SST) or Pink (K2EDTA).
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 3 mL serum to an ARUP Standard Transport Tube. (Min: 2.0 mL) Also acceptable: $K_2$EDTA plasma.
Storage/Transport Temperature: Frozen.
Unacceptable Conditions: Heparinized plasma. Specimens containing particulate material. Heat-inactivated, severely hemolyzed, or lipemic specimens.
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 5 days; Frozen: 2 months (avoid freeze/thaw cycles)

**Reference Interval:**

| Test Number | Components | Reference Interval | |
|---|---|---|---|
| 0020093 | Hepatitis A Virus Antibody, IgM | Negative | |
| 0020092 | Hepatitis B Virus Core Antibody, IgM | Negative | |
| 0020089 | Hepatitis B Virus Surface Antigen with Reflex to Confirmation | | |
| | Hepatitis B Virus Surface Antigen | Negative | |
| 0020128 | Hepatitis B Virus Surface Antigen, Confirmation | Refer to report | |
| 2010784 | Hepatitis C Virus Ab w/Rflx to HCV NAAT | | |
| 2002483 | Hepatitis C Virus Antibody by CIA | Negative | |
| | Hepatitis C Antibody by CIA Index | 0.79 IV or less | Negative |
| | | 0.80 to 0.99 IV | Equivocal |
| | | 1.00 to 10.99 IV | Low Positive |
| | | 11.00 IV or greater | High Positive |
| 3000572 | Hepatitis C Virus (HCV) by Quantitative NAAT | Not Detected | |

**Interpretive Data:**
**This panel of tests should not be used for blood donor screening, associated reentry protocols, or for screening human cell, tissues, and cellular and tissue-based products (HCT/P).**

**Note:** Order this panel when the patient has had clinical acute hepatitis of unknown origin for less than six months. If results for HBsAg are repeatedly reactive with an index value between 1.00 and 50.00, then HBsAg Confirmation will be added. Additional charges apply. If the anti-HCV screening result is low positive or high positive, the Hepatitis C Virus by Quantitative NAAT will be added. Additional charges apply.

**CPT Code(s):** 80074; if reflexed, add 87341, and 87522

New York DOH Approved.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3000894** **Hereditary Hemolytic Anemia Cascade** **HHACASCADE**
Available Now
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Patient History for Hemoglobinopathy/Thalassemia Testing

Test not New York DOH approved at any laboratory. An approved NPL form must accompany specimen.

Additional Technical Information

A recent CBC

**Methodology:** High Performance Liquid Chromatography (HPLC)/Electrophoresis/RBC Solubility/Polymerase Chain Reaction (PCR)/Fluorescence Resonance Energy Transfer/Sequencing, Spectrophotometry, Visual Identification, Quantitative Enzymatic, Quantitative Flow Cytometry, Cytochemical Stain, Multiplex Ligation-Dependent Probe Amplification
**Performed:** Sun-Sat
**Reported:** Varies

**Specimen Required:** Collect: 3 whole blood Lavender ($K_2$EDTA) or Pink ($K_2$EDTA) specimens and 3-5 peripheral blood smears.
Specimen Preparation: Transfer specimens using ARUP kit (ARUP supply # 54388) available online through eSupply using ARUP Connect or contact ARUP Client Services at (800) 522-2787.
Storage/Transport Temperature: Refrigerated.
Remarks: **Submit with Order:** Patient history form, including information from a recent CBC, is required for interpretation.
Unacceptable Conditions:
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 1 week; Frozen: Unacceptable

**Interpretive Data:**

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**Note:** The Hereditary Hemolytic Anemia Cascade begins with initial standard tests to detect possible causes of hemolytic anemia. If the results of the initial tests are suggestive of an abnormal or unstable hemoglobin, RBC membrane instability, or an enzyme or protein deficiency; or if the CBC data is suggestive of a hemoglobinopathy, appropriate testing will be performed at an additional charge. Depending on findings, one or more reflex tests may be required in order to provide a clinical interpretation. Tests added may include electrophoresis, solubility testing, mutational analysis, and/or sequencing.

Quantitation of hemoglobin by HPLC or electrophoresis is most definitive in individuals one year and older. If quantitation of hemoglobin was performed before age one, repeat testing is recommended. Abnormal hemoglobin variants may require additional testing, which increases TAT up to 21 days.

**CPT Code(s):** 84220, 88184, 82955, 83021. Reflex components billed separately. Additional CPT codes may apply, 85555, 81479, 83068, 81269, 81259, 81363, 81364, 81249, 81443, 85660, 83020

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3001842** **Hereditary Myeloid Neoplasms Panel, Sequencing** **HMYE NGS**
Click for Pricing

Additional Technical Information

Patient History for Hereditary Myeloid Neoplasms

**Methodology:** Massively Parallel Sequencing
**Performed:** Varies
**Reported:** 3-6 weeks

**Specimen Required:** Collect: Cultured skin fibroblasts (preferred) or
Whole blood: Lavender (EDTA) or yellow (ACD Solution A or B). or
Skin punch biopsy**:** Thaw media prior to tissue inoculation. Place skin punch biopsy in a sterile, screw-top container filled with tissue culture transport medium (ARUP Supply #32788). Available online through eSupply using ARUP Connect. If cytogenetics tissue media is not available, collect in plain RPMI, Hanks solution, sterile saline, or ringers.
Specimen Preparation: Cultured skin fibroblasts: 2 T-25 flasks at 80 percent confluency, Fill flasks with culture media. Backup cultures must be maintained at the client's institution until testing is complete.
Skin punch biopsy DO NOT FREEZE. Do not place in formalin. Transport a 4 mm skin biopsy in a sterile, screw-top container filled with tissue transport medium.
Whole blood: Transport 3 mL whole blood. (Min: 1.5 mL)
Storage/Transport Temperature: Cultured skin fibroblasts: Critical room temperature. Must be received within 48 hours of shipment due to lability of cells
Skin punch biopsy: Room temperature
Whole Blood: Refrigerated.
Remarks: Cultured skin fibroblast backup cultures must be retained at the client's institution until testing is complete. Skin punch biopsies can be cultured at ARUP at an additional charge.
Unacceptable Conditions: Grossly hemolyzed or frozen specimens; formalin fixed tissue, FFPE
Stability (collection to initiation of testing):
Cultured skin fibroblasts: Ambient: 48 hours; Refrigerated: Unacceptable; Frozen: Unacceptable,
Skin punch biopsy: Ambient: 48 hours; Refrigerated: 48 hours; Frozen: Unacceptable
Whole blood: Ambient: 72 hours; Refrigerated: 1 week; Frozen: Unacceptable

**Reference Interval:** By report

**Interpretive Data:**
Refer to report.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

Counseling and informed consent are recommended for genetic testing. Consent forms are available online.

**Note:** Genes tested: *ANKRD26*, ATM, BLM, CBL, CEBPA, DDX41, ELANE, ETV6, GATA1, GATA2, KRAS, NBN, PTPN11*, RUNX1, SAMD9, SAMD9L, SRP72*, TERC, TERT, TP53.*

If a skin punch biopsy is submitted, specimen will be reflexed for culturing. Additional charge apply.

**CPT Code(s):** 81479; for skin punch biopsy, add 88233.

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

| | | |
|---|---|---|
| 0092283 | **Herpes Gestationis Factor (Complement-Fixing Basement Membrane Zone Antibody IgG)** | **HG FACTOR** |

**Specimen Required:** Collect: Plain red or serum separator tube (SST).
Specimen Preparation: Transfer 2 mL serum to an ARUP Standard Transport Tube. (Min: 1 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Hemolyzed or lipemic specimens.
Stability (collection to initiation of testing): Ambient: 1 week; Refrigerated: 2 weeks; Frozen: Indefinitely

**Note:** The methodology is indirect immunofluorescence (IFA) of serum on human split skin substrate for detection of complement-fixing (herpes gestationis factor) and non-complement-fixing IgG basement membrane zone antibodies. For specimens less than 1 mL, call the Immunodermatology Laboratory at (866) 266-5699.

## 0050980 Humoral Immunity Panel I HUMPAN I

**Methodology:** Quantitative Immunoturbidimetry/Semi-Quantitative Multiplex Bead Assay

**Specimen Required:** Collect: Serum separator tube.
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 5.5 mL serum to ARUP Standard Transport Tubes. (Min: 2.5 mL total)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Plasma.
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 14 days; Frozen: 6 months (avoid repeated freeze/thaw cycles). (Refer to individual components for further information.)

**Reference Interval:**

| Test Number | Components | Reference Interval |
|---|---|---|
| 0050210 | Diphtheria Antibody, IgG | Antibody concentration of > 0.1 IU/mL is usually considered protective. |
| 0050535 | Tetanus Antibody, IgG | Antibody concentration of > 0.1 IU/mL is usually considered protective. |
| 0050725 | *Streptococcus pneumoniae* Antibodies, IgG (14 Serotypes) | |
| 0050340 | Immunoglobulin A | Effective February 16, 2021<br>0-2 years: 2-126 mg/dL<br>3-4 years: 14-212 mg/dL<br>5-9 years: 52-226 mg/dL<br>10-14 years: 42-345 mg/dL<br>15-18 years: 60-349 mg/dL<br>19 years and older: 68-408 mg/dL |
| 0050350 | Immunoglobulin G | Effective February 16, 2021<br>0-2 years: 242-1108 mg/dL<br>3-4 years: 485-1160 mg/dL<br>5-9 years: 514-1672 mg/dL<br>10-14 years: 581-1652 mg/dL<br>15-18 years: 479-1433 mg/dL<br>19 years and older: 768-1632 mg/dL |
| 0050355 | Immunoglobulin M | Effective February 16, 2021<br>0-2 years: 21-215 mg/dL<br>3-4 years: 26-155 mg/dL<br>5-9 years: 26-188 mg/dL<br>10-14 years: 47-252 mg/dL<br>15-18 years: 26-232 mg/dL<br>19 years and older: 35-263 mg/dL |
| 0050571 | Immunoglobulin G Subclass 1 | Effective February 16, 2021<br>0-2 years: 167-900 mg/dL<br>3-4 years: 313-941 mg/dL<br>5-9 years: 363-1276 mg/dL<br>10-14 years: 316-1076 mg/dL<br>15-18 years: 325-894 mg/dL<br>19 years and older: 240-1118 mg/dL |
| 0050572 | Immunoglobulin G Subclass 2 | Effective February 16, 2021<br>0-2 years: 55-359 mg/dL<br>3-4 years: 72-287 mg/dL<br>5-9 years: 27-398 mg/dL<br>10-14 years: 86-509 mg/dL<br>15-18 years: 156-625 mg/dL<br>19 years and older: 124-549 mg/dL |
| 0050573 | Immunoglobulin G Subclass 3 | Effective February 16, 2021<br>0-2 years: 34-85 mg/dL<br>3-4 years: 25-117 mg/dL<br>5-9 years: 17-169 mg/dL<br>10-14 years: 14-201 mg/dL<br>15-18 years: 34-246 mg/dL<br>19 years and older: 21-134 mg/dL |
| 0050576 | Immunoglobulin G Subclass 4 | Effective February 16, 2021<br>0-2 years: 1-34 mg/dL<br>3-4 years: 1-65 mg/dL<br>5-9 years: 0-168 mg/dL<br>10-14 years: 1-103 mg/dL<br>15-18 years: 2-170 mg/dL<br>19 years and older: 1-123 mg/dL |

**New Test** **3003486** **Immunoglobulin D, Serum** **IG D**
Click for Pricing

**Methodology:** Quantitative Immunoturbidimetry
**Performed:** Mon, Wed, Fri
**Reported:** 1-4 days

**Specimen Required:** Collect: Serum separator tube.
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly hemolyzed or lipemic specimens.
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 14 days; Frozen: 6 months

**Reference Interval:** Less than or equal to 15.3 mg/dL

**Interpretive Data:**
IgD is one of the five classes of immunoglobulin. IgD is mainly found on the surface of B-cells and may help regulate B-cell function. IgD likely serves as an early B-cell antigen receptor, however, the function of the circulating IgD is largely unknown.

**CPT Code(s):** 82784

New York DOH Approved.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3003485** **Immunoglobulin G, CSF** **IGGCSF**
Click for Pricing

**Methodology:** Quantitative Immunoturbidimetry
**Performed:** Sun-Sat
**Reported:** Within 24 hours

**Specimen Required:** Collect: CSF.
Specimen Preparation: Centrifuge and separate to remove cellular material. Transfer 1 mL CSF to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly bloody or hemolyzed specimens.
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 1 month; Frozen: 6 months

**Reference Interval:** 0.0-6.0 mg/dL

**CPT Code(s):** 82784

New York DOH Approved.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

## 0050340 Immunoglobulin A IGA

**Methodology:** Quantitative Immunoturbidimetry

**Specimen Required:** Collect: Serum separator tube or green (sodium or lithium heparin).
Specimen Preparation: Separate serum or plasma from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly hemolyzed or lipemic specimens
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 14 days; Frozen: 6 months

**Reference Interval:**
Effective February 16, 2021

| Age | Reference Interval |
|---|---|
| 0-2 years | 2-126 mg/dL |
| 3-4 years | 14-212 mg/dL |
| 5-9 years | 52-226 mg/dL |
| 10-14 years | 42-345 mg/dL |
| 15-18 years | 60-349 mg/dL |
| 19 years and older | 68-408 mg/dL |

## 0093149 Immunoglobulin A Subclasses (1 and 2) IGA SUB

**Methodology:** Quantitative Immunoturbidimetry

**Specimen Required:** Collect: Serum separator tube.
Specimen Preparation: Transfer 2 mL serum to an ARUP Standard Transport Tube. (Min: 0.7 mL)
Storage/Transport Temperature: Refrigerated
Unacceptable Conditions: Grossly hemolyzed or lipemic specimens
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 14 days; Frozen: 6 months

**Reference Interval:**
Effective February 16, 2021

| Test Number | Components | Reference Interval |
|---|---|---|
| 0050340 | Immunoglobulin A | Effective February 16, 2021 |
| | | 0-2 years: 2-126 mg/dL<br>3-4 years: 14-212 mg/dL<br>5-9 years: 52-226 mg/dL<br>10-14 years: 42-345 mg/dL<br>15-18 years: 60-349 mg/dL<br>19 years and older: 68-408 mg/dL |
| | Immunoglobulin A Subclass 1 | 0-2 years: 3-145 mg/dL<br>3-4 years: 22-278 mg/dL<br>5-9 years: 43-337 mg/dL<br>10-14 years: 37-430 mg/dL<br>15-18 years: 76-394 mg/dL<br>19 years and older: 60-294 mg/dL |
| | Immunoglobulin A Subclass 2 | 0-2 years: 1-15 mg/dL<br>3-4 years: 3-44 mg/dL<br>5-9 years: 7-56 mg/dL<br>10-14 years: 1-109 mg/dL<br>15-18 years: 14-54 mg/dL<br>19 years and older: 6-61 mg/dL |

## 0050341 Immunoglobulin A, CSF — IGA CSF

**Methodology:** Quantitative Immunoturbidimetry

**Specimen Required:** Collect: CSF.
Specimen Preparation: Centrifuge and separate to remove cellular material. Transfer 1 mL CSF to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly bloody or hemolyzed specimens.
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 1 month; Frozen: 6 months

## 0050350 Immunoglobulin G — IGG

**Methodology:** Quantitative Immunoturbidimetry

**Specimen Required:** Collect: Serum separator tube
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly hemolyzed or lipemic specimens
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 14 days; Frozen: 6 months

**Reference Interval:**
Effective February 16, 2021

| Age | Reference Interval |
|---|---|
| 0-2 years | 242-1108 mg/dL |
| 3-4 years | 485-1160 mg/dL |
| 5-9 years | 514-1672 mg/dL |
| 10-14 years | 581-1652 mg/dL |
| 15-18 years | 479-1433 mg/dL |
| 19 years and older | 768-1632 mg/dL |

## 0050576 Immunoglobulin G Subclass 4 — IGG4

**Methodology:** Quantitative Immunoturbidimetry
**Performed:** Sun-Sat
**Reported:** 1-3 days

**Specimen Required:** Collect: Serum separator tube.
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly hemolyzed or lipemic specimens
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 14 days; Frozen: 6 months

**Reference Interval:**
Effective February 16, 2021

| Age | Reference Interval |
|---|---|
| 0-2 years | 1-34 mg/dL |
| 3-4 years | 1-65 mg/dL |
| 5-9 years | 0-168 mg/dL |
| 10-14 year | 1-103 mg/dL |
| 15-18 years | 2-170 mg/dL |
| 19 years and older | 1-123 mg/dL |

## 0050577 Immunoglobulin G Subclasses (1, 2, 3, 4) IGG SUB

**Methodology:** Quantitative Immunoturbidimetry
**Performed:** Sun-Sat
**Reported:** 1-3 days

**Specimen Required:** Collect: Serum separator tube.
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP Standard Transport Tube. (Min: 1 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly hemolyzed or lipemic specimens
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 14 days; Frozen: 6 months

**Reference Interval:**

| Test Number | Components | Reference Interval |
|---|---|---|
| 0050571 | Immunoglobulin G Subclass 1 | Effective February 16, 2021<br>0-2 years: 167-900 mg/dL<br>3-4 years: 313-941 mg/dL<br>5-9 years: 363-1276 mg/dL<br>10-14 years: 316-1076 mg/dL<br>15-18 years: 325-894 mg/dL<br>19 years and older: 240-1118 mg/dL |
| 0050572 | Immunoglobulin G Subclass 2 | Effective February 16, 2021<br>0-2 years: 55-359 mg/dL<br>3-4 years: 72-287 mg/dL<br>5-9 years: 27-398 mg/dL<br>10-14 years: 86-509 mg/dL<br>15-18 years: 156-625 mg/dL<br>19 years and older: 124-549 mg/dL |
| 0050573 | Immunoglobulin G Subclass 3 | Effective February 16, 2021<br>0-2 years: 34-85 mg/dL<br>3-4 years: 25-117 mg/dL<br>5-9 years: 17-169 mg/dL<br>10-14 years: 14-201 mg/dL<br>15-18 years: 34-246 mg/dL<br>19 years and older: 21-134 mg/dL |
| 0050576 | Immunoglobulin G Subclass 4 | Effective February 16, 2021<br>0-2 years: 1-34 mg/dL<br>3-4 years: 1-65 mg/dL<br>5-9 years: 0-168 mg/dL<br>10-14 years: 1-103 mg/dL<br>15-18 years: 2-170 mg/dL<br>19 years and older: 1-123 mg/dL |

**Interpretive Data:**
The total IgG (mg/dL) can be derived from the sum of the subclass IgG1, IgG2, IgG3, and IgG4 values. However, a confirmatory and more precise total IgG is available by the immunoturbidimetric method of quantitation for total IgG. Refer to test Immunoglobulin G, Serum (0050350).

## 0050676 Immunoglobulin G, CSF Index IGG SYN

**Methodology:** Quantitative Immunoturbidimetry

**Specimen Required:** Collect: CSF **AND** serum separator tube. Serum specimen should be drawn within 48 hours of CSF collection.
Specimen Preparation: Centrifuge and separate CSF to remove cellular material. Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL CSF **AND** 1 mL serum to individual ARUP Standard Transport Tubes. (Min: 0.5 mL CSF **AND** 0.5 mL serum)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly bloody or hemolyzed specimens.
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 14 days; Frozen: 6 months (if frozen within 24 hours)

**Reference Interval:**

| Test Number | Components | Reference Interval |
|---|---|---|
| 0050350 | Immunoglobulin G | Effective February 16, 2021 |
| | | 0-2 years: 242-1108 mg/dL<br>3-4 years: 485-1160 mg/dL<br>5-9 years: 514-1672 mg/dL<br>10-14 years: 581-1652 mg/dL<br>15-18 years: 479-1433 mg/dL<br>19 years or older: 768-1632 mg/dL |
| | | |
| 3003485 | Immunoglobulin G, CSF | 0.0-6.0 mg/dL |
| 0050671 | Albumin Serum | 3500-5200 mg/dL |
| 0050200 | Albumin, CSF | 0-35 mg/dL |
| | Albumin Index | 0.0-9.0 |
| | CSF IgG Synthesis Rate | Less than or equal to 8.0 mg/d |
| | IgG Albumin Ratio | 0.09-0.25 |
| | IgG Index | 0.28-0.66 |

**HOTLINE NOTE:** There is a clinically significant charting name change associated with this test.
Change the charting name for component 0050671, Albumin by Nephelometry from Albumin by Nephelometry to Albumin Serum.

## 0050680 Immunoglobulin G/Albumin Ratio, CSF IGG/ALB

**Methodology:** Quantitative Immunoturbidimetry

**Specimen Required:** Collect: CSF.
Specimen Preparation: Centrifuge and separate to remove cellular material. Transfer 1 mL CSF to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly bloody or hemolyzed specimens.
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 1 month; Frozen: 6 months

## 0050355 Immunoglobulin M IGM

**Methodology:** Quantitative Immunoturbidimetry

**Specimen Required:** Collect: Serum separator tube or green (sodium or lithium heparin).
Specimen Preparation: Separate serum or plasma from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly hemolyzed or lipemic specimens.
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 14 days; Frozen: 6 months

**Reference Interval:**
Effective February 16, 2021

| Age | Reference Interval |
|---|---|
| 0-2 years | 21-215 mg/dL |
| 3-4 years | 26-155 mg/dL |
| 5-9 years | 26-188 mg/dL |
| 10-14 years | 47-252 mg/dL |
| 15-18 years | 26-232 mg/dL |
| 19 years and older | 35-263 mg/dL |

## 0050356 Immunoglobulin M, CSF IGM CSF

**Methodology:** Quantitative Immunoturbidimetry
**Performed:** Wed, Sat
**Reported:** 1-5 days

**Specimen Required:** Collect: CSF.
Specimen Preparation: Centrifuge and separate to remove cellular material. Transfer 1 mL CSF to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly bloody or hemolyzed specimens.
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 14 days; Frozen: 6 months

## 0050630 Immunoglobulins (IgA, IgG, IgM), Quantitative QNTIG

**Methodology:** Quantitative Immunoturbidimetry

**Specimen Required:** Collect: Serum separator tube
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP Standard Transport Tube. (Min: 0.7 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly hemolyzed and lipemic specimens.
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 14 days; Frozen: 6 months

**Reference Interval:**

| Test Number | Components | Reference Interval |
|---|---|---|
| 0050340 | Immunoglobulin A | Effective February 16, 2021<br>0-2 years: 2-126 mg/dL<br>3-4 years: 14-212 mg/dL<br>5-9 years: 52-226 mg/dL<br>10-14 years: 42-345 mg/dL<br>15-18 years: 60-349 mg/dL<br>19 years and older: 68-408 mg/dL |
| 0050350 | Immunoglobulin G | Effective February 16, 2021<br>0-2 years: 242-1108 mg/dL<br>3-4 years: 485-1160 mg/dL<br>5-9 years: 514-1672 mg/dL<br>10-14 years: 581-1652 mg/dL<br>15-18 years: 479-1433 mg/dL<br>19 years and older: 768-1632 |
| 0050355 | Immunoglobulin M | Effective February 16, 2021<br>0-2 years: 21-215 mg/dL<br>3-4 years: 26-155 mg/dL<br>5-9 years: 26-188 mg/dL<br>10-14 years: 47-252 mg/dL<br>15-18 years: 26-232 mg/dL<br>19 years and older: 35-263 mg/dL |

## 0050631 Immunoglobulins, CSF Quantitative QNTIG CSF

**Methodology:** Quantitative Immunoturbidimetry

**Specimen Required:** Collect: CSF.
Specimen Preparation: Centrifuge and separate to remove cellular material. Transfer 1 mL CSF to an ARUP Standard Transport Tube. (Min: 0.6 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly bloody or hemolyzed specimens.
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 1 month; Frozen: 6 months

**Reference Interval:**

| Test Number | Components | Reference Interval |
|---|---|---|
| 0050341 | Immunoglobulin A, CSF | 0.0-0.7 mg/dL |
| 3003485 | Immunoglobulin G, CSF | 0.0-6.0 mg/dL |
| 0050356 | Immunoglobulin M, CSF | 0.0-0.7 mg/dL |

## 0070413 Inhibin B INHIBINB

**Specimen Required:** Patient Prep: For premenopausal females, collection is preferred during the follicular phase of the menstrual cycle.
Collect: Serum separator tube or plain red.
Specimen Preparation: Transport 0.5 mL serum. (Min: 0.2 mL)
Storage/Transport Temperature: Frozen.
Unacceptable Conditions: Room temperature specimens. Grossly hemolyzed specimens. Plasma
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 72 hours; Frozen: 1 month

**Reference Interval:**
Effective February 16, 2021

| Male | Female |
|---|---|
| <15 days: 68-373 pg/mL<br>15 days-6 months: 42-516 pg/mL<br>7 months-7 years: 24-300 pg/mL<br>8-30 years: 47-383 pg/mL<br>31-72 years: 10-357 pg/mL | 1 day-12 years: 1-182 pg/mL<br>13-41 years (regular cycle, follicular phase): 8-223 pg/mL<br>42-51 years (regular cycle, follicular phase): 1-107 pg/mL<br>51-76 years (postmenopausal): 1-11 pg/mL |

## New Test 3003261 Interleukin 2 Receptor, Soluble, CSF IL2R CSF

Click for Pricing

**Methodology:** Quantitative Multiplex Bead Assay
**Performed:** Sun-Sat
**Reported:** 1-4 days

**Specimen Required:** Collect: CSF.
Specimen Preparation: Transfer 1 mL CSF to an ARUP Standard Transport Tube. (Min: 0.4 mL)
Storage/Transport Temperature: **CRITICAL FROZEN. Separate specimens must be submitted when multiple tests are ordered. Ship in an ARUP Standard Transport Tube.**
Unacceptable Conditions: Refrigerated specimens. Contaminated or heat-inactivated specimens.
Stability (collection to initiation of testing): Ambient: 30 minutes; Refrigerated: Unacceptable; Frozen: 1 month

**Reference Interval:** 26.8 pg/mL or less

**Interpretive Data:**
Results are used to understand the pathophysiology of immune, infectious, or inflammatory disorders, or may be used for research purposes.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**Note:** Cytokine levels may demonstrate diurnal variation. For longitudinal comparison, it is recommended that cytokine levels be determined at the same time of day.

**CPT Code(s):** 83520

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3003260** **Interleukin 6, CSF** **IL6 CSF**

Click for Pricing

**Methodology:** Quantitative Multiplex Bead Assay
**Performed:** Sun-Sat
**Reported:** 1-4 days

**Specimen Required:** Collect: CSF.
Specimen Preparation: Transfer 1 mL CSF to an ARUP Standard Transport Tube. (Min: 0.4 mL)
Storage/Transport Temperature: **CRITICAL FROZEN. Separate specimens must be submitted when multiple tests are ordered. Ship in an ARUP Standard Transport Tube.**
Unacceptable Conditions: Refrigerated specimens. Contaminated or heat-inactivated specimens.
Stability (collection to initiation of testing): Ambient: 30 minutes; Refrigerated: Unacceptable; Frozen: 1 month.

**Reference Interval:** 7.5 pg/mL or less

**Interpretive Data:**
Results are used to understand the pathophysiology of immune, infectious, or inflammatory disorders, or may be used for research purposes.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**Note:** Cytokine levels may demonstrate diurnal variation. For longitudinal comparison, it is recommended that cytokine levels be determined at the same time of day.

**CPT Code(s):** 83520

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3003506** **Kappa/Lambda Light Chain Panel by in situ Hybridization on Paraffin** **K/L P ISH**

Click for Pricing

**Methodology:** In situ hybridization (ISH)
**Performed:** Mon-Fri
**Reported:** 2-5 days

**Specimen Required:** Collect: Tissue.
Specimen Preparation: Formalin fix (10 percent neutral buffered formalin) and paraffin-embed tissue. Transport tissue block or 10 unstained 5 micron slides in a tissue transport kit (ARUP supply #47808). Available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522-2787. (Min: 5 slides) Protect paraffin block and/or slides from excessive heat.
Storage/Transport Temperature: Room temperature or refrigerated. Ship in cooled container during summer months.
Remarks: Include surgical pathology report.
Unacceptable Conditions: Specimens fixed or processed in alternative fixatives (alcohol, Prefer®) or heavy metal fixatives (B-4 or B-5). Decalcified or frozen specimens.
Stability (collection to initiation of testing): Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable

**Interpretive Data:**
Refer to report.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**CPT Code(s):** 88368; 88369

New York DOH Approved.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3003525** **Kappa/Lambda Light Chain Panel by In Situ Hybridization Stain Only** **SO KLP ISH**

Click for Pricing

**Methodology:** In situ hybridization (ISH)
**Performed:** Mon-Fri
**Reported:** 2-5 days

**Specimen Required:** Collect: Tissue or cells.
Specimen Preparation: Formalin fix (10 percent neutral buffered formalin) and paraffin-embed specimen (cells must be prepared into a cellblock). Protect paraffin block and/or slides from excessive heat. Transport tissue block or 8 unstained (3- to 5-micron thick sections), positively-charged slides in a tissue transport kit (ARUP supply #47808). Available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522-2787. (Min: 4 slides). If sending precut slides, do not oven bake.
Storage/Transport Temperature: Room temperature. Also acceptable: Refrigerated. Ship in cooled container during summer months.
Remarks: **IMMUNOHISTOCHEMISTRY ORDERING AND SUBMISSION DETAILS:** Submit electronic request. If you do not have electronic ordering capability, use an ARUP Immunohistochemistry Stain Form (#32978) with an ARUP client number. For additional technical details, contact ARUP Client Services at (800) 522-2787.
Unacceptable Conditions: Unacceptable Conditions: Specimens submitted with non-representative tissue type. Depleted specimens.
Stability (collection to initiation of testing): Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable

**Interpretive Data:**

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**CPT Code(s):** 88368; 88369

New York DOH Approved.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3003311** **Kratom (Mitragynine) - Screen with Reflex to Confirmation/Quantitation, Urine** **KRATOM U**

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**Methodology:** Qualitative Immunoassay/Quantitative Liquid Chromatography/Tandem Mass Spectrometry
**Performed:** Varies
**Reported:** 6-9 days

**Specimen Required:** Collect: Urine.
Specimen Preparation: Transfer 10 mL urine to ARUP Standard Transport Tubes. (Min: 1 mL)
**Test is not performed at ARUP; separate specimens must be submitted when multiple tests are ordered.**
Storage/Transport Temperature: Frozen. Also acceptable: Refrigerated.
Unacceptable Conditions: Urine from preservative tube
Stability (collection to initiation of testing): Ambient: 72 hours; Refrigerated: 2 weeks; Frozen: 6 months

**Reference Interval:** By report

**Note:** If screen is positive, then confirmation will be added. Additional charges apply.

**CPT Code(s):** 80307 if reflexed, add 80323

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**0051692** **Mannose Binding Lectin** **MBL**

**Specimen Required:** Collect: Serum separator tube, plain red, or green (lithium heparin).
Specimen Preparation: Separate serum or plasma from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP Standard Transport Tube. (Min 0.2 mL)
Storage/Transport Temperature: **CRITICAL FROZEN**. **Separate specimens must be submitted when multiple tests are ordered.**
Unacceptable Conditions: Specimens collected in EDTA or citrate. Contaminated or heat-inactivated specimens.
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 1 year (avoid repeated freeze/thaw cycles)

**3000146** **Maternal Screening, Sequential, Specimen #1, hCG, PAPP-A, NT** **MS SEQ1**

**HOTLINE NOTE:** There is a component change associated with this test.
Add component 3003440, Donor Egg Age at Harvest

**3000144** **Maternal Serum Screen, Alpha Fetoprotein** **MS AFP**

**HOTLINE NOTE:** There is a component change associated with this test.
Add component 3000151, Client Provided In Vitro Fertilization
Add component 3003440, Donor Egg Age at Harvest

**3000143** **Maternal Serum Screen, Alpha Fetoprotein, hCG, Estriol, and Inhibin A (Quad)** **MS QUAD**

**HOTLINE NOTE:** There is a component change associated with this test.
Add component 3003440, Donor Egg Age at Harvest

**3000145** **Maternal Serum Screen, First Trimester, hCG, PAPP-A, NT** **MS FTS**

**HOTLINE NOTE:** There is a component change associated with this test.
Add component 3003440, Donor Egg Age at Harvest

**3000147** **Maternal Serum Screening, Integrated, Specimen #1, PAPP-A, NT** **MS INT1**

**HOTLINE NOTE:** There is a component change associated with this test.
Add component 3003440, Donor Egg Age at Harvest

**New Test** **3003477** **Membranous Nephropathy Comprehensive Autoantibody Panel** **MNCA PAN**
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Additional Technical Information

**Methodology:** Semi-Quantitative Indirect Fluorescent Antibody
**Performed:** Tue
**Reported:** 1-8 days

**Specimen Required:** Collect: Serum Separator Tube
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP Standard Transport Tube. (Min: 0.2 mL)
Storage/Transport Temperature: Refrigerated
Unacceptable Conditions: Hemolyzed, hyperlipemic,icteric, heat-treated or contaminated
Stability (collection to initiation of testing): Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month

**Reference Interval:**

| | | |
|---|---|---|
| 2011828 | Phospholipase A2 Receptor (PLA2R) Antibody, IgG with Reflex to Titer | Less than 1:10 |
| 3003480 | Antithrombospondin Type-1 Domain-Containing 7A (THSD7A) Antibody, IgG with Reflex to Titer | Less than 1:10 |

**Interpretive Data:**
Refer to individual components.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**Note:** If Phospholipase A2 Receptor Antibody, IgG is positive, then a Phospholipase Receptor A2 Antibody, IgG titer will be added. Additional charges apply. If THSD7A Antibody, IgG is positive, then a THSD7A Antibody, IgG titer will be added.. Additional charges apply.

**CPT Code(s):** 86255 x2; if reflexed, add 86256 x2

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**0050184** **Metanephrines, Plasma (Free)** **META PF**

**Specimen Required:** Patient Prep: Drugs and medications may affect results and should be discontinued for at least 72 hours prior to specimen collection, if possible. Collection of the specimen after the patient has rested for 15 minutes in a supine position is recommended.
Collect: Lavender (EDTA), pink ($K_2$EDTA), or green (sodium or lithium heparin).
Specimen Preparation: Centrifuge within 1 hour. Transfer 2 mL plasma to an ARUP Standard Transport Tube and freeze immediately. (Min: 1 mL) Avoid hemolysis.
Storage/Transport Temperature: Frozen. Separate specimens must be submitted when multiple tests are ordered.
Unacceptable Conditions: Plasma separator tubes. Body fluids other than EDTA or heparinized plasma. Non-frozen specimens. Grossly hemolyzed.
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 1 month

## 2002715 Monoclonal Protein Study, Expanded Panel, Serum IFE FLC

**Specimen Required:** Collect: Serum Separator Tube (SST).
Specimen Preparation: Separate from cells ASAP or within 2 hours of collection. Transfer 2.5 mL serum to an ARUP Standard Transport Tube. (Min: 2.0 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Plasma. Room temperature specimens.
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 1 week; Frozen: 1 month

**Reference Interval:**

<table>
<tr><th>Test Number</th><th>Components</th><th>Reference Interval</th></tr>
<tr><td>0050640</td><td>Protein Electrophoresis, Serum</td><td>Effective August 19, 2019
<table>
<tr><th>Test Number</th><th>Components</th><th>Reference Interval</th></tr>
<tr><td></td><td>Total Protein, Serum</td><td>Refer to report</td></tr>
<tr><td></td><td>Albumin</td><td>Refer to report</td></tr>
<tr><td></td><td>Alpha-1 Globulins</td><td>Refer to report</td></tr>
<tr><td></td><td>Alpha-2 Globulins</td><td>Refer to report</td></tr>
<tr><td></td><td>Beta Globulins</td><td>Refer to report</td></tr>
<tr><td></td><td>Gamma</td><td>Refer to report</td></tr>
</table></td></tr>
<tr><td>0050340</td><td>Immunoglobulin A</td><td>Effective February 16, 2021<br>0-2 years: 2-126 mg/dL<br>3-4 years: 14-212 mg/dL<br>5-9 years: 52-226 mg/dL<br>10-14 years: 42-345 mg/dL<br>15-18 years: 60-349 mg/dL<br>19 years and older: 68-408 mg/dL</td></tr>
<tr><td>0050350</td><td>Immunoglobulin G</td><td>Effective February 16, 2021<br>0-2 years; 242-1108 mg/dL<br>3-4 years: 485-1160 mg/dL<br>5-9 years: 514-1672 mg/dL<br>10-14 years: 581-1652 mg/dL<br>15-18 years: 479-1433 mg/dL<br>19 years and older: 768-1632 mg/dL</td></tr>
<tr><td>0050355</td><td>Immunoglobulin M</td><td>Effective February 16, 2021<br>0-2 years: 21-215 mg/dL<br>3-4 years: 26-155 mg/dL<br>5-9 years: 26-188 mg/dL<br>10-14 years: 47-252 mg/dL<br>15-18 years: 26-232 mg/dL<br>19 years and older: 35-263 mg/dL</td></tr>
<tr><td></td><td>Kappa Quantitative Free Light Chains, Serum</td><td>Effective February 18, 2020<br>3.30 - 19.40 mg/L</td></tr>
<tr><td></td><td>Lambda Quantitative Free Light Chains, Serum</td><td>Effective February 18, 2020<br>5.71-26.30 mg/L</td></tr>
<tr><td></td><td>Kappa/Lambda Free Light Chain Ratio, Serum</td><td>0.26-1.65</td></tr>
</table>

| | | |
|---|---|---|
| 2007967 | **Motor and Sensory Neuropathy Evaluation with Immunofixation Electrophoresis and Reflex to Titer and Neuronal Immunoblot** | **MSNCR** |

**Methodology:** Semi-Quantitative Enzyme-Linked Immunosorbent Assay/Semi-Quantitative Indirect Fluorescent Antibody/Qualitative Immunoblot/Quantitative Immunoturbidimetry/Quantitative Capillary Electrophoresis/Qualitative Immunofixation Electrophoresis/Quantitative Spectrophotometry

**Specimen Required:** Collect: Serum Separator Tube (SST).
Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 5 mL serum to an ARUP Standard Transport Tube. (Min: 2.5 mL)
Storage/Transport Temperature: Refrigerated
Unacceptable Conditions: Plasma, CSF, or other body fluids. Contaminated, heat-inactivated, grossly hemolyzed, severely icteric, or lipemic specimens.
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 1 week; Frozen: 1 month

**Reference Interval:**

| Test Number | Components | Reference Interval |
|---|---|---|
| | Albumin | 3.75-5.01 g/dL |
| | Alpha-1 Globulins | 0.19-0.46 g/dL |
| | Alpha-2 Globulins | 0.48-1.05 g/dL |
| | Beta Globulins | 0.48-1.10 g/dL |
| | Gamma | 0.62-1.51 g/dL |
| 0050340 | Immunoglobulin A | Effective February 16, 2021<br>0-2 years: 2-126 mg/dL<br>3-4 years: 14-212 mg/dL<br>5-9 years: 52-226 mg/dL<br>10-14 years: 42-345 mg/dL<br>15-18 years: 60-349 mg/dL<br>19 years and older: 68-408 mg/dL |
| 0050350 | Immunoglobulin G | Effective February 16, 2021<br>0-2 years: 242-1108 mg/dL<br>3-4 years: 485-1160 mg/dL<br>5-9 years: 514-1672 mg/dL<br>10-14 years: 581-1652 mg/dL<br>15-18 years: 479-1433 mg/dL<br>19 years and older: 768-1632 mg/dL |
| 0050355 | Immunoglobulin M | Effective February 16, 2021<br>0-2 years: 21-215 mg/dL<br>3-4 years: 26-155 mg/dL<br>5-9 years: 26-188 mg/dL<br>10-14 years: 47-252 mg/dL<br>15-18 years: 26-232 mg/dL<br>19 years or older: 35-263 mg/dL |
| | Total Protein, Serum | August 19,2019<br>Refer to Report |
| | Asialo-GM1 Antibodies, IgG/IgM | 29 IV or less: Negative<br>30-50 IV: Equivocal<br>51-100 IV: Positive<br>101 IV or greater: Strong Positive |
| | GM1 Antibodies, IgG/IgM | 29 IV or less: Negative<br>30-50 IV: Equivocal<br>51-100 IV: Positive<br>101 IV or greater: Strong Positive |
| | GD1a Antibodies, IgG/IgM | 29 IV or less: Negative<br>30-50 IV: Equivocal<br>51-100 IV: Positive<br>101 IV or greater: Strong Positive |
| | GD1b Antibodies, IgG/IgM | 29 IV or less: Negative<br>30-50 IV: Equivocal<br>51-100 IV: Positive<br>101 IV or greater: Strong Positive |
| | GQ1b Antibodies, IgG/IgM | 29 IV or less: Negative<br>30-50 IV: Equivocal<br>51-100 IV: Positive<br>101 IV or greater: Strong Positive |
| 0051284 | Sulfate-3-Glucuronyl Paragloboside (SGPG) Antibody, IgM | Less than 1.00 IV |
| 0051285 | Myelin Associated Glycoprotein (MAG) Antibody, IgM | Less than 1000 TU |
| 2007961 | | Effective August 17, 2020 |

| Test Number | Components | Reference Interval |
|---|---|---|

| | | | | |
|---|---|---|---|---|
| | Paraneoplastic Antibodies (PCCA/ANNA) by IFA with Reflex to Titer and Immunoblot | | Purkinje Cell/Neuronal Nuclear IgG Scrn | None Detected |
| | | | Neuronal Nuclear Antibody (ANNA) IFA Titer, IgG | Less than 1:10 |
| | | | Purkinje Cell Antibody, Titer | Less than 1:10 |
| | | 3002917 | Neuronal Nuclear Antibodies (Hu, Ri, Yo, Tr/DNER) IgG by Immunoblot, Serum | Refer to report |

**0051225** **Motor Neuropathy Panel** **MSN PAN**

**Methodology:** Semi-Quantitative Enzyme-Linked Immunosorbent Assay/Quantitative Immunoturbidimetry/Quantitative Capillary Electrophoresis/Qualitative Immunofixation Electrophoresis/Quantitative Spectrophotometry

**Reference Interval:**

| Test Number | Components | Reference Interval |
|---|---|---|
| | Asialo-GM1 Antibodies, IgG/IgM | |
| | | 29 IV or less — Negative<br>30-50 IV — Equivocal<br>51-100 IV — Positive<br>101 IV or greater — Strong Positive |
| | GM1 Antibodies, IgG/IgM | |
| | | 29 IV or less — Negative<br>30-50 IV — Equivocal<br>51-100 IV — Positive<br>101 IV or greater — Strong Positive |
| | GD1a Antibodies, IgG/IgM | |
| | | 29 IV or less — Negative<br>30-50 IV — Equivocal<br>51-100 IV — Positive<br>101 IV or greater — Strong Positive |
| | GD1b Antibodies, IgG/IgM | |
| | | 29 IV or less — Negative<br>30-50 IV — Equivocal<br>51-100 IV — Positive<br>101 IV or greater — Strong Positive |
| | GQ1b Antibodies, IgG/IgM | |
| | | 29 IV or less — Negative<br>30-50 IV — Equivocal<br>51-100 IV — Positive<br>101 IV or greater — Strong Positive |
| | Total Protein, Serum | August 19,2019<br>Refer to Report |
| | Albumin | 3.75-5.01 g/dL |
| | Alpha-1 Globulins | 0.19-0.46 g/dL |
| | Alpha-2 Globulins | 0.48-1.05 g/dL |
| | Beta Globulins | 0.48-1.10 g/dL |
| | Gamma | 0.62-1.51 g/dL |
| 0050340 | Immunoglobulin A | Effective February 16, 2021 |
| | | 0-2 years: 2-126 mg/dL<br>3-4 yaers: 14-212 mg/dL<br>5-9 years: 52-226 mg/dL<br>10-14 years: 42-345 mg/dL<br>15-18 years: 60-349 mg/dL<br>19 years and older: 68-408 mg/dL |
| 0050350 | Immunoglobulin G | Effective February 16, 2021 |
| | | 0-2 years: 242-1108 mg/dL<br>3-4 years: 485-1160 mg/dL<br>5-9 years: 514-1672 mg/dL<br>10-14 years: 581-1652 mg/dL<br>15-18 years: 479-1433 mg/dL<br>19 years and older: 768-1632 mg/dL |
| 0050355 | Immunoglobulin M | Effective February 16, 2021 |
| | | 0-2 years: 21-215 mg/dL<br>3-4 yaers: 26-155 mg/dL<br>5-9 years: 26-188 mg/dL<br>10-14 years: 47-252 mg/dL<br>15-18 years: 26-232 mg/dL<br>19 years and older: 35-263 mg/dL |
| 0051285 | Myelin Associated Glycoprotein (MAG) Antibody, IgM | Less than 1000 TU |
| 0051284 | Sulfate-3-Glucuronyl Paragloboside (SGPG) Antibody, IgM | Less than 1.00 IV |

**New Test** **3003566** **Mucopolysaccharidoses Type 1/2, Total Heparan Sulfate and NRE (Sensi-Pro®) Quantitative, Serum or Plasma** **MPS 1/2 SP**

Available Now
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Patient History for Mucopolysaccharidosis (MPS) Testing

Test not New York DOH approved at any laboratory. An approved NPL form must accompany specimen.

**Methodology:** Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
**Performed:** Varies
**Reported:** 2-3 weeks

**Specimen Required:** Patient Prep: N/A
Collect: Lavender ($K_2$EDTA, $K_3$EDTA), Plain Red, or Serum Separator Tube (SST).
Specimen Preparation: Transfer 500 µL serum or plasma to ARUP Standard transport Tube and freeze immediately. (Min 250 µL)
Storage/Transport Temperature: Critical Frozen
Remarks: N/A
Unacceptable Conditions: Plasma collected in green (heparin) tube. Ambient or Refrigerated Specimens
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 1 month (avoid repeated freeze /thaw cycles)

**Reference Interval:** By report

**Interpretive Data:**

Total Heparan Sulfate, Serum/Plasma is a sum of the internal disaccharides D0A0 and D0S0.
NRE = Non Reducing End

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**CPT Code(s):** 83864

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3003552** **Mucopolysaccharidoses Type 1/2, Total Heparan Sulfate and NRE (Sensi-Pro®) Quantitative, Urine** **MPS 1/2 U**

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Patient History for Mucopolysaccharidosis (MPS) Testing

Test not New York DOH approved at any laboratory. An approved NPL form must accompany specimen.

**Methodology:** Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
**Performed:** Varies
**Reported:** 2-3 weeks

**Specimen Required:** Patient Prep: First catch urine is preferred.
Collect: Urine
Specimen Preparation: Transfer 2mL urine to ARUP Standard transport Tube and freeze immediately. (Min 1 mL)
Storage/Transport Temperature: Frozen
Remarks: N/A
Unacceptable Conditions: Specimens containing preservatives or heparin
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 1 month (avoid repeated freeze /thaw cycles)

**Reference Interval:** By report

**Interpretive Data:**
Refer to report.
Total Heparan Sulfate, Urine is a sum of the internal disaccharides D0A0 and D0S0.
NRE = Non Reducing End

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**CPT Code(s):** 83864

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3003487** **Mucopolysaccharidoses Type 4A/6 Total Chondroitin Sulfate and Dermatan Sulfate with NRE (Sensi-Pro®) Quantitative, Serum** **MPS 4A/6 S**

Available Now
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Patient History for Mucopolysaccharidosis (MPS) Testing

Test not New York DOH approved at any laboratory. An approved NPL form must accompany specimen.

**Methodology:** Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
**Performed:** Varies
**Reported:** 2-3 weeks

**Specimen Required:** Patient Prep: N/A
Collect: Serum (Serum Separator Tube (SST)).
Specimen Preparation: Transfer 500 µL serum to ARUP Standard transport Tube and freeze immediately. (Min 300 µL)
Storage/Transport Temperature: Frozen
Remarks: N/A
Unacceptable Conditions: N/A
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 1 week; Frozen: 4 month (3 freeze thaw cycles are acceptable)

**Reference Interval:** By report

**Interpretive Data:**

Total Chondroitin Sulfate (CS) and Dermatan Sulfate (DS), Serum is a sum of the internal disaccharides D0a0, D0a4, and D0a6.
NRE = Non Reducing End

This test was developed, and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**CPT Code(s):** 83864

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3003539** **Mucopolysaccharidoses Type 4A/6 Total CS-DS and NRE (Sensi-Pro®) Quantitative, Urine** **MPS 4A/6 U**

Available Now
Click for Pricing

Patient History for Mucopolysaccharidosis (MPS) Testing

Test not New York DOH approved at any laboratory. An approved NPL form must accompany specimen.

**Methodology:** Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)
**Performed:** Varies
**Reported:** 2-3 weeks

**Specimen Required:** Patient Prep: N/A
Collect: Urine
Specimen Preparation: Transfer 0.25 mL urine to polypropylene sample tube and freeze immediately. (Min 0.15 mL)
Storage/Transport Temperature: Critical Frozen
Remarks: N/A
Unacceptable Conditions: Specimens containing preservatives or heparin
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 1 year (3 freeze thaw cycles are acceptable)

**Reference Interval:** By report

**Interpretive Data:**
Refer to report.
Total Chondroitin Sulfate and Dermatan Sulfate, Urine is a sum of the internal disaccharides D0a0, D0a4, and D0a6.
NRE = Non Reducing End

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**CPT Code(s):** 83864

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**0092168** **Niacin (Vitamin $B_3$)** **NIACIN B3**

**Specimen Required:** Collect: Lavender ($K_2$ or $K_3$ EDTA).
Specimen Preparation: **Protect from light.** Transfer 4 mL plasma to an ARUP Amber Transport Tube (ARUP supply #54457) available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522-2787. (Min: 1 mL)
**Test is not performed at ARUP; separate specimens must be submitted when multiple tests are ordered.**
Storage/Transport Temperature: Frozen
Unacceptable Conditions: Specimens not protected from light. Grossly hemolyzed or lipemic specimens.
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 8 days; Frozen: 2 months

## 0080440 Oligoclonal Band Profile OLIGO

**Methodology:** Qualitative Isoelectric Focusing/Electrophoresis/Quantitative Immunoturbidimetry

**Specimen Required:** Collect: CSF **AND** serum separator tube or plain red. Serum specimen should be drawn within 48 hours of CSF collection.
Specimen Preparation: Allow serum to clot completely at room temperature. Separate serum from cells ASAP or within 2 hours of collection. Transport 1.5 mL CSF. (Min: 1.0 mL) **AND** transfer 1 mL serum to an ARUP Standard Transport Tube. (Min: 0.6 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly bloody or hemolyzed specimens or severe lipemia.
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 2 week; Frozen: 6 months

**Reference Interval:**

| Test Number | Components | Reference Interval |
|---|---|---|
| 0050350 | Immunoglobulin G | Effective February 16, 2021<br>0-2 years: 242-1108 mg/dL<br>3-4 years: 485-1160 mg/dL<br>5-9 years: 514-1672 mg/dL<br>10-14 years: 581-1652 mg/dL<br>15-18 years: 479-1433 mg/dL<br>19 years or older: 768-1632 mg/dL |
| 3003485 | Immunoglobulin G, CSF | 0.0-6.0 mg/dL |
| 0050200 | Albumin, CSF | 0-35 mg/dL |
| | Albumin Index | 0.0-9.0 |
| | CSF IgG/Albumin Ratio | 0.09-0.25 |
| | IgG Index | 0.28-0.66 |
| | CSF Oligoclonal Bands | Negative |
| | Interpretation | By report |
| | CSF IgG Synthesis Rate | Less than or equal to 8.0 mg/d |
| 0050671 | Albumin Serum | 3500-5200 mg/dL |
| | Oligoclonal Bands Number, CSF | 0 - 1 Bands |

**HOTLINE NOTE:** There is a clinically significant charting name change associated with this test.
Change the charting name for component 0050671, Albumin by Nephelometry from Albumin by Nephelometry to Albumin Serum.

## 0081135 Oligoclonal Bands in CSF and Serum OLIGOB

**Specimen Required:** Collect: CSF **AND** serum separator tube or plain red. Serum specimen should be drawn within 48 hours of CSF collection.
Specimen Preparation: Allow serum to clot completely at room temperature. Separate serum from cells ASAP or within 2 hours of collection. Transport 1.5 mL CSF (Min: 0.7 mL) **AND** transfer 1 mL serum to an ARUP Standard Transport Tube (Min: 0.6 mL).
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Grossly bloody or hemolyzed specimens or severe lipemia.
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 14 days; Frozen: 6 months

**2007479** **Drug Profile, Targeted by Tandem Mass Spectrometry and Enzyme Immunoassay, Urine** **PAIN HYB U**

**Reference Interval:** Effective February 16, 2021

**Drugs covered and range of cutoff concentrations.**
**Note: Some drugs are identified based on the presence of unique drug metabolites not listed below.**

| Drugs/Drug Classes | Range of Cutoff Concentrations |
|---|---|
| **Barbiturates** | 200 ng/mL |
| **Benzodiazepine-like:** alprazolam, clonazepam, diazepam, lorazepam, midazolam, nordiazepam, oxazepam, temazepam, zolpidem | 20-60 ng/mL |
| **Cannabinoids (11-nor-9-carboxy-THC)** | 20 ng/mL |
| **Ethyl Glucuronide** | 500 ng/mL |
| **Muscle Relaxant(s):** carisoprodol, meprobamate | 100 ng/mL |
| **Opiates/Opioids:** buprenorphine, codeine, fentanyl, heroin, hydrocodone, hydromorphone, meperidine, methadone, morphine, naloxone, oxycodone, oxymorphone, tapentadol, tramadol | 2-200 ng/mL |
| **GABA analogues:** Gabapentin, pregabalin | 100 ng/mL |
| **Phencyclidine (PCP)** | 25 ng/mL |
| **Stimulants:** amphetamine, cocaine, methamphetamine, methylphenidate, MDMA (Ecstasy), MDEA (Eve), MDA, phentermine | 50-200 ng/mL |

**HOTLINE NOTE:** There is a clinically significant charting name change associated with this test.
Change the charting name for component 2007647, Hydromorphone (cutoff 40 ng/mL) from Hydromorphone (cutoff 40 ng/mL) to Hydromorphone (cutoff 20 ng/mL).
Change the charting name for component 2007662, Amphetamine (cutoff 100 ng/mL) from Amphetamine (cutoff 100 ng/mL) to Amphetamine (cutoff 50 ng/mL).
Change the charting name for component 2007663, Methamphetamine (cutoff 400 ng/mL) from Methamphetamine (cutoff 400 ng/mL) to Methamphetamine (cutoff 200 ng/mL).
There is a component change associated with this test.
Add component 3003502, Naloxone (cutoff 100 ng/mL)
Add component 3003499, Alpha-OH-Midazolam (cutoff 20 ng/mL)
Add component 3003500, Zolpidem Metabolite (cutoff 100 ng/mL)
Add component 3003501, Gabapentin (cutoff 100 ng/mL)
Add component 3003503, Pregabalin (cutoff 100 ng/mL)
Remove component 2007659, Propoxyphene (cutoff 300 ng/mL)

## 2009288 Drug Profile, Targeted with Interpretation by Tandem Mass Spectrometry and Enzyme Immunoassay, Urine — PAIN HYB 2

**Reference Interval:** Effective February 16, 2021

**Drugs covered and range of cutoff concentrations.**
**Note: Some drugs are identified based on the presence of unique drug metabolites not listed below.**

| Drugs/Drug Classes | Range of Cutoff Concentrations |
|---|---|
| Barbiturates | 200 ng/mL |
| **Benzodiazepine-like:** alprazolam, clonazepam, diazepam, lorazepam, midazolam, nordiazepam, oxazepam, temazepam, zolpidem | 20 - 60 ng/mL |
| **Cannabinoids (11-nor-9-carboxy-THC)** | 20 ng/mL |
| **Ethyl Glucuronide** | 500 ng/mL |
| **Muscle Relaxant(s):** carisoprodol, meprobamate | 100 ng/mL |
| **Opiates/Opioids:** buprenorphine, codeine, fentanyl, heroin, hydrocodone, hydromorphone, meperidine, methadone, morphine, naloxone, oxycodone, oxymorphone, tapentadol, tramadol | 2-200 ng/mL |
| **GABA analogues:** Gabapentin, pregabalin | 100 ng/mL |
| **Phencyclidine (PCP)** | 25 ng/mL |
| **Stimulants:** amphetamine, cocaine, methamphetamine, methylphenidate, MDMA (Ecstasy), MDEA (Eve), MDA, phentermine | 50-200 ng/mL |

**HOTLINE NOTE:** There is a clinically significant charting name change associated with this test.
Change the charting name for component 2007647, Hydromorphone (cutoff 40 ng/mL) from Hydromorphone (cutoff 40 ng/mL) to Hydromorphone (cutoff 20 ng/mL).
Change the charting name for component 2007662, Amphetamine (cutoff 100 ng/mL) from Amphetamine (cutoff 100 ng/mL) to Amphetamine (50 ng/mL).
Change the charting name for component 2007663, Methamphetamine (cutoff 400 ng/mL) from Methamphetamine (cutoff 400 ng/mL) to Methamphetamine (cutoff 200 ng/mL).
There is a component change associated with this test.
Add component 3003502, Naloxone (cutoff 100 ng/mL)
Add component 3003499, Alpha-OH-Midazolam (cutoff 20 ng/mL)
Add component 3003500, Zolpidem Metabolite (cutoff 100 ng/mL)
Add component 3003501, Gabapentin (cutoff 100 ng/mL)
Add component 3003503, Pregabalin (cutoff 100 ng/mL)
Remove component 2007659, Propoxyphene (cutoff 300 ng/mL)

## 3000455 Ph-Like Acute Lymphoblastic Leukemia (ALL) Panel by FISH — F PHLK ALL

**HOTLINE NOTE:** Name change only.

## 2002871 *PML-RARA* Detection by RT-PCR, Quantitative — PML QNT

**HOTLINE NOTE:** There is a component change associated with this test.
Add component 3003498, PML-RARA Translocation Source

## 2002109 Protein Electrophoresis with Reflex to Immunofixation, Serum — SPEP REFLEX

**Methodology:** Quantitative Capillary Electrophoresis/Qualitative Immunofixation Electrophoresis/Quantitative Immunoturbidimetry/Quantitative Spectrophotometry

**Reference Interval:**

| Test Number | Components | Reference Interval |
|---|---|---|
| 0050640 | Protein Electrophoresis, Serum | Effective August 19, 2019 |

| Test Number | Components | Reference Interval |
|---|---|---|
| | Total Protein, Serum | Refer to report |
| | Albumin | Refer to report |
| | Alpha-1 Globulins | Refer to report |
| | Alpha-2 Globulins | Refer to report |
| | Beta Globulins | Refer to report |
| | Gamma | Refer to report |

| | | |
|---|---|---|
| 0050350 | Immunoglobulin G | Effective February 16, 2021<br>0-2 years: 242-1108 mg/dL<br>3-4 years: 485-1160 mg/dL<br>5-9 years: 514-1672 mg/dL<br>10-14 years: 581-1652 mg/dL<br>15-18 years: 479-1433 mg/dL<br>19 years and older: 768-1632 mg/dL |
| 0050340 | Immunoglobulin A | Effective February 16, 2021<br>0-2 years: 2-126 mg/dL<br>3-4 years: 14-212 mg/dL<br>5-9 years: 52-226 mg/dL<br>10-14 years: 42-345 mg/dL<br>15-18 years: 60-349 mg/dL<br>19 years and older: 68-408 mg/dL |
| 0050355 | Immunoglobulin M | Effective February 16, 2021<br>0-2 years: 21-215 mg/dL<br>3-4 years: 26-155 mg/dL<br>5-9 years: 26-188 mg/dL<br>10-14 years: 47-252 mg/dL<br>15-18 years: 26-232 mg/dL<br>19 years and older: 35-263 mg/dL |

## 2010138 *RUNX1-RUNX1T1* (*AML1-ETO*) t(8;21) Detection, Quantitative — AML1-ETO Q

**HOTLINE NOTE:** There is a component change associated with this test.
Add component 3003497, RUNX1-RUNX1T1 Source

**New Test** **3003504** **Squamous Cell Carcinoma, Serum** **SCC S**
Click for Pricing

**Methodology:** Immunofluorescence
**Performed:** Tue
**Reported:** 1-8 days

**Specimen Required:** Collect: Serum separator tube or plain red.
Specimen Preparation: Allow specimen to clot completely at room temperature. Separate serum from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Frozen.
Unacceptable Conditions: Specimens exposed to repeated freeze/thaw cycles.
Stability (collection to initiation of testing): After separation from cells: Ambient: 48 hours; Refrigerated: 14 days; Frozen: 2 months

**Reference Interval:**

0.0-1.7 ng/mL

**Interpretive Data:**
This test is performed using the BRAHMS SCC Kryptor kit. Results obtained with different assay methods or kits cannot be used interchangeably. SCC Antigen levels alone should not be interpreted as evidence of the presence or absence of malignant disease. In patients with known or expected cancer, other tests and procedures must be considered for diagnosis and patient management. Elevated concentrations may also occur in benign conditions such as gynecological diseases, inflammatory lung disease, and liver or renal insufficiency.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**CPT Code(s):** 86316

New York DOH Approved.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**0092582** ***Stachybotrys chartarum/atra* Panel II** **STACHPANII**

**Performed:** Varies
**Reported:** 5-10 days

**2003128** **Tapentadol and Metabolite, Urine, Quantitative** **TAPENTA UR**

**Performed:** Mon
**Reported:** 1-8 days

**Specimen Required:** Collect: Random urine.
Specimen Preparation: Transfer 2 mL urine with no additives or preservatives to an ARUP Standard Transport Tube. (Min: 1 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Specimens exposed to repeated freeze/thaw cycles.
Stability (collection to initiation of testing): Ambient: 1 week; Refrigerated: 1 month; Frozen: 3 years.

**New Test** **3003458** **Trypsin by Immunohistochemistry** **TRYPS IHC**
Available Now
Click for Pricing

**Methodology:** Immunohistochemistry
**Performed:** Mon-Fri
**Reported:** 1-3 days

**Specimen Required:** Collect: Tissue.
Specimen Preparation: Formalin fix (10 percent neutral buffered formalin) and paraffin embed specimen (cells must be prepared into a cellblock). Protect paraffin block and/or slides from excessive heat. Transport tissue block or 5 unstained (3- to 5-micron thick sections), positively charged slides in a tissue transport kit (recommended but not required), (ARUP supply #47808) available online through eSupply using ARUP Connect or contact ARUP Client Services at (800) 522-2787. (Min: 2 slides) If sending precut slides, do not oven bake.
Storage/Transport Temperature: Room temperature. Also acceptable: Refrigerated. Ship in cooled container during summer months.
Unacceptable Conditions: Specimens submitted with non-representative tissue type. Depleted specimens.
Stability (collection to initiation of testing): Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable

**Interpretive Data:**

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

**Note:** This test is performed as a stain and return (technical) service only.

**CPT Code(s):** 88342

New York DOH Approved.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3002100** **Tuberous Sclerosis Complex Panel, Sequencing and Deletion/Duplication** **TSC NGS**

Available Now
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**Methodology:** Massively Parallel Sequencing/Genomic Microarray (Oligo-based Array)
**Performed:** Varies
**Reported:** 3-6 weeks

**Specimen Required:** Collect: Lavender (EDTA) or Yellow (ACD Solution A or B).
Specimen Preparation: Transport 3 mL whole blood. (Min: 1.5 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Serum or plasma; grossly hemolyzed or frozen specimens
Stability (collection to initiation of testing): Ambient: 72 hours; Refrigerated: 1 week; Frozen: Unacceptable

**Reference Interval:** By report

**Interpretive Data:**
Refer to report.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

Counseling and informed consent are recommended for genetic testing. Consent forms are available online.

**Note:** Genes tested: *TSC1, TSC2*

**CPT Code(s):** 81405, 81406, 81407

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**New Test** **3002096** **Tuberous Sclerosis Complex Panel, Sequencing and Deletion/Duplication, Fetal** **TSC NGS FE**

Available Now
Click for Pricing

**Methodology:** Massively Parallel Sequencing/Genomic Microarray (Oligo-based Array)
**Performed:** Varies
**Reported:** 2-4 weeks, if culture is required an additional 1 to 2 weeks is required for processing time

**Specimen Required:** Collect: **Fetal Specimen:** Four (4) T-25 flasks at 80 percent confluent of cultured amniocytes or cultured CVS. **If the client is unable to culture, this can be arranged by contacting ARUP Client Services at (800) 522-2787.**
AND **Maternal Cell Contamination Specimen:** Lavender ($K_2$EDTA), Pink ($K_3$EDTA), or Yellow (ACD Solution A or B).
Specimen Preparation: **Cultured Amniocytes or Cultured CVS:** Fill flasks with culture media. Transport four (4) T-25 flasks at 80 percent confluent of cultured cells filled with culture media. Backup cultures must be retained at the client's institution until testing is complete.
AND **Maternal Cell Contamination Specimen:** Transport 3 mL whole blood (Min: 1 mL)
Storage/Transport Temperature: **Culture Amniocytes or Cultured CVS:** CRITICAL ROOM TEMPERATURE. Must be received within 48 hours of shipment due to lability of cells.
**Maternal Cell Contamination Specimen:** Room temperature.
Stability (collection to initiation of testing): **Culture Amniocytes or Cultured CVS:** Ambient: 48 hours; Refrigerated: Unacceptable; Frozen: Unacceptable
**Maternal Cell Contamination Specimen:** Ambient: 72 hours; Refrigerated: 1 week; Frozen: Unacceptable

**Reference Interval:** By report

**Interpretive Data:**
Refer to report.

This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA certified laboratory and is intended for clinical purposes.

Counseling and informed consent are recommended for genetic testing. Consent forms are available online.

**Note:** Reported times are based on receiving the four T-25 flasks at 80 percent confluent. Cell culture time is independent of testing turn-around time. Maternal specimen is recommended for proper test interpretation. Order Maternal Cell Contamination.

Genes tested: *TSC1 TSC2*

**CPT Code(s):** 81405; 81406; 81407; 81265

New York DOH approval pending. Call for status update.

**HOTLINE NOTE:** Refer to the Test Mix Addendum for interface build information.

**2003184** **Vitamin $B_7$ (Biotin)** **B7**

**Specimen Required:** Collect: Plain red or serum separator tube (SST).
Specimen Preparation: **Protect from light.** Allow specimen to clot for 30 minutes and separate from cells. Transfer 2 mL serum to an ARUP Amber Transport Tube (ARUP supply #54457) available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522-2787. (Min: 1 mL)
**Test is not performed at ARUP; separate specimens must be submitted when multiple tests are ordered.**
Storage/Transport Temperature: Frozen
Unacceptable Conditions: Grossly hemolyzed or lipemic specimens. Specimens not protected from light.
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 1 week; Frozen: 2 weeks

## 2007136 von Willebrand Factor (VWF) Collagen Binding — VWF C BIND

**Methodology:** Enzyme-Linked Immunosorbent Assay
**Performed:** Varies
**Reported:** 3-9 days

**Specimen Required:** Collect: Light Blue (CTAD).
Specimen Preparation: Transfer 1.0 mL citrated plasma to an ARUP Standard Transport Tube. (Min: 0.5 mL)
**Test is not performed at ARUP; separate specimens must be submitted when multiple tests are ordered.**
Storage/Transport Temperature: **CRITICAL FROZEN.**
Unacceptable Conditions: Hemolyzed specimens.
Stability (collection to initiation of testing): Ambient: 24 hours; Refrigerated: 24 hours; Frozen: 3 weeks

**HOTLINE NOTE:** There is a clinically significant charting name change associated with this test.
Change the charting name for component 2007137, von Willebrand Factor Collagen Binding from von Willebrand Factor Collagen Binding to VWF Collagen Binding.
There is a component change associated with this test.
Add component 3003442, VWF Ratio

HOTLINE: Effective February 16, 2021

**The following will be discontinued from ARUP's test menu on February 16, 2021.**
**Replacement test options are supplied if applicable.**

| Test Number | Test Name | Refer To Replacement |
|---|---|---|
| 0050671 | Albumin by Nephelometry | Albumin, Serum or Plasma by Spectrophotometry (0020030) |
| 0051786 | Alport Syndrome, X-linked (COL4A5) Sequencing | |
| 2010113 | Beta Globin (HBB) Deletion/Duplication | Deletion/Duplication Analysis by MLPA (3003144) |
| 2011450 | Carisoprodol and Meprobamate, Serum or Plasma, Quantitative | |
| 2012717 | CHARGE Syndrome (CHD7) Sequencing, Fetal | |
| 2012609 | CHARGE Syndrome, CHD7 Sequencing | |
| 2010696 | EIF2AK4-Associated Disorders (EIF2AK4) Sequencing | |
| 0051381 | Hereditary Hemorrhagic Telangiectasia (ACVRL1 and *ENG*) Sequencing | |
| 2012482 | HLA-A by Next Generation Sequencing | |
| 2012486 | HLA-B by Next Generation Sequencing | |
| 2012490 | HLA-C by Next Generation Sequencing | |
| 2012502 | HLA-DPB1 by Next Generation Sequencing | |
| 2012498 | HLA-DQB1 by Next Generation Sequencing | |
| 2001728 | HNPCC/Lynch Syndrome Deletion/Duplication | Deletion/Duplication Analysis by MLPA (3003144) |
| 0050525 | Immunoglobulin A, Saliva | Immunoglobulin A (0050340) |
| 0099200 | Immunoglobulin D, Serum | Immunoglobulin D, Serum (3003486) |
| 0050571 | Immunoglobulin G Subclass 1 | Immunoglobulin G Subclasses (1, 2, 3, 4) (0050577) |
| 0050572 | Immunoglobulin G Subclass 2 | Immunoglobulin G Subclasses (1, 2, 3, 4) (0050577) |
| 0050573 | Immunoglobulin G Subclass 3 | Immunoglobulin G Subclasses (1, 2, 3, 4) (0050577) |
| 0050670 | Immunoglobulin G, CSF | Immunoglobulin G, CSF (3003485) |
| 2004680 | Interleukin 28 B (IL28B)-Associated Variants, 2 SNPs | |
| 2002888 | Kappa/Lambda Light Chain Panel by in situ Hybridization, Paraffin | Kappa/Lambda Light Chain Panel by in situ Hybridization on Paraffin (3003506) |
| 2013595 | Kappa/Lambda Light Chain Panel by In Situ Hybridization, Stain Only | Kappa/Lambda Light Chain Panel by In Situ Hybridization Stain Only (3003525) |
| 3001379 | Liver Fibrosis - FibroMeter Vibration Controlled Transient Elastography (FibroMeter plus FibroScan VCTE) | |
| 2011521 | Meprobamate, Serum or Plasma, Quantitative | |
| 2007599 | Mucopolysaccharidosis Type 1, Total HS and NRE (Sensi-Pro®) Quantitative, Serum or Plasma | Mucopolysaccharidoses Type 1/2, Total HS and NRE (Sensi-Pro®) Quantitative, Serum or Plasma (3003566) |
| 2007488 | Mucopolysaccharidosis Type 1, Total HS and NRE (Sensi-Pro®) Quantitative, Urine | Mucopolysaccharidoses Type 1/2, Total HS and NRE (Sensi-Pro®) Quantitative, Urine (3003552) |
| 2008775 | Mucopolysaccharidosis Type II, Total HS and NRE (Sensi-Pro®) Quantitative, Serum or Plasma | Mucopolysaccharidoses Type 1/2, Total HS and NRE (Sensi-Pro®) Quantitative, Serum or Plasma (3003566) |
| 2009282 | Mucopolysaccharidosis Type II, Total HS and NRE (Sensi-Pro®) Quantitative, Urine | Mucopolysaccharidoses Type 1/2, Total HS and NRE (Sensi-Pro®) Quantitative, Urine (3003552) |
| 2001952 | Neurofibromatosis Type 1 (NF1) Deletion/Duplication | Deletion/Duplication Analysis by MLPA (3003144) |
| 2004189 | Noonan Syndrome (PTPN11) Sequencing with Reflex to (*SOS1)* Sequencing | |
| 0099289 | Organic Acids, Plasma | Organic Acids, Urine (0098389) |
| 3001760 | Pancreatitis (PRSS1) Deletion/Duplication | Deletion/Duplication Analysis by MLPA (3003144) |
| 3001764 | Pancreatitis (SPINK1) Deletion/Duplication | Deletion/Duplication Analysis by MLPA (3003144) |
| 0051682 | Primary Carnitine Deficiency (SLC22A5) Sequencing | |
| 3001395 | SHOX-Related Disorders, Deletion/Duplication | Deletion/Duplication Analysis by MLPA (3003144) |
| 0081054 | Squamous Cell Carcinoma Antigen, Serum | Squamous Cell Carcinoma, Serum (3003504) |