

5

**ACETONE, SERUM QUALITATIVE (KETONE, SERUM)**

**Specimen Required:**

*Quantity:* 1.0 mL  
*Type:* Serum (red, gold, or equivalent)  
*Temperature:* Refrigerate (2 - 8 C)

**Test Frequency:** Daily

**Methodology:** Colorimetric  
**Performed by:** Avera LabNet

**Collection Notes:** Hemolyzed specimen is unacceptable.  
  
Lithium heparin plasma is also an acceptable specimen.

942

**BORDETELLA PERTUSSIS DFA**

**Specimen Required:**

*Quantity:* 1.0 Each  
*Type:* Special - Refer to Collection Notes  
*Temperature:* Room Temperature

**Test Frequency:** Daily

**Methodology:** Direct Fluorescent Antibody  
**Performed by:** ARUP [60116]

**Collection Notes:** Sample Type: Nasopharygeal swab or prepared slide. Slide must be completely labeled with patient name, collection site and date/time of collection.  
  
Culture, in addition to DFA, is suggested.  
  
Media for culture is available through Client Services Department.

1105

**CHLAMYDIA BY DNA AMPLIFIED PROBE**

**Specimen Required:**

*Quantity:* Not Applicable  
*Type:* Special - Refer to Collection Notes  
*Temperature:* Refrigerate (2 - 8 C)

**Test Frequency:** Mon/Wed/Fri

**Methodology:** DNA Amplified Probe  
**Performed by:** USD Virology Lab

**Collection Notes:** Acceptable Sample Types:

-Endocervical or urethral swabs collected using the BD-Probe Tec ET collection kit. Collection kits may be obtained by contacting Client Service Department.

-Urine - Patient should not void 1 hr. prior to specimen collection. Patient must collect the first 20-30 mls of urine in a plastic, preservative-free collection cup.

Urine Specimen Stability: 4-6 days at 2-8 C  
DO NOT FREEZE specimen.

829

**CRYPTOCOCCUS ANTIGEN, CSF**

**Specimen Required:**

*Quantity:* 1.0 mL  
*Type:* CSF - Sterile, Leakproof Container  
*Temperature:* Refrigerate (2-8 C) or Frozen (-20 C)

**Test Frequency:** Daily

**Methodology:** Enzyme Immunoassay  
**Performed by:** ARUP [50195]

187

**CULTURE, FUNGUS [REFLEX TEST]**

*Reflex Testing Guideline:  
Fungal identification(s) will be completed and billed as defined by Standard Reference Procedure.*

*Ordering Physician must designate specifically if Reflex Testing is not to be completed.*

**Specimen Required:**

**Quantity:** 1.0 Each  
**Type:** Culture Specimen - Sterile, Leakproof Container  
**Temperature:** Refrigerate (2 - 8 C)

**Test Frequency:** Daily

**Methodology:** Standard Reference Microbiology Procedure

**Performed by:** Avera/ARUP [60149]

**Collection Notes:** Material or fluid from any body site (minimum of 5 mL fluid). Source of specimen is required. Material or body fluid must be in sterile container at 20-25 degrees C.

Culturette swab specimen may also be acceptable, depending on source.

Blood and bone marrow specimens: Call Service Center Microbiology Department for special collection instructions.

Indicate culture source on requisition.

Transport all specimens from a sterile body (fluids, tissues, etc.) at 20-25 degrees C. Transport all specimens from a non-sterile site (respiratory, GI tract, etc.) at 2-8 degrees C.

Refer to Special Instructions - Microbiology Section for additional information.

200

**CULTURE, VIRAL**

**Specimen Required:**

**Quantity:** 1.0 Each  
**Type:** Special - Refer to Collection Notes  
**Temperature:** Refrigerate (2 - 8 C)

**Test Frequency:** Daily

**Methodology:** Standard Reference Microbiology Procedure  
**Performed by:** Avera/Other

**Collection Notes:** Refer to " Virology Collection Guidelines and Special Instructions" Section for specific specimen collection and handling instructions.

Certain specimen types are recommended in specific clinical syndromes and for suspected Viral Agents. Refer to "Practical Medical Virology: Guide to Specimen Collection"

Indicate culture source on requisition.

Viral transport media is required for certain specimen types. If required, can be obtained from Client Services.

834

**ECHOVIRUS ANTIBODIES**

*Test Components:*

- Echovirus Antibody Type 6*
- Echovirus Antibody Type 7*
- Echovirus Antibody Type 9*
- Echovirus Antibody Type 11*
- Echovirus Antibody Type 30*

**Specimen Required:**

- Quantity:** 3.0 mL
- Type:** Serum (red, gold, or equivalent)
- Temperature:** Frozen (<-20C); Refrigerate LIMITED TIME ONLY - See Notes

**Test Frequency:** Daily

**Methodology:** Serum Neutralization Assay

**Performed by:** ARUP [60053]

**Collection Notes:** Separate serum from cells ASAP.

Acute and convalescent samples must be labeled as such; parallel testing is preferred.

Convalescent samples must be received within 30 days from receipt of the acute samples.

Please mark test requisition and transport tube as "ACUTE" or "CONVALESCENT."

TEMPERATURE: Freeze specimen if storage/transport time may exceed 3 days.

Unacceptable samples: Plasma specimens.

835

**EXTRACTABLE NUCLEAR ANTIGEN ANTIBODIES, IGG (RNP, SMITH, SCLERODERMA, SSA, AND SSB)**

*Test Components:*

- *RNP ENA Antibody, IgG*
- *Smith ENA Antibody, IgG*
- *SSA ENA Antibody, IgG*
- *SSB ENA Antibody, IgG*
- *Scleroderma ENA Antibody, IgG*

**Specimen Required:**

- Quantity:** 1.0 mL
- Type:** Serum (red, gold, or equivalent)
- Temperature:** Refrigerate (2 - 8 C)

**Test Frequency:** Daily

**Methodology:** Multi-Analyte Fluorescent Detection

**Performed by:** ARUP [50653]

**Collection Notes:** Separate serum from cells ASAP.

Unacceptable Samples: Plasma, severely lipemic or bacterially contaminated specimens, other body fluids.

Avoid repeated freeze/thaw cycles.

MEDICAL NECESSITY COMMENTS:

Each ENA antibody [RNP, Smith, SSA, SSB, Scl-70] may be ordered individually if clinically indicated.

459

**HEMOGLOBIN, PLASMA**

**Specimen Required:**

- Quantity:** 2.0 mL
- Type:** Green (Lithium Heparin) Plasma
- Temperature:** Refrigerate (2 - 8 C)

**Test Frequency:** Mon-Fri

**Methodology:** Spectrophotometric

**Performed by:** Avera/ARUP [20058]

**Collection Notes:** Separate plasma from cells ASAP. Plasma that has been allowed to sit on cells may have falsely elevated levels of plasma hemoglobin.

Take special care not to cause trauma to the cells [do not shake, invert vigorously, etc.].

857

**HEPATITIS C ANTIBODY (RIBA),  
SUPPLEMENTAL**

**Specimen Required:**

*Quantity:* 1.0 mL  
*Type:* Serum (red, gold, or equivalent)  
*Temperature:* Refrigerate (2 - 8 C)

**Test Frequency:** Minimum of 4 times weekly

**Methodology:** Recombinant Immunoblot Assay

**Performed by:** ARUP [20104]

**Collection Notes:** Plasma is also acceptable.

Unacceptable Samples: Heat treated specimens.

Test Order Comment: Order this test only when a specimen is repeatedly reactive for anti-HCV, and the patient is negative for HCV RNA by PCR.

Avoid repeated freeze/thaw cycles.

342

**HIV 1 P24 ANTIGEN**

**Specimen Required:**

*Quantity:* 2.0 mL  
*Type:* Serum (red, gold, or equivalent)  
*Temperature:* Refrigerate (2 - 8 C)

**Test Frequency:** Sun-Thurs

**Methodology:** Enzyme Immunoassay

**Performed by:** Avera/ARUP [97792]

**Collection Notes:** Plasma [EDTA, heparin] is also acceptable.

Separate serum/plasma from cells ASAP to avoid hemolysis of specimen.

Unacceptable Samples: Heat treated specimens.

Avoid repeated freeze/thaw cycles.

341

**HIV 1 & 2 ANTIBODY [REFLEX TEST]**

**MEDICARE COVERAGE NOTICE:**

Test covered under Medical Review Policy -Medical necessity documentation/evaluation and appropriate waiver [ABN] use required.

*Reflex Testing Guideline:*

*Human Immunodeficiency Virus 1 Antibody, Western Blot Confirmation (ARUP 20284) will be automatically completed and billed if test is reactive.*

**Specimen Required:**

*Quantity:* 4.0 mL  
*Type:* Serum (red, gold, or equivalent)  
*Temperature:* Refrigerate (2 - 8 C)

**Test Frequency:** Varies

**Methodology:** Enzyme Immunoassay

**Performed by:** Avera/ARUP [51160]

**Collection Notes:** Plasma is also acceptable.

Separate serum/plasma from cells ASAP to avoid hemolysis.

Unacceptable Samples: Heat treated, hemolyzed, or contaminated, specimens; specimens containing particulate matter.

345

**HTLV-I & II ANTIBODIES**

**Specimen Required:**

*Quantity:* 1.0 mL  
*Type:* Serum (red, gold, or equivalent)  
*Temperature:* Refrigerate (2 - 8 C)

**Test Frequency:** Avera: Sun-Thurs; ARUP: Daily

**Methodology:** Enzyme Immunoassay

**Performed by:** Avera/ARUP [51164]

**Collection Notes:** Plasma [heparin, EDTA] is also acceptable.

Avoid repeated freeze/thaw cycles.

Unacceptable Samples: Hemolyzed specimens; specimens containing particulate matter or precipitate.

Reflex Testing Guideline: HTLV I/II Antibodies, Western Blot, Confirmation (ARUP 20642) will be automatically completed and billed if test is positive.

816

**HUMAN IMMUNODEFICIENCY VIRUS 1 ANTIBODY, CONFIRMATION, WESTERN BLOT**

**MEDICARE COVERAGE NOTICE:**

Test covered under Medical Review Policy -Medical necessity documentation/evaluation and appropriate waiver [ABN] use required.

**Specimen Required:**

*Quantity:*

*Type:*

*Temperature:*

**Test Frequency:**

**Methodology:**

**Performed by:**

353

**IMMUNOFIXATION ELECTROPHORESIS, SERUM MONOCLONAL PROTEIN DETECTION**

*Test Components:*

*Immunoglobulins, IgG, IgA, IgM*

*Protein Electrophoresis, Serum*

*Immunofixation Electrophoresis - if indicated*

*Protein, Total Serum*

*Medical Necessity Comments: Refer to Collection Notes Section.*

**Specimen Required:**

*Quantity:* 5.0 mL

*Type:* Serum (red, gold, or equivalent)

*Temperature:* Refrigerate (2 - 8 C)

**Test Frequency:** Mon-Fri

**Methodology:** Immunofixation Electrophoresis

**Performed by:** ARUP [50615]

**Collection Notes:** Fasting specimens are preferred.

Unacceptable Samples: Plasma specimens.

**MEDICAL NECESSITY COMMENT:**

Only order tests in this panel format if all test components are medically necessary. The Immunoglobulins and Protein Electrophoresis may be ordered individually as clinically indicated.

354

**IMMUNOFIXATION ELECTROPHORESIS, URINE**

*Testing included:*

*Microalbumin*

*Protein Electrophoresis*

*Kappa and Lambda Chains*

*IFE Interpretation*

**Specimen Required:**

*Quantity:* 20.0 mL

*Type:* Urine, 24-Hour

*Temperature:* Refrigerate (2 - 8 C)

**Test Frequency:** Mon-Fri

**Methodology:** Immunofix Electrophoresis/Neph

**Performed by:** ARUP [50618]

**Collection Notes:** Split specimen and submit in "TWO" transport tubes.

Unacceptable Specimens: Random collection or samples that are not refrigerated during collection or transport.

Refrigerate specimen during collection.

1133

**LEAD, BLOOD (CAPILLARY)**

**Specimen Required:**

*Quantity:* 0.5 mL

*Type:* Special - Refer to Collection Notes

*Temperature:* Room Temperature

**Test Frequency:** Mon-Fri

**Methodology:** Inductively Coupled Plasma/Mass Spectrometry

**Performed by:** ARUP (20745)

**Collection Notes:** Sample Types:

Routine Lead Testing Non-Pediatric:  
7 mL EDTA (dark blue trace metal)  
Whole Blood (Minimum 0.7 mL)

Pediatric Volumes or Minnesota State Screening Program (Mayo Labs):  
0.5 mL Becton-Dickinson MICROTAINER  
EDTA Whole Blood

Minnesota Department of Health Pediatric Lead Screen reporting will be completed directly by Mayo Medical Laboratories.

Reference Lab ID Number:

Lead, Whole Blood ARUP 20098

Lead, Blood - Pediatric Screen Mayo

Medical Laboratory 8602

874

**LEAD, BLOOD (VENOUS)**

**Specimen Required:**

*Quantity:* 1.0 Each  
*Type:* Special - Refer to Collection Notes  
*Temperature:* Room Temperature

**Test Frequency:** Mon-Sat

**Methodology:** Inductively Coupled Plasma/Mass Spectrometry

**Performed by:** Avera/Other [ARUP 20098; Mayo 8602]

**Collection Notes:** Sample Types:  
Routine Lead Testing Non-Pediatric:  
7 mL EDTA (dark blue trace metal)  
Whole Blood (Minimum 0.7 mL)  
  
Pediatric Volumes or Minnesota State  
Screening Program (Mayo Labs):  
0.5 mL Becton-Dickinson MICROTAINER  
EDTA Whole Blood

Minnesota Department of Health Pediatric  
Lead Screen reporting will be completed  
directly by Mayo Medical Laboratories.

Reference Lab ID Number:  
Lead, Whole Blood ARUP 20098  
Lead, Blood - Pediatric Screen Mayo  
Medical Laboratory 8602

1131

**LEGIONELLA PNEUMOPHILA ANTIBODY  
(TYPES 1-6), IGG BY IFA**

**Specimen Required:**

*Quantity:* 1.0 mL  
*Type:* Serum (red, gold, or equivalent)  
*Temperature:* Refrigerate (2-8 C) or Frozen (-20 C)

**Test Frequency:** Mon-Fri

**Methodology:** Indirect Fluorescent Antibody

**Performed by:** ARUP (50365)

**Collection Notes:** Separate serum from cells ASAP.

Acute and convalescent samples must be  
labeled as such; parallel testing is preferred.

Convalescent samples must be received  
within 30 days from receipt of the acute  
samples.

Please mark test requisition and transport  
tube as "ACUTE" or "CONVALESCENT."

Maintain sterility of specimen.

Unacceptable samples: Plasma specimens.

Interpretive Comments: The CDC and  
many state health laboratories recommend  
testing only for antibody to Legionella  
pneumophila Type I. A fourfold rise in titer  
greater than 1:128 from the acute to the  
convalescent phase provides evidence of a  
recent infection with Legionella. A standing  
or single titer greater than or equal to  
1:256 suggests past exposure or infection,  
but is inconclusive for diagnosis. Single  
titers of less than 1:256 are not considered  
evidence of infection. Diagnosis of acute  
infection can only be made with a fourfold  
or greater rise in titer between acute and  
convalescent specimens.

1132

**LEGIONELLA PNEUMOPHILA ANTIBODY  
(TYPES 1-6), IGM BY IFA**

**Specimen Required:**

**Quantity:** 1.0 mL  
**Type:** Serum (red, gold, or equivalent)  
**Temperature:** Refrigerate (2-8 C) or Frozen (-20 C)

**Test Frequency:** Mon-Fri

**Methodology:** Indirect Fluorescent Antibody

**Performed by:** ARUP (50274)

**Collection Notes:** Separate serum from cells ASAP.

Acute and convalescent samples must be labeled as such; parallel testing is preferred.

Convalescent samples must be received within 30 days from receipt of the acute samples.

Please mark test requisition and transport tube as "ACUTE" or "CONVALESCENT."

Maintain sterility of specimen.

Unacceptable samples: Plasma specimens.

Interpretive Comments: The CDC and many state health laboratories recommend testing only for antibody to Legionella pneumophila Type I. A fourfold rise in titer greater than 1:128 from the acute to the convalescent phase provides evidence of a recent infection with Legionella. A standing or single titer greater than or equal to 1:256 suggests past exposure or infection, but is inconclusive for diagnosis. Single titers of less than 1:256 are not considered evidence of infection. Diagnosis of acute infection can only be made with a fourfold or greater rise in titer between acute and convalescent specimens.

1106

**NEISSERIA GONORRHOEAE BY DNA  
AMPLIFIED PROBE**

**Specimen Required:**

**Quantity:** 1.0 Each  
**Type:** Special - Refer to Collection Notes  
**Temperature:** Refrigerate (2 - 8 C)

**Test Frequency:** Mon/Wed/Fri

**Methodology:** DNA Amplified Probe

**Performed by:** USD Virology Lab

**Collection Notes:** Acceptable Sample Types:

-Endocervical or urethral swabs collected using the BD-Probe Tec ET collection kit. Collection kits may be obtained by contacting Client Service Department.

-Urine - Patient should not void 1 hr. prior to specimen collection. Patient must collect the first 20-30 mls of urine in a plastic, preservative-free collection cup.

Urine Specimen Stability: 4-6 days at 2-8 C  
DO NOT FREEZE specimen.

Repeat Testing Protocol: All indeterminate and/or reactive specimens are required to have repeat testing completed prior to reporting patient result. This quality protocol will extend result turn-around-time.

438

**OVA AND PARASITE (O & P)**

*Test Components:  
Direct and Concentrate Exam  
Trichrome Stain*

**Specimen Required:**

**Quantity:** 1.0 Each  
**Type:** Special - Refer to Collection Notes  
**Temperature:** Refrigerate (2 - 8 C)

**Test Frequency:** Daily

**Methodology:** Standard Reference Microbiology Procedure

**Performed by:** Avera LabNet

**Collection Notes:** Sample Type: 5 grams [non-liquid] or 5 mL [liquid] fresh stool submitted in O & P collection kit [formalin] or in capped, leak-proof container with formalin [1 part stool to 3 parts formalin] or a formalin & PVA preservative container.

Mix stool specimen well after transferring into preservative container.

Collection kits can be obtained from Client Services.

968

**PNEUMOCYSTIS JIROVECI DFA**

**Specimen Required:**

**Quantity:** 1.0 Each  
**Type:** Special - Refer to Collection Notes  
**Temperature:** Refrigerate (2 - 8 C)

**Test Frequency:** Daily

**Methodology:** Direct Fluorescent Antibody Stain  
**Performed by:** ARUP [60052]

**Collection Notes:** Specimen Type: Bronchial washing, bronchoalveolar lavage [BAL] or induced sputum.

Unacceptable Samples: Dry specimen, leaking container, formalinized specimens.

889

**PORPHYRINS, FECAL**

*Components Reported:*  
*Coproporphyrin*  
*Protoporphyrin*

**Specimen Required:**

**Quantity:** 5.0 Gram(s)  
**Type:** Stool - Clean, Leakproof Container  
**Temperature:** Frozen (-20 C or colder)

**Test Frequency:** Thur

**Methodology:** HPLC  
**Performed by:** ARUP [99824]

**Collection Notes:** Random stool specimen.

Protect from light. Submit specimen in amber transport tube or transport tube covered with foil.

Unacceptable Sample: Timed stool collections.

899

**RABIES ANTIBODY**

**Specimen Required:**

**Quantity:** 2.0 mL  
**Type:** Serum (red, gold, or equivalent)  
**Temperature:** Refrigerate (2 - 8 C)

**Test Frequency:** Varies

**Methodology:** Varies  
**Performed by:** Avera/Other [ARUP 98832; KSU - RFFIT]

**Collection Notes:** Submit vaccination history of patient on requisition.

538

**SMOOTH MUSCLE ANTIBODY [REFLEX TEST] (ANTI-SMOOTH MUSCLE ANTIBODY)**

*Reflex Testing Guideline:*  
*Titer will be performed and billed if initial test is positive.*

**Specimen Required:**

**Quantity:** 1.0 mL  
**Type:** Serum (red, gold, or equivalent)  
**Temperature:** Refrigerate (2 - 8 C)

**Test Frequency:** Mon/Wed/Fri

**Methodology:** Indirect Fluorescent Antibody  
**Performed by:** ARUP [50738]

**Collection Notes:** Separate serum from cells ASAP.

Unacceptable Samples: Plasma, severely lipemic, contaminated, or hemolyzed specimens.

MEDICAL NECESSITY COMMENT:  
Approved protocol to allow for interpretation of test requires titer of positive results.