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.

<table>
<thead>
<tr>
<th>Hotline Page #</th>
<th>Test Number</th>
<th>Summary of Changes by Test Name</th>
<th>Name Change</th>
<th>Methodology</th>
<th>Performed/Reported Schedule</th>
<th>Specimen Requirements</th>
<th>Reference Interval</th>
<th>Interpretive Data</th>
<th>Note</th>
<th>CPT Code</th>
<th>Component Change</th>
<th>Other Interface Change</th>
<th>New Test</th>
<th>Inactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2007473</td>
<td>Adenovirus by Qualitative PCR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>0098470</td>
<td>Allergen, Grass, Salt Grass IgE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0060143</td>
<td>Anaerobe Culture and Gram Stain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3000265</td>
<td>Aspergillus Species by PCR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3001431</td>
<td>Autoimmune Encephalitis Extended Panel, Serum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0093057</td>
<td>Bartonella Species by PCR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0055570</td>
<td>Borrelia Species by PCR (Lyme Disease)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2013798</td>
<td>Candida Species by PCR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotline Page #</td>
<td>Test Number</td>
<td>Summary of Changes by Test Name</td>
<td>Name Change</td>
<td>Methodology</td>
<td>Performed/Reported Schedule</td>
<td>Specimen Requirements</td>
<td>Reference Interval</td>
<td>Interpretive Data</td>
<td>Note</td>
<td>CPT Code</td>
<td>Component Change</td>
<td>Other Interface Change</td>
<td>New Test</td>
<td>Inactive</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>--------------------------------</td>
<td>-------------</td>
<td>-------------</td>
<td>----------------------------</td>
<td>----------------------</td>
<td>-------------------</td>
<td>------------------</td>
<td>------</td>
<td>----------</td>
<td>-----------------</td>
<td>----------------------</td>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td>11</td>
<td>3001132</td>
<td>Capillary Malformation-Arteriovenous Malformation (EPHB4 and RASA1) Sequencing, and (RASA1) Deletion/Duplication</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>3001129</td>
<td>Capillary Malformation-Arteriovenous Malformation 2 (EPHB4) Sequencing</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0060715</td>
<td><em>Chlamydia pneumoniae</em> by PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2013768</td>
<td><em>Chlamydia trachomatis</em> L serovars (LGV) by PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3003039</td>
<td>Cyanide, Whole Blood</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0060040</td>
<td>Cytomegalovirus by Qualitative PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0050246</td>
<td>Epstein-Barr Virus by Qualitative PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>0051382</td>
<td>Hereditary Hemorrhagic Telangiectasia (ACVRL1 and ENG) Sequencing and Deletion/Duplication</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>2009008</td>
<td>Hereditary Hemorrhagic Telangiectasia (ACVRL1 and ENG) Sequencing and Deletion/Duplication with Reflex to Juvenile Polyposis (SMAD4) Sequencing and Deletion/Duplication</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>2011148</td>
<td>Herpes Simplex Virus (HSV) by PCR with Reflex to HSV (HSV-1/HSV-2) Subtype by PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>2010095</td>
<td>Herpes Simplex Virus (HSV-1/HSV-2) Subtype by PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0060041</td>
<td>Herpes Simplex Virus by PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0060071</td>
<td>Human Herpesvirus 6 (HHV-6A and HHV-6B) by Quantitative PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>2013089</td>
<td>Human Herpesvirus 8 (HHV-8) by Quantitative PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0099169</td>
<td>JC Virus by PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>2001971</td>
<td>Juvenile Polyposis (SMAD4) Sequencing and Deletion/Duplication</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>2010125</td>
<td>Legionella Species by Qualitative PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>3000352</td>
<td>Mucorales by PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0060256</td>
<td><em>Mycoplasma pneumoniae</em> by PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2012729</td>
<td>Non-Criteria Antiphospholipid Syndrome (APS) (aPs, aPt, aPs/aPt) Antibodies Panel</td>
<td>x x x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>0060043</td>
<td>Parvovirus B19 by Qualitative PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>2006495</td>
<td>Phosphatidylinerine Antibodies, IgG and IgM</td>
<td>x x x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>0050905</td>
<td>Phosphatidylinerine Antibodies, IgG, IgM, and IgA</td>
<td>x x x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>2007852</td>
<td>RASA1-Related Disorders (RASA1) Sequencing and Deletion/Duplication</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>0055591</td>
<td><em>Toxoplasma gondii</em> by PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>2013290</td>
<td>Tropheryma whippelii PCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotline Page #</td>
<td>Test Number</td>
<td>Summary of Changes by Test Name</td>
<td>Name Change</td>
<td>Methodology</td>
<td>Performed/Reported Schedule</td>
<td>Specimen Requirements</td>
<td>Reference Interval</td>
<td>Interpretive Data</td>
<td>Note</td>
<td>CPT Code</td>
<td>Component Change</td>
<td>Other Interface Change</td>
<td>New Test</td>
<td>Inactive</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------</td>
<td>---------------------------------</td>
<td>-------------</td>
<td>-------------</td>
<td>-----------------------------</td>
<td>----------------------</td>
<td>-------------------</td>
<td>-----------------</td>
<td>------</td>
<td>----------</td>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td>10</td>
<td>0060042</td>
<td>Varicella-Zoster Virus by PCR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**2007473**  
**Adenovirus by Qualitative PCR**  
ADENOPCR

**Specimen Required:**  
Collect: Lavender (EDTA), pink (K<sub>2</sub>EDTA), or serum separator tube. Also acceptable: Bronchoalveolar lavage (BAL), CSF, nasopharyngeal swab, sputum, or tissue.  
Specimen Preparation: Do not freeze whole blood specimens. Transfer 1 mL whole blood, serum, plasma, BAL, CSF, or sputum to a sterile container. (Min: 0.5 mL)  
Swabs: Transfer to viral transport media (ARUP supply #12884). Available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522 2787.  
Tissue: Transfer to a sterile container and freeze immediately.

**Performed:** Sun-Sat  
**Reported:** Negative at 6 days (Rule out Actinomyces at 10 days)  
Positives as soon as detected

**006143**  
**Anaerobe Culture and Gram Stain**  
MC ANA

**Performed:** Sun-Sat  
**Reported:** Negative at 6 days (Rule out Actinomyces at 10 days)  
Positives as soon as detected

**3000265**  
**Aspergillus Species by PCR**  
ASPERPCR

**Specimen Required:**  
Collect: Bronchoalveolar lavage (BAL), bronchial wash, sputum, or tissue.  
Specimen Preparation: Transfer 1 mL bronchoalveolar lavage (BAL), bronchial wash, sputum to a sterile container. (Min: 0.9 mL)  
Tissue: Transfer tissue to a sterile container and freeze immediately.

**Performed:** Sun-Sat  
**Reported:** Negative at 6 days (Rule out Actinomyces at 10 days)  
Positives as soon as detected

**3001431**  
**Autoimmune Encephalitis Extended Panel, Serum**  
ENCEPH EXT

**CPT Code(s):**  
83519; 86341;  
83516, if reflexed add 86255, if further reflexed add 86256  
86255 x6, if reflexed add 86256 per titer
**0093057**  
**Bartonella Species by PCR**  
**BART DNA**

**Specimen Required:** Collect: Lavender (EDTA), pink (K<sub>2</sub>EDTA) or serum separator tube. Also acceptable: CSF or tissue.  
**Specimen Preparation:** Separate serum or plasma from cells. Transfer 1 mL serum, plasma, whole blood, or CSF to a sterile container. (Min: 0.5 mL). OR Tissue: Transfer to a sterile container and freeze immediately.  
**Storage/Transport Temperature:** Whole blood: Refrigerated. All others: Frozen.  
**Remarks:** Specimen source required.  
**Unacceptable Conditions:** Tissues in optimal cutting temperature compound.  
**Stability (collection to initiation of testing):** Whole Blood: Ambient: 7 days; Refrigerated: 7 days; Frozen: 7 days.  
**Tissue:** Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 1 month.  
**All Others:** Ambient: 24 hours; Refrigerated: 5 days; Frozen: 1 month.

---

**0055570**  
**Borrelia Species by PCR (Lyme Disease)**  
**LYMEPCR**

**Specimen Required:** Collect: Lavender (EDTA), pink (K<sub>2</sub>EDTA) or serum separator tube. OR CSF, synovial fluid or tissue.  
**Specimen Preparation:** Separate serum or plasma from cells. Transfer 1 mL serum, plasma, CSF or synovial fluid to a sterile container. (Min: 0.5 mL). OR Tissue: Transfer to a sterile container and freeze immediately.  
**Storage/Transport Temperature:** Frozen.  
**Remarks:** Specimen source required.  
**Unacceptable Conditions:** Heparinized specimens, tissues in optimal cutting temperature compound.  
**Stability (collection to initiation of testing):** Whole Blood: Unacceptable; Refrigerated: Unacceptable; Frozen: 1 year.  
**All Others:** Ambient: 8 hours; Refrigerated: 72 hours; Frozen: 1 year.

---

**2013798**  
**Candida Species by PCR**  
**CANDPCR**

**Specimen Required:** Collect: Body fluid, tissue, Lavender (K<sub>2</sub>EDTA) or Pink (K<sub>2</sub>EDTA).  
**Specimen Preparation:** Body Fluid: Transfer 1 mL body fluid to a sterile container. (Min: 0.5 mL).  
**Whole Blood:** Transfer 2 mL whole blood to a sterile container. (Min: 1 mL).  
**Tissue:** Transfer to a sterile container and freeze immediately.  
**Storage/Transport Temperature:** Body Fluid or Tissue: Frozen.  
**Whole Blood:** Refrigerated.  
**Remarks:** Specimen source required.  
**Unacceptable Conditions:** Plasma or serum, tissues in optimal cutting temperature compound.  
**Stability (collection to initiation of testing):** Body Fluid: Ambient: 2 weeks; Refrigerated: 2 weeks; Frozen: 2 weeks.  
**Whole Blood:** Ambient: 1 week; Refrigerated: 1 week; Frozen: 1 week.  
**Tissue:** Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 2 weeks.

---

**0060715**  
**Chlamydia pneumoniae by PCR**  
**CPNEUMOPCR**

**Specimen Required:** Collect: Respiratory specimen: Bronchoalveolar lavage (BAL), nasal wash, nasopharyngeal swab, or pleural fluid.  
**Specimen Preparation:** Fluid: Transfer 2 mL respiratory specimen to a sterile container. (Min: 0.5 mL) Also acceptable: Transfer to viral transport media (ARUP supply #12884). Available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522-2787. Place each specimen in a separate, individually sealed bag. Swabs: Place in viral transport media.  
**Storage/Transport Temperature:** Frozen.  
**Remarks:** Specimen source required.  
**Unacceptable Conditions:** Tissues in optimal cutting temperature compound.  
**Stability (collection to initiation of testing):** Ambient: 24 hours; Refrigerated: 14 days; Frozen: 1 month.
### Chlamydia trachomatis L serovars (LGV) by PCR
**CT LGV PCR**

**Specimen Required:**
- Collect: Vaginal, rectal, cervical, urethral, genital, or penile swab with APTIMA Unisex Swab Specimen Collection kit (ARUP supply #28907) OR in Viral Transport Media (ARUP supply #12884) available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522-2787.
- Also acceptable: Urine. Refer to “Sample Collection for the Diagnosis of STD” under Specimen Handling at www.aruplab.com for specific specimen collection and transport instructions.

**Specimen Preparation:**
- **APTIMA Swab:** Place blue swab in Swab Specimen Transport Tube, break shaft off at scoreline then recap tube.
- **Urine:** Transfer 2 mL urine to an APTIMA Urine Specimen Transport Tube (ARUP supply #28908) available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522-2787. Liquid level must be between fill lines on tube.
- **Swab in Viral Transport Media (UTM):** Transfer swab to viral transport media.

**Storage/Transport Temperature:** Refrigerated

**Remarks:** Specimen source required.

**Unacceptable Conditions:**
- Tissues in optimal cutting temperature compound.

**Stability (collection to initiation of testing):**
- Ambient: 1 month; Refrigerated: 1 month; Frozen: 1 month

### Cyanide, Whole Blood
**CYANI WB**

**Specimen Required:**
- Collect: Gray top tube (Sodium Fluoride / Potassium Oxalate)

**Specimen Preparation:**
- 1 mL whole blood. (Min: 0.4 mL)
- Test is not performed at ARUP; separate specimens must be submitted when multiple tests are ordered.

**Storage/Transport Temperature:** Refrigerated. Also acceptable: Frozen.

**Stability (collection to initiation of testing):**
- Ambient: Undetermined; Refrigerated: 1 week; Frozen: 3 months

### Cytomegalovirus by Qualitative PCR
**CMVPCR**

**Specimen Required:**
- Collect: Lavender (K2EDTA), Pink (K2EDTA), or Serum Separator Tube (SST). Also acceptable: Amniotic fluid, bronchoalveolar lavage (BAL), CSF, ocular fluid, tissue, urine, or dried blood spot (DBS).

**Specimen Preparation:**
- Separate serum or plasma from cells. Transfer 1 mL plasma, serum, whole blood, bone marrow, amniotic fluid, BAL, CSF, ocular fluid, or urine to a sterile container. (Min: 0.5 mL)
- **Dried Blood Spot:** Whole blood collected on newborn screening card (3/16 inch punch). Transport punch in an ARUP Standard Transport Tube.
- **Tissue:** Transfer to sterile container and freeze immediately.

**Storage/Transport Temperature:**
- Whole Blood or Bone Marrow: Refrigerated.
- All others: Frozen.

**Remarks:**
- Specimen source is required.

**Unacceptable Conditions:**
- Heparinized specimens, tissues in optimal cutting temperature compound.

**Stability (collection to initiation of testing):**
- Ambient: 8 hours; Refrigerated: 72 hours; Frozen: 3 months
- Whole Blood or Bone Marrow: Ambient: 1 week; Refrigerated: 1 week; Frozen: 1 week
- Dried Blood Spot: Ambient: 28 days; Refrigerated: 8 days; Frozen: 8 days
- Tissue: Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 3 months

### Epstein-Barr Virus by Qualitative PCR
**EBVPCR**

**Specimen Required:**
- Collect: Lavender (K2EDTA) or Pink (K2EDTA), or Serum Separator Tube (SST). Also acceptable: Bone marrow aspirate in Lavender (K2EDTA) or Pink (K2EDTA), OR CSF or tissue.

**Specimen Preparation:**
- Transfer 1 mL whole blood, bone marrow or CSF to a sterile container. (Min: 0.5 mL)
- **Serum or Plasma:** Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum, plasma to a sterile container. (Min: 0.5 mL)
- **Tissue:** Transfer to sterile container and freeze immediately.

**Storage/Transport Temperature:**
- Whole Blood or Bone Marrow: Refrigerated.

**Remarks:**
- Specimen source required.

**Unacceptable Conditions:**
- Heparinized specimens, tissues in optimal cutting temperature compound.

**Stability (collection to initiation of testing):**
- Whole Blood or Bone Marrow: Ambient: 1 week; Refrigerated: 1 week; Frozen: 1 week
- Fresh Tissue: Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 1 year
- All others: Ambient: 24 hours; Refrigerated: 5 days; Frozen: 1 year
### Herpes Simplex Virus (HSV) by PCR with Reflex to HSV (HSV-1/HSV-2) Subtype by PCR

<table>
<thead>
<tr>
<th>Code</th>
<th>Specimen Required</th>
<th>Remarks</th>
<th>Stability (collection to initiation of testing)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2011148</strong></td>
<td>Collect: Lavender (EDTA), pink (K&lt;sub&gt;2&lt;/sub&gt;EDTA), serum separator tube. OR CSF, bronchoalveolar lavage (BAL), amniotic fluid, vesicle fluid, ocular fluid, tissue. OR endocervical specimen in ThinPrep Pap Test media. Separate plasma or serum from cells. Transfer 1 mL plasma, serum, CSF, BAL, amniotic fluid, ocular fluid or ThinPrep specimen to a sterile container. (Min: 0.5 mL)</td>
<td>Specimen source required.</td>
<td><strong>Tissue:</strong> Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 3 months <strong>All others:</strong> Ambient: 8 hours; Refrigerated: 72 hours; Frozen: 3 months</td>
</tr>
</tbody>
</table>

### Herpes Simplex Virus (HSV-1/HSV-2) Subtype by PCR

<table>
<thead>
<tr>
<th>Code</th>
<th>Specimen Required</th>
<th>Remarks</th>
<th>Stability (collection to initiation of testing)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2010095</strong></td>
<td>Collect: Lavender (EDTA), pink (K&lt;sub&gt;2&lt;/sub&gt;EDTA), or serum separator tube. OR CSF, bronchoalveolar lavage (BAL), amniotic fluid, vesicle fluid, ocular fluid, tissue. OR endocervical specimen in ThinPrep Pap Test media. Separate plasma or serum from cells. Transfer 1 mL plasma, serum, CSF, BAL, amniotic fluid, ocular fluid or ThinPrep specimen to a sterile container. (Min: 0.5 mL)</td>
<td>Specimen source required.</td>
<td><strong>Tissue:</strong> Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 3 months <strong>All others:</strong> Ambient: 8 hours; Refrigerated: 72 hours; Frozen: 3 months</td>
</tr>
</tbody>
</table>

### Herpes Simplex Virus by PCR

<table>
<thead>
<tr>
<th>Code</th>
<th>Specimen Required</th>
<th>Remarks</th>
<th>Stability (collection to initiation of testing)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>0060041</strong></td>
<td>Collect: Lavender (EDTA), pink (K&lt;sub&gt;2&lt;/sub&gt;EDTA), or serum separator tube. OR Amniotic fluid, bronchoalveolar lavage (BAL), CSF, ocular fluid, tissue, vesicle fluid. OR Endocervical specimen in ThinPrep® Pap Test media. Separate plasma or serum from cells. Transfer 1 mL plasma, serum, amniotic fluid, BAL, CSF, ocular fluid, or ThinPrep specimen to a sterile container. (Min: 0.5 mL)</td>
<td>Specimen source required.</td>
<td><strong>Tissue:</strong> Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 3 months <strong>All Others:</strong> Ambient: 8 hours; Refrigerated: 72 hours; Frozen: 3 months</td>
</tr>
</tbody>
</table>

### Human Herpesvirus 6 (HHV-6A and HHV-6B) by Quantitative PCR

<table>
<thead>
<tr>
<th>Code</th>
<th>Specimen Required</th>
<th>Remarks</th>
<th>Stability (collection to initiation of testing)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>0060071</strong></td>
<td>Collect: Lavender (EDTA), pink (K&lt;sub&gt;2&lt;/sub&gt;EDTA), serum separator tube, or CSF. Separate serum or plasma from cells. Transfer 1 mL serum, plasma or CSF to a sterile container. (Min: 0.5 mL)</td>
<td>Specimen source required.</td>
<td><strong>Ambient:</strong> 24 hours; <strong>Refrigerated:</strong> 5 days; <strong>Frozen:</strong> 3 months <strong>Unacceptable Conditions:</strong> Heparinized specimens, tissues in optimal cutting temperature compound. <strong>Stability (collection to initiation of testing):</strong></td>
</tr>
</tbody>
</table>
**Human Herpesvirus 8 (HHV-8) by Quantitative PCR (HHV8 QNT)**

**Specimen Required:** Collect: Lavender (EDTA), Pink (K$_2$EDTA), or Serum Separator Tube (SST).

**Specimen Preparation:** Separate serum or plasma from cells. Transport 1 mL plasma, serum, or whole blood in a sterile container. (Min: 0.5 mL)

**Storage/Transport Temperature:** Refrigerated.

**Remarks:** Specimen source required.

**Unacceptable Conditions:** Heparinized specimens, tissues in optimal cutting temperature compound.

**Stability (collection to initiation of testing):** Ambient: 24 hours; Refrigerated: 1 week; Frozen: 1 year

---

**JC Virus by PCR (JC VIRUS)**

**Specimen Required:** Collect: Lavender (EDTA), pink (K$_2$EDTA) or serum separator tube. OR CSF or urine.

**Specimen Preparation:** Separate serum or plasma from cells. Transfer 1 mL serum, plasma, CSF or urine to a sterile container. (Min: 0.5 mL)

**Storage/Transport Temperature:** Frozen.

**Remarks:** Specimen source required.

**Unacceptable Conditions:** Heparinized specimens, tissues in optimal cutting temperature compound.

**Stability (collection to initiation of testing):** Ambient: 8 hours; Refrigerated: 5 days; Frozen: 30 days

---

**Legionella Species by Qualitative PCR (LEGIONPCR)**

**Specimen Required:** Collect: Respiratory specimen: Bronchoalveolar lavage (BAL), bronchial brushings, nasopharyngeal swab, sputum, tracheal aspirates or pleural fluid.

**Specimen Preparation:** Fluid: Transfer 2 mL respiratory specimen to a sterile container. (Min: 0.5 mL) Also acceptable: Transfer to viral transport media (ARUP supply #12884). Available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522-2787.

**Swabs:** Place in viral transport media.

**Remarks:** Specimen source required.

**Unacceptable Conditions:** Tissues in optimal cutting temperature compound.

**Stability (collection to initiation of testing):** Ambient: 24 hours; Refrigerated: 5 days; Frozen: 6 months

---

**Mucorales by PCR (MUCORPCR)**

**Specimen Required:** Collect: Serum Separator Tube (SST), bronchoalveolar lavage (BAL), bronchial wash, sputum, body fluid, or tissue.

**Specimen Preparation:** Transfer 2 mL serum, body fluid, or respiratory specimen to a sterile container. (Min: 1.2 mL).

**Tissue:** Transfer to a sterile container and freeze immediately.

**Storage/Transport Temperature:** Frozen.

**Remarks:** Specimen source required.

**Unacceptable Conditions:** Tissues in optimal cutting temperature compound.

**Stability (collection to initiation of testing):** Ambient: 2 weeks; Refrigerated: 2 weeks; Frozen: 2 weeks

---

**Mycoplasma pneumoniae by PCR (MPNEUMOPCR)**

**Specimen Required:** Collect: Respiratory specimen: Bronchoalveolar lavage (BAL), bronchial brushings, nasopharyngeal swab, sputum, tracheal aspirates or pleural fluid. OR CSF.

**Specimen Preparation:** CSF: Transfer 1 mL CSF to a sterile container. (Min: 0.5 mL).

**Fluid:** Transfer 2 mL respiratory specimen to a sterile container. (Min: 0.5 mL) Also acceptable: Transfer to viral transport media (ARUP supply #12884). Available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522-2787.

**Swabs:** Place in viral transport media. Place each specimen in an individually sealed bag.

**Storage/Transport Temperature:** Frozen.

**Remarks:** Specimen source required.

**Unacceptable Conditions:** Tissues in optimal cutting temperature compound.

**Stability (collection to initiation of testing):** Ambient: 24 hours; Refrigerated: 5 days; Frozen: 1 year.
Non-Criteria Antiphospholipid Syndrome (APS) (aPs, aPt, aPs/aPt) Antibodies Panel

**Specimen Required:** Collect: Serum separator tube (SST).

- **Specimen Preparation:** Separate serum from cells ASAP or within 2 hours of collection. Transfer 1.5 mL serum to an ARUP Standard Transport Tube. (Min: 0.9 mL)
- **Storage/Transport Temperature:** Refrigerated.

- **Unacceptable Conditions:** Heat-inactivated, grossly hemolyzed, icteric, or lipemic specimens.
- **Stability (collection to initiation of testing):** After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month

**Reference Interval:**

<table>
<thead>
<tr>
<th>Test Number</th>
<th>Components</th>
<th>Reference Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>0050906</td>
<td>Phosphatidylserine Antibody, IgG</td>
<td>Effective February 1, 2021 Less than 16 GPS</td>
</tr>
<tr>
<td>0050907</td>
<td>Phosphatidylserine Antibody, IgM</td>
<td>Effective February 1, 2021 Less than 22 MPS</td>
</tr>
<tr>
<td>2009447</td>
<td>Phosphatidylserine and Prothrombin Antibody, IgG</td>
<td>0-30 Units</td>
</tr>
<tr>
<td>2009449</td>
<td>Phosphatidylserine and Prothrombin Antibody, IgM</td>
<td>0-30 Units</td>
</tr>
<tr>
<td>0051302</td>
<td>Prothrombin Antibody, IgG</td>
<td>Effective 5/21/2018 Less than 20 Units</td>
</tr>
</tbody>
</table>

GPS: IgG antiphosphatidylserine units
MPS: IgM antiphosphatidylserine units

**HOTLINE NOTE:** There is a unit of measure change associated with this test.
Change the unit of measure for component 0050906, Phosphatidylserine Antibody IgG from U/mL to GPS.
Change the unit of measure for component 0050907, Phosphatidylserine Antibody IgM from U/mL to MPS.

Parvovirus B19 by Qualitative PCR

**Specimen Required:** Collect: Lavender (EDTA), Pink (K2EDTA), or Serum Separator Tube (SST). Also acceptable: Amniotic fluid, CSF, tissue, paraffin embedded tissue, or synovial fluid.

- **Specimen Preparation:** Separate serum or plasma from cells. Transfer 1 mL serum, plasma, bone marrow, amniotic fluid, CSF, or synovial fluid to a sterile container. (Min: 0.5 mL)
- **Fresh Tissue:** Transfer fresh tissue to a sterile container and freeze immediately.
- **Paraffin Embedded Tissue:** Transport in a Tissue Transport Kit (ARUP supply #47808), available online through eSupply using ARUP Connect or contact ARUP Client Services at (800) 522-2787.
- **Bone Marrow:** Refrigerated.
- **Remarks:** Specimen source required.

- **Unacceptable Conditions:** Heparinized specimens, tissues in optimal cutting temperature compound.
- **Stability (collection to initiation of testing):** Ambient: 24 hours; Refrigerated: 5 days; Frozen: 6 months
- **Bone Marrow:** Ambient: 1 week; Refrigerated: 1 week; Frozen: 1 week
- **Fresh Tissue:** Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 6 months
- **Paraffin Embedded Tissue:** Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Indefinitely
### Phosphatidylserine Antibodies, IgG and IgM

**Specimen Required:**
- Collect: Serum separator tube
- Specimen Preparation: Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP Standard Transport Tube. (Min: 0.3 mL)
- Storage/Transport Temperature: Refrigerated

**Unacceptable Conditions:** Heat-inactivated, contaminated, grossly icteric, grossly hemolyzed, or severely lipemic specimens

**Stability (collection to initiation of testing):** After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month

#### Reference Interval:
**Effective February 1, 2021**

<table>
<thead>
<tr>
<th>Test Number</th>
<th>Components</th>
<th>Reference Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Phosphatidylserine Antibody, IgG</td>
<td>Less than 16 GPS</td>
</tr>
<tr>
<td></td>
<td>Phosphatidylserine Antibody, IgM</td>
<td>Less than 22 MPS</td>
</tr>
</tbody>
</table>

**GPS:** IgG antiphosphatidylserine units, **MPS:** IgM antiphosphatidylserine units

**HOTLINE NOTE:** There is a unit of measure change associated with this test.
- Change the unit of measure for component 0050906, Phosphatidylserine Antibody IgG from U/mL to GPS.
- Change the unit of measure for component 0050907, Phosphatidylserine Antibody IgM from U/mL to MPS.

### Phosphatidylserine Antibodies, IgG, IgM, and IgA

**Specimen Required:**
- Collect: Serum separator tube.
- Specimen Preparation: Transfer 0.5 mL serum to an ARUP Standard Transport Tube. (Min: 0.25 mL)
- Storage/Transport Temperature: Refrigerated.
- Unacceptable Conditions: Contaminated, heat-inactivated, hemolyzed, or severely lipemic specimens.

**Stability (collection to initiation of testing):** After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month

#### Reference Interval:
**Effective February 1, 2021**

<table>
<thead>
<tr>
<th>Test Number</th>
<th>Components</th>
<th>Reference Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Phosphatidylserine Antibody, IgG</td>
<td>Less than 16 GPS</td>
</tr>
<tr>
<td></td>
<td>Phosphatidylserine Antibody, IgM</td>
<td>Less than 22 MPS</td>
</tr>
<tr>
<td></td>
<td>Phosphatidylserine Antibody, IgA</td>
<td>Less than 20 APS</td>
</tr>
</tbody>
</table>

**GPS:** IgG antiphosphatidylserine units, **MPS:** IgM antiphosphatidylserine units, **APS:** IgA antiphosphatidylserine units

**Interpretive Data:**
- IgG and/or IgM antibodies to phosphatidylserine (aPS) may be associated with a positive test for anti-cardiolipin autoantibodies (aCL) and risk for obstetric antiphospholipid syndrome (APS). Strong clinical correlation is recommended in the absence of lupus anticoagulant, IgG and/or IgM cardiolipin and/or beta2 glycoprotein antibodies.
- Isolated presence of IgM or IgG antibodies to aPS may have questionable clinical significance for APS and/or SLE.
- If results are positive, repeat testing with two or more specimens drawn at least 12 weeks apart to demonstrate persistence of antibodies.
- Results should not be used alone for diagnosis and must be interpreted in light of APS-specific clinical manifestations and/or other criteria phospholipid antibody tests.

**HOTLINE NOTE:** There is a unit of measure change associated with this test.
- Change the unit of measure for component 0050906, Phosphatidylserine Antibody IgG from U/mL to GPS.
- Change the unit of measure for component 0050907, Phosphatidylserine Antibody IgM from U/mL to MPS.
- Change the unit of measure for component 0050908, Phosphatidylserine Antibody IgA from U/mL to APS.
**Toxoplasma gondii by PCR**

**Specimen Required:** Collect: Lavender (EDTA), pink (K2EDTA), or serum separator tube. 
**OR** Amniotic fluid, CSF, ocular fluid or tissue.

**Specimen Preparation:** Separate serum or plasma from cells. Transfer 1 mL serum, plasma, amniotic fluid, CSF or ocular fluid to a sterile container. (Min: 0.5 mL)

**OR** Tissue: Transfer to a sterile container and freeze immediately.

**Storage/Transport Temperature:** Frozen.

**Remarks:** Specimen source required.

**Unacceptable Conditions:** Heparinized specimens, tissues in optimal cutting temperature compound.

**Stability (collection to initiation of testing):** 
- **Tissue:** Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 3 months
- **All Others:** Ambient: 8 hours; Refrigerated: 5 days; Frozen: 3 months

---

**Tropheryma whipplei PCR**

**Specimen Required:** Collect: Lavender (EDTA), Pink (K2EDTA), or Serum Separator Tube (SST). Also acceptable: CSF or tissue.

**Specimen Preparation:** Transfer 1 mL serum, plasma, whole blood, or CSF to a sterile container. (Min: 0.5 mL)

**Tissue:** Transfer to a sterile container and freeze immediately. Also acceptable: Formalin-fixed paraffin-embedded (FFPE) tissue.

**Storage/Transport Temperature:** FFPE: Room temperature.

**All Others:** Frozen.

**Remarks:** Specimen source required

**Unacceptable Conditions:** Heparinized specimens, tissues in optimal cutting temperature compound.

**Stability (collection to initiation of testing):** 
- **Tissue:** Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 1 month
- **FFPE:** Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
- **All Others:** Ambient: 24 hours; Refrigerated: 2 weeks; Frozen: 1 month

---

**Varicella-Zoster Virus by PCR**

**Specimen Required:** Collect: Lavender (EDTA), pink (K2EDTA) or serum separator tube. OR CSF, ocular fluid, tissue or vesicle fluid.

**Specimen Preparation:** Transfer 1 mL serum, plasma, CSF or ocular fluid to a sterile container. (Min: 0.5 mL)

**Tissue:** Transfer to a sterile container and freeze immediately.

**Vesicle Fluid:** Transfer to viral transport media (ARUP supply #12884). Available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522-2787.

**Storage/Transport Temperature:** Frozen.

**Remarks:** Specimen source required.

**Unacceptable Conditions:** Heparinized specimens, tissues in optimal cutting temperature compound.

**Stability (collection to initiation of testing):** 
- **Tissue:** Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 3 months
- **All Others:** Ambient: 24 hours; Refrigerated: 5 days; Frozen: 3 months
The following will be discontinued from ARUP's test menu on February 1, 2021.
Replacement test options are supplied if applicable.

<table>
<thead>
<tr>
<th>Test Number</th>
<th>Test Name</th>
<th>Refer To Replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0098470</td>
<td>Allergen, Grass, Salt Grass IgE</td>
<td></td>
</tr>
<tr>
<td>3001132</td>
<td>Capillary Malformation-Arteriovenous Malformation (EPHB4 and RASA1) Sequencing, and (RASA1) Deletion/Duplication</td>
<td>Capillary Malformation-Arteriovenous Malformation (CM-AVM) Panel, Sequencing and Deletion/Duplication (3003634)</td>
</tr>
<tr>
<td>3001129</td>
<td>Capillary Malformation-Arteriovenous Malformation 2 (EPHB4) Sequencing</td>
<td></td>
</tr>
<tr>
<td>0051382</td>
<td>Hereditary Hemorrhagic Telangiectasia (ACVRL1 and ENG) Sequencing and Deletion/Duplication</td>
<td>Hereditary Hemorrhagic Telangiectasia (HHT) Panel, Sequencing and Deletion/Duplication (2009337)</td>
</tr>
<tr>
<td>2009008</td>
<td>Hereditary Hemorrhagic Telangiectasia (ACVRL1 and ENG) Sequencing and Deletion/Duplication with Reflex to Juvenile Polyposis (SMAD4) Sequencing and Deletion/Duplication</td>
<td>Hereditary Hemorrhagic Telangiectasia (HHT) Panel, Sequencing and Deletion/Duplication (2009337)</td>
</tr>
<tr>
<td>2001971</td>
<td>Juvenile Polyposis (SMAD4) Sequencing and Deletion/Duplication</td>
<td>Hereditary Hemorrhagic Telangiectasia (HHT) Panel, Sequencing and Deletion/Duplication (2009337)</td>
</tr>
<tr>
<td>2007852</td>
<td>RASA1-Related Disorders (RASA1) Sequencing and Deletion/Duplication</td>
<td></td>
</tr>
</tbody>
</table>