Quarterly HOT LINE: Effective February 16, 2016

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.

Hot Line 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
7	0060997	Acid-Fast Bacillus (AFB) Identification with Reflex to Susceptibility					x							
7	2013015	Adenovirus Antibody, Serum											x	
7	2002582	Aldosterone and Renin, Direct with Ratio				x								
8	2013024	Allergens, Food, Egg Components IgE											x	
49	2007880	Alpha Subunit, Pituitary Glycoprotein Hormones												x
8	2013034	Alpha Subunit, Pituitary Glycoprotein Hormones (PGH)											x	
9	0020506	Amylase, Body Fluid				x		x			x			
9	0060198	Anaerobic Organism Identification with Reflex to Susceptibility							x					
9	2005077	Angelman Syndrome and Prader-Willi Syndrome by Methylation-Sensitive PCR	x											

Hot Line 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
9	2012232	Angelman Syndrome and Prader-Willi Syndrome by Methylation-Sensitive PCR, Fetal	x			x								
9	0013006	Antibody Titer				x			x					
9	0060059	Antimicrobial Susceptibility - D-Test (Macrolide, Lincosamide, Streptogramin Resistance)			x									
9	0060708	Antimicrobial Susceptibility - *Enterococcus*			x									
10	0063999	Antimicrobial Susceptibility - Extended Spectrum Beta Lactamase			x									
10	0060211	Antimicrobial Susceptibility - *mec*A Gene by PCR			x									
10	0060203	Antimicrobial Susceptibility - MIC/MBC			x									
10	0060193	Antimicrobial Susceptibility - *Nocardia*			x									
10	0060216	Antimicrobial Susceptibility - Nonfermenter			x									
10	0060200	Antimicrobial Susceptibility - Not Otherwise Specified			x									
10	0060707	Antimicrobial Susceptibility - *Staphylococcus*			x									
10	0060221	Antimicrobial Susceptibility - *Streptococcus pneumoniae*			x									
10	0095505	Autoimmune Lymphoproliferative Profile					x					x		
10	2008420	*BCR-ABL1* Mutation Analysis for Tyrosine Kinase Inhibitor Resistance by Next Generation Sequencing	x											
11	0050388	Beta Globin (*HBB*) Sequencing, Fetal									x			
49	0051288	Beta-2-Adrenergic Receptor (*ADBR2*) Haplotyping												x
11	0020510	Bilirubin, Total, Body Fluid				x		x			x			
11	2012647	Buprenorphine and Metabolites, Serum or Plasma, Quantitative			x		x							
11	2008708	Calculi Risk Assessment, Urine									x			
11	0020746	Cancer Antigen-GI (CA 19-9), Body Fluid				x		x			x			
49	0091166	Carbamazepine - 10,11 Epoxide, Urine												x
11	0091352	Carbidopa and Levodopa Quantitative, Serum or Plasma				x								
12	0020742	Carcinoembryonic Antigen, Fluid				x		x			x			
12	2012844	CD200 by Immunohistochemistry											x	
13	2008114	Celiac Disease Reflexive Cascade					x							
13	2013085	Chikungunya by PCR											x	
49	0090346	Chloramphenicol												x
14	0020163	Chloride, Fluid				x		x			x			
14	0020714	Cholesterol, Fluid				x		x			x			

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14	0020031	Cholesterol, Serum or Plasma							x					
14	2002298	Chromosome FISH, Interphase				x								
14	2002299	Chromosome FISH, Metaphase				x								
14	2003304	Complement Component Level 3a	x									x		
14	2003180	Complement Component Level 4a	x									x		
14	0099072	Complement Component Level 6	x									x		
15	2009416	Complement Factor H Level (B-1H)	x									x		
16	2013098	Cytochrome P450 Genotype Panel											x	
18	0051394	Cytokine Panel	x				x				x			
19	2013111	Cytokine Production by Mononuclear Cells in Response to Antigen and Mitogen Stimulation											x	
20	2013109	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation											x	
49	0051540	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, 12 Cytokines												x
49	0051574	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interferon gamma												x
49	0051580	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 1 beta												x
49	0051578	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 10												x
49	0051579	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 13												x
49	0051571	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 2												x
49	0051572	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 2 Receptor (CD25), Soluble												x
49	0051576	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 4												x
49	0051577	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 5												x
49	0051581	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 6												x
49	0051582	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 8												x
49	0051583	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Tumor Necrosis Factor alpha												x
20	2012166	Dihydropyrimidine Dehydrogenase (*DPYD*), 3 Variants	x	x	x	x					x			

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49	0091467	Dipyridamole, Serum or Plasma												x
21	2006621	Drug Detection Panel, Umbilical Cord Tissue, Qualitative				x	x				x			
49	0090560	Drug Screen (Nonforensic), Comprehensive, Serum and Urine												x
21	0020410	Electrolyte Panel				x								
21	2002902	Epstein-Barr Virus (EBV) by in situ Hybridization, Paraffin									x			
22	2001961	Familial Mutation, Targeted Sequencing								x				
22	2001980	Familial Mutation, Targeted Sequencing, Fetal				x			x	x				
22	0092442	Galactokinase, Blood			x	x								
22	2012678	Gastrointestinal Bacterial Panel by PCR										x		
23	2011470	*GLI3*-Related Disorders (*GLI3*) Sequencing						x						
23	2011465	*GLI3*-Related Disorders (*GLI3*) Sequencing and Deletion/Duplication						x						
23	0020503	Glucose, Body Fluid				x		x			x			
23	0092068	Hairstat 5 Reflexive Panel				x								
24	0020053	HDL Cholesterol							x					
49	2008440	Herpesvirus 8 (HHV-8) DNA, Quantitative Real-Time PCR												x
49	2002996	Herpesvirus 8 DNA, Qualitative Real-Time PCR												x
24	2013089	Human Herpesvirus 8 (HHV-8) by Quantitative PCR											x	
25	2013107	Human Immunodeficiency Virus Types 1 and 2 (HIV-1/2) Antibody Differentiation, Supplemental											x	
25	2002896	Human Papillomavirus (HPV) Low Risk by in situ Hybridization, Paraffin									x			
26	0050980	Humoral Immunity Panel I					x							
27	2013101	3-Hydroxy-3-Methylglutaryl Coenzyme A Reductase (HMGCR) Antibody, IgG											x	
27	0050667	Immune Complex Panel				x								
27	0050340	Immunoglobulin A					x							
28	0093149	Immunoglobulin A Subclasses (1 and 2)	x				x							
28	0050576	Immunoglobulin G Subclass 4					x							
29	0050577	Immunoglobulin G Subclasses (1, 2, 3, 4)					x							
29	0050355	Immunoglobulin M					x							
30	0050630	Immunoglobulins (IgA, IgG, IgM), Quantitative					x							
30	2013115	Interleukin 17											x	

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49	0051393	Interleukin-1-Receptor-Associated Kinase-4 (IRAK-4) Deficiency Screen												x
31	2000271	Isohemagglutinin Titer, IgG				x								
31	2000280	Isohemagglutinin Titer, IgG and IgM	x			x								
31	2000270	Isohemagglutinin Titer, IgM				x								
31	2002888	Kappa/Lambda Light Chain Panel by in situ Hybridization, Paraffin									x			
32	2012207	*KIT* D816V Mutation Detection by PCR for Gleevec Eligibility in Aggressive Systemic Mastocytosis (ASM)											x	
32	0020505	Lactate Dehydrogenase Total, Body Fluid				x		x			x			
33	0020006	Lactate Dehydrogenase, Serum or Plasma				x								
33	0020715	Lipase, Fluid				x		x			x			
49	0091295	Loxapine Quantitative, Serum or Plasma												x
33	0030181	Lupus Anticoagulant Reflexive Panel					x							
34	2013018	Lurasidone Quantitative, Serum or Plasma											x	
35	2013117	Lymphocyte Antigen and Mitogen Proliferation Panel with Cytokine Response											x	
49	0051584	Lymphocyte Antigen and Mitogen Proliferation Panel with Cytokine Response to Mitogens, 12 Cytokines												x
49	0051587	Lymphocyte Antigen and Mitogen Proliferation Panel with Cytokine Response to Mitogens, Monokines												x
49	0051585	Lymphocyte Antigen and Mitogen Proliferation Panel with Cytokine Response to Mitogens, TH1 Cytokines												x
49	0051586	Lymphocyte Antigen and Mitogen Proliferation Panel with Cytokine Response to Mitogens, TH2 Cytokines												x
36	2013082	*MET* Gene Amplification by FISH											x	
49	0091543	Midazolam Quantitation, Serum or Plasma												x
36	2013014	Mitotane, Serum or Plasma											x	
37	0050615	Monoclonal Protein Detection Quantitation and Characterization, SPEP, IFE, IgA, IgG, IgM, Serum					x							
38	2002715	Monoclonal Protein Detection, Quantitation, Characterization, SPEP, IFE, IgA, IgG, IgM, FLC					x							
39	2007967	Motor and Sensory Neuropathy Evaluation with Immunofixation Electrophoresis and Reflex to Titer and Neuronal Immunoblot					x							

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41	0051225	Motor Neuropathy Panel					x							
41	0081352	Mucopolysaccharides Screen - Electrophoresis and Quantitation, Urine	x							x				
42	2007190	Occult Blood, Fecal by Immunoassay				x								
42	0098834	Oxcarbazepine or Eslicarbazepine Metabolite (MHD)	x									x		
42	2010102	PCA3 - Prostate Cancer Biomarker by Transcription-Mediated Amplification			x	x								
43	2012147	*PDGFRB* FISH for Gleevec Eligibility in Myelodysplastic Syndrome/Myeloproliferative Disease (MDS/MPD)											x	
44	2013025	Perampanel Quantitative, Serum or Plasma											x	
44	2013008	Periprosthetic Joint Infection (PJI) Detection (Synovasure)											x	
45	2013070	Platelet Surface Glycoprotein Expression (PGE) by Flow Cytometry, Whole Blood											x	
45	0020155	Potassium, Fluid				x		x			x			
45	2008095	14-3-3 Protein Tau/Theta with Reflex to RT-QuIC Analysis, CSF				x								
45	0020502	Protein, Total, Body Fluid				x		x			x			
45	0080312	Pyruvic Acid, CSF				x								
46	0050302	Raji Cell Immune Complex Assay				x								
46	2003347	Rheumatoid Factor, Body Fluid				x		x			x			
46	2012618	Risk of Ovarian Malignancy Algorithm											x	
47	2013011	Selenium, RBCs											x	
47	0020154	Sodium, Fluid				x		x			x			
47	0091100	Sulfonylurea Hypoglycemia Panel, Quantitative, Urine	x											
47	2011134	Thiopurine Drug Metabolites								x				
47	0050920	*Treponema pallidum* Antibody, IgG by ELISA					x							
47	0050787	*Trichinella* Antibody, IgG by ELISA	x											
48	0020713	Triglycerides, Fluid				x		x			x			
48	0020040	Triglycerides, Serum or Plasma				x			x					
48	0020513	Uric Acid, Body Fluid				x		x			x			
48	0020026	Uric Acid, Serum or Plasma							x					
48	0095263	VAP Cholesterol, Serum				x								
48	0080380	Vitamin C (Ascorbic Acid), Plasma				x								

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49	0091383	Xylenes (Total), Serum or Plasma												x

0060997 **Acid-Fast Bacillus (AFB) Identification with Reflex to Susceptibility** **MC AFBIS**

Reference Interval: Complete identification and susceptibility of clinically significant isolates of *M. tuberculosis* complex, *M. kansasii*, *M. avium-intracellulare* complex, *M. fortuitum* complex, *M. abscessus* complex, *M. chelonae*, *M. immunogenum* and any isolate from a significant source.

New Test 2013015 **Adenovirus Antibody, Serum** **ADENO AB**
Available January 19, 2016

Methodology: Semi-Quantitative Complement Fixation
Performed: Varies
Reported: 3-8 days

Specimen Required: Collect: Plain red or serum separator tube (SST).
Specimen Preparation: Transfer 1 mL serum to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated. Also acceptable: Room temperature or frozen.
Unacceptable Conditions:
Stability (collection to initiation of testing): Ambient: 1 week; Refrigerated: 2 weeks; Frozen: 1 month

Reference Interval: By Report

CPT Code(s): 86603

New York DOH Approved.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

2002582 **Aldosterone and Renin, Direct with Ratio** **A/DR**

Specimen Required:
Specimen Preparation: Separate from cells ASAP. Transfer 1 mL serum **AND** 2 mL EDTA plasma to individual ARUP Standard Transport Tubes and freeze immediately. (Min: 0.5 mL serum **AND** 1 mL EDTA plasma)

New Test 2013024 Allergens, Food, Egg Components IgE EGG COMP

Available January 19, 2016

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 (SST). Multiple specimen tubes should be avoided.
Specimen Preparation: Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum **plus** 0.1 mL for each additional allergen ordered to an ARUP Standard Transport Tube. (Min: 0.5 mL **plus** 0.04 mL for each allergen ordered)
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

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 in this panel: Ovomucoid, Ovalbumin, Egg White, and Whole Egg.

CPT Code(s): 86003 x4

New York DOH Approved.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

New Test 2013034 Alpha Subunit, Pituitary Glycoprotein Hormones (PGH) A SUB PGH

Available April 4, 2016

Methodology: Quantitative Chemiluminescent Immunoassay
Performed: Varies
Reported: 3-16 days

Specimen Required: Collect: Serum Separator Tube (SST) or Plain Red. Also acceptable: Lavender EDTA, pink (K_2 EDTA) or Green (Sodium Heparin).
Specimen Preparation: Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP Standard Transport Tube. (Min: 0.25 mL) Freeze immediately.
Storage/Transport Temperature: **CRITICAL FROZEN. Separate specimens must be submitted when multiple tests are ordered.**
Unacceptable Conditions:
Stability (collection to initiation of testing): Ambient: 24 hours; Refrigerated: 24 hours; Frozen: 6 months

CPT Code(s): 83520

New York DOH Approved.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

0020506 Amylase, Body Fluid — AMY-FL

Specimen Required:

Collect: Drain, Pancreatic, or Peritoneal/Ascites fluid.

Interpretive Data: For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

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

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0097114, SR Source
Add component 2013043, Amylase Fluid Source

0060198 Anaerobic Organism Identification with Reflex to Susceptibility — MC ANAIS

Note: Testing performed and associated charges billed depends on specimen source and type of organism suspected. If a significant organism is identified, then the appropriate susceptibility panel will be added. An additional processing fee will be billed for all mixed cultures, as indicated in the specimen requirements. Although, susceptibility testing is not automatically performed on isolates of unknown clinical significance, testing may be requested by contacting the laboratory.

Submission of mixed cultures will result in delayed turnaround time and increased charges. Isolation of organism should be ensured prior to submission. Order a separate test for each organism identification required.

Avoid submission of isolates in liquid media where possible. Submission of liquid media commonly results in mixed and/or non-viable cultures.

Anaerobe susceptibility testing is appropriate in the case of serious infections involving blood, bone, joint, tissue, or brain abscess. (Refer to Antimicrobial Susceptibility – Anaerobe, ARUP test code 0060202).

For identification by 16s rDNA sequencing only, order Organism Identification by 16s rDNA Sequencing (ARUP test code 0060720).

2005077 Angelman Syndrome and Prader-Willi Syndrome by Methylation-Sensitive PCR — AS PWS

2012232 Angelman Syndrome and Prader-Willi Syndrome by Methylation-Sensitive PCR, Fetal — AS PWS FE

Specimen Required:

Collect: **Fetal Specimen**: Four (4) T-25 flasks at 80 percent confluency of cultured amniocytes. **If the client is unable to culture amniocytes, this can be arranged by contacting ARUP Client Services at (800) 522-2787**. Or amniotic fluid.
AND Maternal Cell Contamination Specimen: Lavender (EDTA), pink (K_2EDTA), or yellow (ACD Solution A or B).
Specimen Preparation: **Cultured Amniocytes**: Fill flasks with culture media. Transport four (4) T-25 flasks at 80 percent confluency of cultured amniocytes. Backup cultures must be retained at the client's institution until testing is complete.
OR Amniotic Fluid: Transport 20 mL unspun fluid. (Min: 10 mL)
AND Maternal Cell Contamination Specimen: Transport 3 mL whole blood. (Min: 1 mL)

0013006 Antibody Titer — IRL-ABTR1

Specimen Required:

Collect: Lavender (EDTA) or Pink K_2EDTA.

Note: Antibody identification must be performed prior to performing this test. Additional charges apply,

0060059 Antimicrobial Susceptibility - D-Test (Macrolide, Lincosamide, Streptogramin Resistance) — MA DTEST

Performed: Sun-Sat
Reported: 2-4 days

0060708 Antimicrobial Susceptibility - *Enterococcus* — MA ENTERO

Performed: Sun-Sat
Reported: 2-4 days

0063999 **Antimicrobial Susceptibility - Extended Spectrum Beta Lactamase** **MA ESBL**

Performed: Sun-Sat
Reported: 2-4 days

0060211 **Antimicrobial Susceptibility - *mec*A Gene by PCR** **MA MEC**

Performed: Sun-Sat
Reported: 1-3 days

0060203 **Antimicrobial Susceptibility - MIC/MBC** **MA MBC**

Performed: Sun-Sat
Reported: 2-6 days

0060193 **Antimicrobial Susceptibility - *Nocardia*** **MA NOC**

Performed: Sun-Sat
Reported: 3-6 days

0060216 **Antimicrobial Susceptibility - Nonfermenter** **MA NF**

Performed: Sun-Sat
Reported: 2-4 days

0060200 **Antimicrobial Susceptibility - Not Otherwise Specified** **MA SENS**

Performed: Sun-Sat
Reported: 2-4 days

0060707 **Antimicrobial Susceptibility - *Staphylococcus*** **MA STAPH**

Performed: Sun-Sat
Reported: 2-4 days

0060221 **Antimicrobial Susceptibility - *Streptococcus pneumoniae*** **MA SPN**

Performed: Sun-Sat
Reported: 2-4 days

0095505 **Autoimmune Lymphoproliferative Profile** **ALPS**

Reference Interval: Effective February 16, 2016
Reports include age appropriate reference intervals and interpretation.

Test Number	Components	0-23 months	2 years and older
	% Alpha/Beta+, CD4-, CD8-	0-1.5%	0-1.5%
	Absolute Alpha/Beta+, CD4-, CD8-	0-33 cells/µL	0-33 cells/µL
	% CD5+, CD20+	0-2%	0-4%
	Absolute CD5+, CD20+	0-150 cells/µL	0-100 cells/µL
	% CD3+, HLA-DR+	0-8%	0-11%
	Absolute CD3+, HLA-DR+	0-600 cells/µL	0-320 cells/µL

HOT LINE NOTE: There is a numeric map change associated with this test.
Change the numeric map for component 0095516, % Alpha/Beta+, CD4-, CD8- from XXX to XX.X
Change the numeric map for component 0095517, Absolute Alpha/Beta+, CD4-, CD8- from XXXX to XXX

2008420 ***BCR-ABL1* Mutation Analysis for Tyrosine Kinase Inhibitor Resistance by Next Generation Sequencing** **BCRABL NGS**

0050388 Beta Globin (*HBB*) Sequencing, Fetal — BGSEQ FE

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0050578, Beta Globin Full Gene Sequencing
Add component 2013108, BGSEQ FE, Interpretation

0020510 Bilirubin, Total, Body Fluid — TBILI-FL

Specimen Required:
Collect: Biliary/Hepatic, Drain, Peritoneal/Ascites, or Pleural fluid.

Interpretive Data: For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

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

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0097114, SR Source
Add component 2013060, Bilirubin, Total Fluid Source

2012647 Buprenorphine and Metabolites, Serum or Plasma, Quantitative — BUPRSP

Performed: Tue, Fri
Reported: 1-5 days

Reference Interval: Effective February 16, 2016

Drugs Covered	Cutoff Concentrations
Buprenorphine	1 ng/mL
Norpbuprenorphine	1 ng/mL

2008708 Calculi Risk Assessment, Urine — CRA

HOT LINE NOTE: There is a component change associated with this test.
Add component 2012774, EER Calculi Risk Assessment Panel, Urine

0020746 Cancer Antigen-GI (CA 19-9), Body Fluid — CA-GI FL

Specimen Required:
Collect: Biliary/Hepatic, CSF, Pancreatic, Peritoneal/Ascites, or Pleural fluid.

Interpretive Data: The Roche CA 19-9 electrochemiluminescent immunoassay is used. Results obtained with different test methods or kits cannot be used interchangeably. CA 19-9 is useful in monitoring pancreatic, hepatobiliary, gastric, hepatocellular, and colorectal cancer. The CA 19-9 value, regardless of level, should not be interpreted as absolute evidence of the presence or absence of malignant disease.

For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0020777, Source, Fluid
Add component 2013040, Cancer Antigen-GI(CA19-9), Fluid Source

0091352 Carbidopa and Levodopa Quantitative, Serum or Plasma — SINEMET SP

Specimen Required:
Storage/Transport Temperature: **CRITICAL FROZEN.** Separate specimens must be submitted when multiple tests are ordered..
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 1 month

0020742 Carcinoembryonic Antigen, Fluid — CEA FL

Specimen Required:

Collect: CSF, Pancreatic, Pericardial, Peritoneal/Ascites or Pleural fluid.
Specimen Preparation: Centrifuge to remove cellular material. Transfer 1 mL body fluid to an ARUP Standard Transport Tube. (Min: 0.5 mL)

Interpretive Data: The Roche CEA electrochemiluminescent immunoassay is used. Results obtained with different assay methods or kits cannot be used interchangeably. Measurements of CEA have been shown to be clinically relevant in the management of patients with colorectal, breast, lung, prostatic, pancreatic, and ovarian carcinomas. Smokers may have slightly elevated levels of CEA. The CEA assay value, regardless of level, should not be interpreted as evidence for the presence or absence of malignant disease and is not recommended for use as a screening procedure to detect the presence of cancer in the general population.

For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0020777, Source, Fluid
Add component 2013044, Carcinoembryonic Antigen Fluid Source

New Test 2012844 CD200 by Immunohistochemistry — CD200 IHC

Available January 19, 2016

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

Note: All stains will be handled as "Stain and Return" unless a consultation is requested. To request a consultation, submit the pathology report, all associated case materials (clinical history, blocks, slides, etc.), and the Anatomic Pathology requisition form (#32960) in place of the Immunohistochemistry Stain Form.

CPT Code(s): 88342

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

2008114 Celiac Disease Reflexive Cascade — CELIAC REF

Reference Interval: Effective February 16, 2016

Test Number	Components	Reference Interval
0050340	Immunoglobulin A	0-30 days: 1-7 mg/dL 1 month: 1-53 mg/dL 2 months: 3-47 mg/dL 3 months: 5-46 mg/dL 4 months: 4-72 mg/dL 5 months: 8-83 mg/dL 6 months: 8-67 mg/dL 7-8 months: 11-89 mg/dL 9-11 months: 16-83 mg/dL 1 year: 14-105 mg/dL 2 years: 14-122 mg/dL 3 years: 22-157 mg/dL 4 years: 25-152 mg/dL 5-7 years: 33-200 mg/dL 8-9 years: 45-234 mg/dL 10 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 IgG 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 2013085 Chikungunya by PCR — CHIKPCR

Available January 19, 2016

Methodology: Qualitative Polymerase Chain Reaction
Performed: Tue, Fri
Reported: 2-5 days

Specimen Required: Collect: Lavender (EDTA), pink (K_2 EDTA), or Serum Separator Tube (SST).
Specimen Preparation: Separate serum or plasma from cells. Transfer 1 mL serum or plasma to a sterile container. (Min: 0.5 mL)
Storage/Transport Temperature: Frozen.
Remarks: Specimen source required.
Unacceptable Conditions: Heparinized specimens.
Stability (collection to initiation of testing): Ambient: 24 hours; Refrigerated: 5 days; Frozen: 6 months

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

CPT Code(s): 87798

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

0020163 **Chloride, Fluid** **CL FL**

Specimen Required:

Collect: CSF, Drain, Pancreatic, Pericardial, Peritoneal/Ascites or Pleural fluid.

Interpretive Data: For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0020777, Source, Fluid
Add component 2013039, Chloride Fluid Source

0020714 **Cholesterol, Fluid** **CHOL FL**

Specimen Required:

Collect: Drain, Pericardial, Peritoneal/Ascites, or Pleural fluid.
Specimen Preparation: Centrifuge to remove cellular material. Transfer 1 mL body fluid to an ARUP Standard Transport Tube. (Min: 0.5 mL)

Interpretive Data: For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

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

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0020777, Source, Fluid
Add component 2013047, Cholesterol Fluid Source

0020031 **Cholesterol, Serum or Plasma** **CHOL**

Note: Assay interference (negative) may be observed when high concentrations of N-acetylcysteine (NAC) are present. Negative interference has also been reported with NAPQI (an acetaminophen metabolite), but only when concentrations are at or above those expected during acetaminophen overdose.

2002298 **Chromosome FISH, Interphase** **CHR FISHI**

Specimen Required:

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.

2002299 **Chromosome FISH, Metaphase** **CHR FISHM**

Specimen Required:

Remarks: Submit the Patient History for Cytogenetic (Chromosome) Studies form with the electronic packing list (available at http://www.aruplab.com/genetics/forms.php).
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.

2003304 **Complement Component Level 3a** **COMP 3A**

HOT LINE NOTE: There is a result type change associated with this test.
Change 2003305, 3a Complement Component Level from alpha to numeric

2003180 **Complement Component Level 4a** **COMP 4A**

HOT LINE NOTE: There is a result type change associated with this test.
Change 2003181, 4a Complement Component Level from alpha to numeric

0099072 **Complement Component Level 6** **COMP 6**

HOT LINE NOTE: There is a result type change associated with this test.
Change 0099072, C6 Complement Component Level from alpha to numeric

2009416 **Complement Factor H Level (B-1H)** **FACT H**

HOT LINE NOTE: There is a result type change associated with this test.
Change 2009417, Complement Factor H (B-1H) Level from alpha to numeric

New Test **2013098** **Cytochrome P450 Genotype Panel** **CYP PAN**
Available January 19, 2016

Additional Technical Information

Methodology: Polymerase Chain Reaction/Primer Extension (*CYP2D6*)
Polymerase Chain Reaction/Fluorescence Monitoring (*CYP2C9*, *CYP2C19*, *CYP3A5*)
Performed: Mon, Thu
Reported: 5-10 days

Specimen Required: Collect: **Whole Blood:** Lavender (EDTA), pink (K_2EDTA), or yellow (ACD Solution A or B). OR
Saliva: Collection Device by Spectrum Solutions, LLC (SS-SAL-1, ARUP Supply #52535) available online through eSupply using ARUP Connect™ or by contacting ARUP Client Services at (800) 522-2787.
Specimen Preparation: Transport 3 mL whole blood. (Min: 1 mL) OR Saliva Collection Device.
Storage/Transport Temperature: **Whole Blood:** Refrigerated.
Saliva: Room temperature.
Stability (collection to initiation of testing): **Whole Blood:** Ambient: 72 hours; Refrigerated: 2 weeks; Frozen: 1 month
Saliva: Ambient: 2 weeks; Refrigerated: Unacceptable; Frozen: Unacceptable

Interpretive Data:

Background Information for Cytochrome P450 2D6, *CYP2D6*, 14 Variants and Gene Duplication:
Characteristics: Impaired drug metabolism causing adverse drug reactions or lack of drug response. Drugs metabolized by *CYP2D6* include antiestrogens (tamoxifen), alpha-blockers, analgesics, anticonvulsants, antidepressants, antidiabetics, antihypertensives, antipsychotics, antitussives, beta blockers, cardioactives, norepinephrine reuptake inhibitors, and stimulants. Additionally, many drugs inhibit *CYP2D6* activity, and may affect drug response.
Inheritance: Autosomal co-dominant.
Cause: *CYP2D6* gene variants.
(Variants are numbered according to M33388 sequence.)
Functional: *2 (2850C>T), *2A (-1584C>G; 2850C>T).
Decreased function: *9 (2613-5delAGA), *10 (100C>T), *17 (1023C>T), *29 (1659G>A) *41 (2988G>A).
Non-functional: *3 (2549delA), *4 (1846G>A), *5 (gene deletion),*6 (1707delT), *7 (2935A>C), *8 (1758G>T), *12 (124G>A), *14 (1758G>A).
Increased function: Duplicated functional alleles.
Negative: No mutations detected is predictive of *1 functional alleles.
Incidence of Poor Metabolizer Phenotype: 10 percent of Caucasians and Hispanics, 2 percent of African Americans, and 1 percent of Asians.
Clinical Sensitivity: Drug-dependent.
Methodology: Multiplex polymerase chain reaction and detection primer extension.
Analytical Sensitivity and Specificity: Greater than 99 percent.
Limitations: Only the targeted *CYP2D6* variants will be detected by this panel. Diagnostic errors can occur due to rare sequence variations. Risk of therapeutic failure or adverse reactions with *CYP2C9* substrates may be affected by genetic and non-genetic factors that are not detected by this test. This result does not replace the need for therapeutic drug or clinical monitoring.

Background Information for Cytochrome P450 2C9, *CYP2C9*, 2 Variants:
Characteristics: The cytochrome P450 (CYP) isozyme 2C9 is involved in the metabolism of many drugs such as warfarin, phenytoin, tolbutamide, glipizide, ibuprofen, and phenobarbital. Variants of *CYP2C9* will influence pharmacokinetics of *CYP2C9* substrates, and may predict non-standard dose requirements.
Inheritance: Autosomal co-dominant.
Cause: *CYP2C9* gene variants result in decreased or complete deficiency in enzyme activity.
(Variants are numbered according to NM_000771 transcript)
Decreased function: *2 (rs1799853, c.430C>T).
Non-functional: *3 (rs1057910, c.1075A>C).
Negative: No variants detected is predictive of *1 functional alleles and normal enzymatic activity.
Allele Frequencies:
CYP2C9 *2: Caucasians – 13 percent, Asians – less than 1 percent, African Americans – 3 percent.
CYP2C9 *3: Caucasians – 7 percent, Asians – 4 percent, African Americans – 2 percent.
Clinical Sensitivity: Drug-dependent.
Methodology: Polymerase chain reaction (PCR) and fluorescence monitoring.
Analytical Sensitivity and Specificity: Greater than 99 percent.
Limitations: Only the targeted *CYP2C9* variants will be detected by this panel. Diagnostic errors can occur due to rare sequence variations. Risk of therapeutic failure or adverse reactions with *CYP2C9* substrates may be affected by genetic and non-genetic factors that are not detected by this test. This result does not replace the need for therapeutic drug or clinical monitoring.

Background Information for Cytochrome P450 2C19, *CYP2C19*, 9 Variants:

Characteristics: The cytochrome P450 (CYP) isozyme 2C19 is involved in the metabolism of many drugs such as clopidogrel, phenytoin, diazepam, R-warfarin, tamoxifen, some antidepressants, proton pump inhibitors, and antimalarials. Variants of *CYP2C19* will influence pharmacokinetics of *CYP2C19* substrates, and may predict non-standard dose requirements.
Inheritance: Autosomal co-dominant.
Cause: *CYP2C19* gene variants result in increased, decreased, or complete deficiency in enzyme activity.
Variants Tested: (Variants are numbered according to NM_000769 transcript).
Decreased function: *9 (rs17884712, c.431G>A); *10 (rs6413438, c.680C>T).
Non-functional: *2 (rs4244285, c.681G>A), *3 (rs4986893, c.636G>A), *4 (rs28399504, c.1A>G), *6 (rs72552267, c.395G>A), *7 (rs72558186, c.819+2T>A), *8 (rs41291556, c.358T>C).
Increased function: *17 (rs12248560, c.-806C>T).
Negative: No variants detected is predictive of *1 functional alleles and normal enzymatic activity.
Allele frequencies:
*CYP2C19**2: African American – 18.3 percent, Caucasian – 14.6 percent, Middle Eastern – 13.2 percent, Oceanian – 54.9 percent, South Asian – 34.4 percent.
*CYP2C19**3: African American – 0.3 percent, Caucasian – 0.6 percent, Middle Eastern – 2.6 percent, Oceanian – 13.9 percent, East Asian – 8.5 percent.
*CYP2C19**17: African American – 19.4 percent, Caucasian – 21.5 percent, Oceanian – 2.5 percent, South Asian – 16.5 percent.
Other alleles are rare, with allele frequencies of less than 1 percent in all populations studied.
Clinical Sensitivity: Drug-dependent.
Methodology: Polymerase chain reaction (PCR) and fluorescence monitoring.
Analytical Sensitivity and Specificity: Greater than 99 percent.
Limitations: Only the targeted *CYP2C19* variants will be detected by this panel. Diagnostic errors can occur due to rare sequence variations. Risk of therapeutic failure or adverse reactions with *CYP2C19* substrates may be affected by genetic and non-genetic factors that are not detected by this test. This result does not replace the need for therapeutic drug or clinical monitoring.

Background Information for Cytochrome P450 3A5 Genotyping, *CYP3A5*, 2 Variants:
Characteristics: The cytochrome P450 (CYP) 3A subfamily of enzymes is involved in metabolism of many drugs such as immunosuppressants, antibiotics, antivirals, benzodiazepines, and steroids. Nonfunctional variants of *CYP3A5* are common in some populations, preventing expression and function of the CYP3A5 enzyme, which will influence pharmacokinetics of *CYP3A5* substrates, and may predict non-standard dose requirements.
Inheritance: Autosomal co-dominant.
Cause: *CYP3A5* gene variants result in enzyme deficiency.
Variants Tested: *CYP3A5* non-functional alleles: *3 (rs776746, c.6986A>G), *6 (rs10264272, c.14690G>A).
Negative: No variants detected is predictive of *1 functional alleles and normal CYP3A5 enzyme activity. **(**Variants are numbered according to NG_007938.1 transcript)
Allele Frequencies:
*CYP3A5**3: African – 29.8 percent, Asian – 74.2 percent, Caucasian – 92.1 percent, Latin American – 76.5 percent, Middle Eastern – 88.1 percent.
*CYP3A5**6: African – 17.2 percent, Asian – 0.1 percent, Caucasian – 0.1 percent, Latin American – 3.7 percent, Middle Eastern – 1.9 percent.
*CYP3A5**7: African – 7.7 percent, Asian – 0 percent, Caucasian – 0 percent, Latin American – 2.5 percent, Middle Eastern – 0.2 percent.
Clinical Sensitivity: drug-dependent
Methodology: Polymerase chain reaction (PCR) and fluorescence monitoring.
Analytical Sensitivity and Specificity: Greater than 99 percent.
Limitations: Only the targeted *CYP3A5* variants will be detected by this panel. Diagnostic errors can occur due to rare sequence variations. Many *CYP3A* substrates are also metabolized by *CYP3A4*, for which clinically relevant genetic variation is not recognized to be common. Risk of therapeutic failure or adverse reactions with *CYP3A5* substrates may be affected by genetic and non-genetic factors that are not detected by this test. This result does not replace the need for therapeutic drug or clinical monitoring.

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

CPT Code(s): 81225, 81226, 81227, 81401

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

0051394 **Cytokine Panel** **CYT 12 SE**

Reference Interval: Effective February 16, 2016

Test Number	Components	Reference Interval
0051529	Interleukin 2 Receptor (CD25), Soluble	Effective May 19, 2014 1033 pg/mL or less
0051530	Interleukin 12	Effective May 19, 2014 6 pg/mL or less
0051531	Interferon gamma	Effective May 19, 2014 5 pg/mL or less
0051532	Interleukin 4	Effective May 19, 2014 5 pg/mL or less
0051533	Interleukin 5	Effective May 19, 2014 5 pg/mL or less
0051534	Interleukin 10	Effective May 19, 2014 18 pg/mL or less
0051535	Interleukin 13	Effective May 19, 2014 5 pg/mL or less
0051536	Interleukin 1 beta	Effective May 19, 2014 36 pg/mL or less
0051537	Interleukin 6	Effective May 19, 2014 5 pg/mL or less
0051538	Interleukin 8	Effective May 19, 2014 5 pg/mL or less
0051539	Tumor Necrosis Factor - alpha	Effective May 19, 2014 22 pg/mL or less
0051588	Interleukin 2	Effective May 19, 2014 12 pg/mL or less
2013115	Interleukin 17	13 pg/mL or less

CPT Code(s): 83520 x13

HOT LINE NOTE: There is a component change associated with this test.
Add component 2013113, Interleukin 17

New Test **2013111** **Cytokine Production by Mononuclear Cells in Response to Antigen and Mitogen Stimulation** **CYT AM**

Available April 4, 2016

Time Sensitive

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

Methodology: Cell Culture/Quantitative Multiplex Bead Assay
Performed: Tue-Fri
Reported: 9-10 days

Specimen Required: Patient Prep: A control specimen needs to be sent with the patient specimen. The control specimen needs to be drawn from a normal, healthy individual who is not biologically related to the patient, and drawn at approximately the same time as and under similar conditions to the patient specimen.
Collect: Green (sodium heparin) (patient) **AND** green (sodium heparin) (control). Also acceptable: Yellow (ACD Solution A) (patient) **AND** yellow (ACD Solution A) (control). **Patient and control samples must be collected within 48 hours of test performance.**
Specimen Preparation: Transport 10 mL whole blood (patient) **AND** 10 mL whole blood (control) in original collection tubes. (Min: 7 mL whole blood (patient) **AND** 7 mL whole blood (control)) **LIVE CELLS REQUIRED. Do not refrigerate or freeze.**
Infant Minimum: 3 mL whole blood (patient) **AND** 7 mL whole blood (control).
Storage/Transport Temperature: **CRITICAL ROOM TEMPERATURE.**
Unacceptable Conditions: Yellow (ACD Solution **B**). Specimens in transport longer than 48 hours.
Stability (collection to initiation of testing): Ambient: 48 hours; Refrigerated: Unacceptable; Frozen: Unacceptable
New York State Clients: Ambient: 24 hours; Refrigerated: Unacceptable; Frozen: Unacceptable

Reference Interval: By report

Interpretive Data: Antigens (*Candida albicans*, tetanus toxoid) and mitogens (phytohemagglutinin, concanavalin A, pokeweed) are tested independently in lymphocyte culture. Peripheral Blood Mononuclear Cell (PBMC) cytokine production responses to these antigens and mitogens are determined by quantitative multiplex bead assay. Results are used to understand the pathophysiology of immune, infectious, or inflammatory disorders, or may be used for research purposes.

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

Note: The following cytokines (and receptor) are reported: IL-2, sIL-2R (sCD25), IL-4, IL-5, IL-10, IL-13, IL-1b, IL-6, IL-17, TNF-a, and IFN-g. Results are reported as pg/mL. Interpretation comparing the patient results to the simultaneously collected client normal control and the laboratory normal control will be provided by an ARUP medical director.

CPT Code(s): 86353 x5; 83520 x11

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

New Test **2013109** **Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation** **CYT M**

Available April 4, 2016

Time Sensitive

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

Methodology: Cell Culture/Quantitative Multiplex Bead Assay
Performed: Tue-Fri
Reported: 9-10 days

Specimen Required: Patient Prep: A control specimen needs to be sent with the patient specimen. The control specimen needs to be drawn from a normal, healthy individual who is not biologically related to the patient, and drawn at approximately the same time as and under similar conditions to the patient specimen.
Collect: Green (sodium heparin) (patient) **AND** green (sodium heparin) (control). Also acceptable: Yellow (ACD Solution A) (patient) **AND** yellow (ACD Solution A) (control). **Patient and control samples must be collected within 48 hours of test performance.**
Specimen Preparation: Transport 10 mL whole blood (patient) **AND** 10 mL whole blood (control) in original collection tubes. (Min: 7 mL whole blood (patient) **AND** 7 mL whole blood (control)) **LIVE CELLS REQUIRED. Do not refrigerate or freeze.**
Infant Minimum: 3 mL whole blood (patient) **AND** 7 mL whole blood (control).
Storage/Transport Temperature: **CRITICAL ROOM TEMPERATURE.**
Unacceptable Conditions: Yellow (ACD Solution **B**). Specimens in transport longer than 48 hours.
Stability (collection to initiation of testing): Ambient: 48 hours; Refrigerated: Unacceptable; Frozen: Unacceptable
New York State Clients: Ambient: 24 hours; Refrigerated: Unacceptable; Frozen: Unacceptable

Reference Interval: By report

Interpretive Data: Mitogens (Phytohemagglutinin, concanavalin A, pokeweed) are tested independently in lymphocyte culture. Peripheral Blood Mononuclear Cell (PBMC) cytokine responses to these mitogens are determined by quantitative multiplex bead assay. Results are used to understand the pathophysiology of immune, infectious, or inflammatory disorders, or may be used for research purposes.

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

Note: The following cytokines are reported: IL-2, sIL-2R (sCD25), IL-4, IL-5, IL-10, IL-13, IL-1b, IL-6, IL-17, TNF-a, and IFN-g. Results are reported as pg/mL. Interpretation comparing the patient results to the simultaneously collected client normal control and the laboratory normal control will be provided by an ARUP medical director.

CPT Code(s): 86353 x3; 83520 x11

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

2012166 **Dihydropyrimidine Dehydrogenase (*DPYD*), 3 Variants** **DPYD**

Methodology: Polymerase Chain Reaction/Fluorescence Monitoring
Performed: Mon, Thu
Reported: 5-10 days

Specimen Required:
Unacceptable Conditions: Plasma or serum. Heparinized specimens.
Stability (collection to initiation of testing): Ambient: 72 hours; Refrigerated: 2 weeks; Frozen: 1 month.

HOT LINE NOTE: There is a component change associated with this test.
Remove component 2012168, DPYD c.1679T>G
Remove component 2013169, DPYD c.1905+1G>A
Remove component 2012170, DPYD c.2846A>T
Remove component 2012171, DPYD Interpretation
Add component 2013096, DPYD Genotype
Add component 2013097, DPYD Phenotype

2006621 Drug Detection Panel, Umbilical Cord Tissue, Qualitative — TOF SCR CD

Specimen Required:

Specimen Preparation: Drain and discard any blood. Rinse the exterior of the cord segment with normal saline or sterile water. Pat the cord dry and transfer specimens to the appropriate transport device or use the Security Kit for Meconium/Umbilical Drug Detection (ARUP supply #51548) available online through eSupply using ARUP Connect™ or by contacting ARUP Client Services at (800) 522-2787.

Reference Interval: Effective February 16, 2015

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

Drugs/Drug Classes	Range of Cutoff Concentrations
Opioids: buprenorphine, codeine, fentanyl, heroin (6-acetylmorphine), dihydrocodeine, hydrocodone, hydromorphone, meperidine, methadone, morphine, naloxone, oxycodone, oxymorphone, propoxyphene, tapentadol, tramadol	1-10 ng/g
Stimulants: amphetamine, cocaine, methamphetamine, MDMA (Ecstasy), phentermine	8 ng/g
Sedatives-hypnotics: alprazolam, butalbital, clonazepam, diazepam, lorazepam, midazolam, nordiazepam, oxazepam, phenobarbital, temazepam, zolpidem	5-75 ng/g
Cannabinoids (11-nor-9-carboxy-THC)	1 ng/g
Phencyclidine (PCP)	4 ng/g

HOT LINE NOTE: There is a component change associated with this test.
Remove component 2006639, Naltrexone (cutoff 8 ng/g)
Remove component 2006655, MDA (cutoff 8 ng/g)
Remove component 2006656, MDEA- Eve (cutoff 8 ng/g)
Remove component 2006666, Flunitrazepam (cutoff 5 ng/g)
Remove component 2006667, 7-Aminoflunitrazepam (cutoff 5 ng/g)
Remove component 2006668, Flurazepam (cutoff 5 ng/g)
Remove component 2006669, Desalkylflurazepam (cutoff 10 ng/g)
Remove component 2006670, 2-OH-Ethylflurazepam (cutoff 10 ng/g)
Remove component 2006674, Nitrazepam (cutoff 5 ng/g)
Remove component 2006678, Secobarbital (cutoff 75 ng/g)
Remove component 2006680, Triazolam (cutoff 5 ng/g)
Remove component 2006681, Alpha-OH-Triazolam (cutoff 5 ng/g)
Add component 2013103, Norbuprenorphine (cutoff 8 ng/g)
Add component 2013104, Norhydrocodone (cutoff 6 ng/g)
Add component 2013105, Noroxycodone (cutoff 4 ng/g)
Add component 2013106, Noroxymorphone (cutoff 4 ng/g)

0020410 Electrolyte Panel — LYTES

Specimen Required:

Unacceptable Conditions: Specimens collected in sodium citrate, EDTA, potassium oxalate, or sodium fluoride. Hemolyzed specimens.

2002902 Epstein-Barr Virus (EBV) by in situ Hybridization, Paraffin — EBV ISH

HOT LINE NOTE: There is a component change associated with this test.
Change component 2003001 H and E Slide Description from a Prompt test to a Resultable test.

2001961 Familial Mutation, Targeted Sequencing SEQ FSM

CPT Code(s): 81202 *APC*; 81215 *BRCA1*; 81217 *BRCA2*; 81221 *CFTR*; 81253 *GJB2*; 81293 *MLH1*; 81296 *MSH2*; 81299 *MSH6*; 81303 *MECP2*; 81318 *PMS2*; 81322 *PTEN*; 81402 *MEFV*

81401 if one of the following genes is tested: *ACADM, PRSS1*

81403 if one of the following genes is tested: *ABCD1, ACADVL, ADPKD, ASS1, ATP7B, BMPR2, BTD, CDKL5, CHD7, COL4A5, CYP1B1, DHCR7, ENG, F8, F9, FBN1, GALT, HBA1, HBA2, HBB, HEXA, LMNA, MEN1, MUTYH, NF1, OTC, PTPN11, RET, SDHA, SDHB, SDHC, SDHD, SLC22A5, SMAD4, SOS1, SPINK1, SPRED1, STK11, TGFBR1, TGFBR2, TP53, UBE3A, VHL, VWF*

81479 if one of the following genes is tested: *ACVRL1, ATP7A, BMP9, BMPR1A, CTRC, EIF2AK4, G6PD, GAMT, GATM, GLI3, INSR, KMT2D, MYH3, NAA10, PLOD1, RASA1, SLC25A13, SLC6A8, TNFRSF13B*

Contact ARUP for CPT coding of targeted familial variants in genes not listed here.

2001980 Familial Mutation, Targeted Sequencing, Fetal SEQ FSM FE

Specimen Required:

Storage/Transport Temperature: **Cultured Amniocytes: CRITICAL ROOM TEMPERATURE.** Must be received within 48 hours of shipment due to liability of cells.
Amniotic fluid: Room temperature.
Maternal Cell Contamination Specimen: Refrigerated

Note: Documentation of the familial gene mutation(s) is required to perform targeted sequencing. Submit a copy of a relative's laboratory test report documenting the gene and specific mutation(s) for which testing is requested.

This test is available for genes currently sequenced at ARUP. Some genes will require approval before fetal testing can begin. Contact ARUP's Genetic Counselors at (800) 242-2787 extension 2141 prior to test submission.

Submit a positive control with the patient specimen for appropriate interpretation. Disease-specific patient history forms are available at www.aruplab.com/Testing-Information/consentforms-patienthistory.jsp

CPT Code(s): 81265 Fetal Cell Contamination; 81202 *APC*; 81215 *BRCA1*; 81217 *BRCA2*; 81221 *CFTR*; 81253 *GJB2*; 81281 LQTS; 81402 *MEFV*; 81293 *MLH1*; 81296 *MSH2*; 81299 *MSH6*; 81303 *MECP2*; 81318 *PMS2*; 81322 *PTEN*; 81402 *MEFV*

81401 if one of the following genes is tested: *ACADM, PRSS1*

81403 if one of the following genes is tested: *ABCD1, ACADVL, ADPKD, ASS1, ATP7B, BMPR2, BTD, CDKL5, CHD7, COL4A5, CYP1B1, DHCR7, ENG, F8, F9, FBN1, GALT, HBA1, HBA2, HBB, HEXA, LMNA, MEN1, MUTYH, NF1, OTC, PTPN11, RET, SDHA, SDHB, SDHC, SDHD, SLC22A5, SMAD4, SOS1, SPINK1, SPRED1, STK11, TGFBR1, TGFBR2, TP53, UBE3A, VHL, VWF*

81479 if one of the following genes is tested: *ACVRL1, ATP7A, BMP9, BMPR1A, CTRC, EIF2AK4, G6PD, GAMT, GATM, GLI3, INSR, KMT2D, MYH3, NAA10, PLOD1, RASA1, SLC25A13, SLC6A8, TNFRSF13B*

Contact ARUP for CPT coding of targeted familial variants in genes not listed here.

0092442 Galactokinase, Blood GALACTOKI

Performed: Varies
Reported: 21-31 days

Specimen Required:

Specimen Preparation: Transport 5 mL whole blood. (Min: 1 mL) **Before sending specimen, contact ARUP Referral Testing at (800) 242-2787, extension 5145 for direct submission instructions. Specimen must be received at performing laboratory within 48 hours of collection**.

2012678 Gastrointestinal Bacterial Panel by PCR GI BACTPCR

HOT LINE NOTE: There is a clinically significant charting name change associated with this test.
Change the charting name of component 2012679 from Shigella species by PCR to Shigella/Enteroinvasive E. coli by PCR

2011470 *GLI3*-Related Disorders (*GLI3*) Sequencing GLI3 FGS

Interpretive Data:
Background Information for *GLI3*-Related Disorders (*GLI3*) Sequencing:
Characteristics: Mutations in the *GLI3* gene cause multiple disorders. The most common disorders are Pallister-Hall syndrome (PHS) and Greig Cephalopolysyndactyly syndrome (GCPS).
PHS is characterized by hypothalamic hamartoma, postaxial/central polydactyly, and bifid epiglottis. Some individuals may exhibit imperforate anus, renal, genitourinary, pulmonary, or non-polydactyly skeletal anomalies.
GCPS is characterized by preaxial polysyndactyly, hypertelorism, and macrocephaly. Severe cases may exhibit seizures, hydrocephalus, and/or intellectual disability.
Inheritance: Autosomal dominant
Cause: Pathogenic germline mutations in the *GLI3* gene.
Clinical sensitivity: PHS - 90 percent; GCPS - 70 percent
Methodology: Bidirectional sequencing of the entire coding region and intron/exon boundaries of the *GLI3* gene.
Analytical sensitivity and specificity: Greater than 99 percent for sequencing.
Limitations: Diagnostic errors can occur due to rare sequence variations. Regulatory region mutations, deep intronic mutations, and large deletions/duplications are not detected. Exon 1 is a non-coding region and not covered by this assay. Mutations in genes other than *GLI3* are not detected.

Counseling and informed consent are recommended for genetic testing. Consent forms are available online at www.aruplab.com.

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

2011465 *GLI3*-Related Disorders (*GLI3*) Sequencing and Deletion/Duplication GLI3 FGA

Interpretive Data:
Background Information for *GLI3*-Related Disorders (*GLI3*) Sequencing and Deletion/Duplication:
Characteristics: Mutations in the *GLI3* gene cause multiple disorders. The most common disorders are Pallister-Hall syndrome (PHS) and Greig Cephalopolysyndactyly syndrome (GCPS).
PHS is characterized by hypothalamic hamartoma, postaxial/central polydactyly, and bifid epiglottis. Some individuals may exhibit imperforate anus, renal, genitourinary, pulmonary, or non-polydactyly skeletal anomalies.
GCPS is characterized by preaxial polysyndactyly, hypertelorism, and macrocephaly. Severe cases may exhibit seizures, hydrocephalus, and/or intellectual disability.
Inheritance: Autosomal dominant
Cause: Pathogenic germline mutations in the *GLI3* gene.
Clinical sensitivity: PHS - 90 percent; GCPS - 75-85 percent
Methodology: Bidirectional sequencing of the entire coding region and intron/exon boundaries of the *GLI3* gene. Multiplex Ligation-dependent Probe Amplification (MLPA) to detect large exonic *GLI3* deletions and duplications.
Analytical sensitivity and specificity: Greater than 99 percent for sequencing; greater than 98 percent for MLPA.
Limitations: Diagnostic errors can occur due to rare sequence variations. Regulatory region mutations, deep intronic mutations, and large deletions/duplications are not detected. The breakpoints of large deletions and duplications are not determined. Mutations in genes other than *GLI3* are not detected.

Counseling and informed consent are recommended for genetic testing. Consent forms are available online at www.aruplab.com.

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

0020503 Glucose, Body Fluid GLU-FL

Specimen Required:
Collect: Dialysate, Pericardial, Peritoneal/Ascites, Pleural, or Synovial fluid.

Interpretive Data: For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

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

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0097114, SR Source
Add component 2013051, Glucose Fluid Source

0092068 Hairstat 5 Reflexive Panel HAIRSTAT 5

Specimen Required: Patient Prep: Ensure hair is not chemically treated or synthetic. Hair from the beard, underarms, chest, arms, legs or pubic hair may be collected. Body hair from different sites may be combined to get a final volume. Body hair and scalp hair should not be combined.
Unacceptable Conditions: Unsealed specimens.

0020053 **HDL Cholesterol** **CH HDL**

Note: Assay interference (negative) may be observed when high concentrations of N-acetylcysteine (NAC) are present. Negative interference has also been reported with NAPQI (an acetaminophen metabolite), but only when concentrations are at or above those expected during acetaminophen overdose.

New Test **2013089** **Human Herpesvirus 8 (HHV-8) by Quantitative PCR** **HHV8 QNT**
Available February 16, 2016

Methodology: Quantitative Polymerase Chain Reaction
Performed: Mon, Thu
Reported: 2-5 days

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

Reference Interval: Not detected

Interpretive Data: The quantitative range of this assay is 3.8-8.8 log copies/mL (6,670 - 667,000,000 copies/mL).

A negative result (less than 3.8 log copies/mL or less than 6,670 copies/mL) does not rule out the presence of PCR inhibitors in the patient specimen or HHV8 DNA concentrations below the level of detection of the test. Inhibition may also lead to underestimation of viral quantitation.

No international standard is currently available for calibration of this assay. Caution should be taken when interpreting results generated by different assay methodologies.

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

Note: The limit of quantification for this DNA test is 3.8 log copies/mL (6,670 copies/mL). If the test DID NOT DETECT the virus, the test result will be reported as "< 3.8 log copies/mL (< 6,670 copies/mL)." If the test DETECTED the presence of the virus but was not able to accurately quantify the number of copies, the test result will be reported as "Not Quantified."

CPT Code(s): 87799

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

New Test **2013107** **Human Immunodeficiency Virus Types 1 and 2 (HIV-1/2) Antibody Differentiation, Supplemental** **HIV AB SUP**

Available January 19, 2016

Methodology: Qualitative Immunoassay
Performed: Varies
Reported: 1-2 days

Specimen Required: Collect: Lavender (EDTA), or Pink (K_2 EDTA). Also acceptable: Serum Separator Tube (SST).
Specimen Preparation: Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma into an ARUP Standard Transport Tube dedicated only for HIV testing. (Min: 0.5 mL) Remove particulate material.
Storage/Transport Temperature: Frozen.
Unacceptable Conditions: Specimens containing particulate material. Severely hemolyzed or heat-inactivated specimens.
Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 1 week; Frozen: Indefinitely (avoid repeated freeze/thaw cycles)

Reference Interval:

Test Number	Components	Reference Interval
	HIV-1 Antibody	Negative
	HIV-2 Antibody	Negative

Interpretive Data: This test should not be used for blood donor screening, associated re-entry protocols, or for screening Human Cells, Tissues, and Cellular and Tissue-Based Products (HCT/P).

Note: For use ONLY when patient has a repeatedly reactive third- or fourth-generation HIV screen test result. This test discriminates between HIV-1 and HIV-2 antibodies. Results for each type are reported. This test is for use as the antibody differentiation test in the specific multi-test algorithm. If results are negative or indeterminate, this test does NOT reflex to a nucleic acid test.

A multi-test algorithm is recommended by the Centers for Disease Control and Prevention (CDC) and the Clinical Laboratory Standards Institute (CLSI) for the diagnosis of HIV (refer to http://www.arupconsult.com/Topics/HIV.html).

CPT Code(s): 86701; 86702

New York DOH Approved.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

2002896 **Human Papillomavirus (HPV) Low Risk by in situ Hybridization, Paraffin** **HPVLOW ISH**

HOT LINE NOTE: There is a component change associated with this test.
Change component 2003001 H and E Slide Description from Prompt test to Resultable test.

0050980 Humoral Immunity Panel I — HUMPAN I

Reference Interval: Effective February 16, 2016

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	0-30 days: 1-7 mg/dL 1 month: 1-53 mg/dL 2 months: 3-47 mg/dL 3 months: 5-46 mg/dL 4 months: 4-72 mg/dL 5 months: 8-83 mg/dL 6 months: 8-67 mg/dL 7-8 months: 11-89 mg/dL 9-11 months: 16-83 mg/dL 1 year: 14-105 mg/dL 2 years: 14-122 mg/dL 3 years: 22-157 mg/dL 4 years: 25-152 mg/dL 5-7 years: 33-200 mg/dL 8-9 years: 45-234 mg/dL 10 years and older: 68-408 mg/dL
0050350	Immunoglobulin G	0- 30 days: 611-1542 mg/dL 1 month: 241-870 mg/dL 2 months: 198-577 mg/dL 3 months: 169-558 mg/dL 4 months: 188-536 mg/dL 5 months: 165-781 mg/dL 6 months: 206-676 mg/dL 7-8 months: 208-868 mg/dL 9-11 months: 282-1026 mg/dL 1 year: 331-1164 mg/dL 2 years: 407-1009 mg/dL 3 years: 423-1090 mg/dL 4 years: 444-1187 mg/dL 5-7 years: 608-1229 mg/dL 8-9 years: 584-1509 mg/dL 10 years and older: 768-1632 mg/dL
0050355	Immunoglobulin M	0-30 days: 0-24 mg/dL 1 month: 19-83 mg/dL 2 months: 16-100 mg/dL 3 months: 23-85 mg/dL 4 months: 26-96 mg/dL 5 months: 31-103 mg/dL 6 months: 33-97 mg/dL 7-8 months: 32-120 mg/dL 9-11 months: 39-142 mg/dL 1 year: 41-164 mg/dL 2 years: 46-160 mg/dL 3 years: 45-190 mg/dL 4 years: 41-186 mg/dL 5-7 years: 46-197 mg/dL 8-9 years: 49-230 mg/dL 10 years and older: 35-263 mg/dL
0050571	Immunoglobulin G Subclass 1	Cord blood: 435-1084 mg/dL 0-2 months: 218-498 mg/dL 3-5 months: 143-394 mg/dL 6-8 months: 190-388 mg/dL 9-23 months: 288-880 mg/dL 2 years: 170-950 mg/dL 3-4 years: 290-1065 mg/dL 5-6 years: 330-1065 mg/dL 7-8 years: 225-1100 mg/dL 9-10 years: 390-1235 mg/dL 11-12 years: 380-1420 mg/dL 13-14 years: 165-1440 mg/dL 15 years and older: 240-1118 mg/dL
0050572	Immunoglobulin G Subclass 2	Cord blood: 143-453 mg/dL 0-2 months: 40-167 mg/dL 3-5 months: 23-147 mg/dL 6-8 months: 37-60 mg/dL 9-23 months: 30-327 mg/dL 2 years: 22-440 mg/dL 3-4 years: 28-315 mg/dL 5-6 years: 57-345 mg/dL 7-8 years: 42-375 mg/dL 9-10 years: 61-430 mg/dL 11-12 years: 73-455 mg/dL 13-14 years: 71-460 mg/dL 15 years and older: 124-549 mg/dL
0050573	Immunoglobulin G Subclass 3	Cord blood: 27-146 mg/dL 0-2 months: 4-23 mg/dL 3-5 months: 4-70 mg/dL 6-8 months: 12-62 mg/dL 9-23 months: 13-82 mg/dL 2 years: 4-69 mg/dL 3-4 years: 4-71 mg/dL 5-6 years: 8-126 mg/dL 7-8 years: 9-107 mg/dL 9-10 years: 10-98 mg/dL 11-12 years: 16-194 mg/dL 13-14 years: 12-178 mg/dL 15 years and older: 21-134 mg/dL
0050576	Immunoglobulin G Subclass 4	Cord blood: 1-47 mg/dL 0-2 months: 1-33 mg/dL 3-5 months: 1-14 mg/dL 6-8 months: 1-16 mg/dL 9-23 months: 1-65 mg/dL 2 years: 0-120 mg/dL 3-4 years: 0-90 mg/dL 5-6 years: 2-116 mg/dL 7-8 years: 0-138 mg/dL 9-10 years: 1-95 mg/dL 11-12 years: 1-153 mg/dL 13-14 years: 2-143 mg/dL 15 years and older: 1-123 mg/dL

New Test 2013101 3-Hydroxy-3-Methylglutaryl Coenzyme A Reductase (HMGCR) Antibody, IgG HMGCR

Available January 19, 2016

Methodology: Semi-Quantitative Enzyme-Linked Immunosorbent Assay
Performed: Fri
Reported: 1-15 days

Specimen Required: Collect: Serum Separator Tube (SST).
Specimen Preparation: Transfer 0.5 mL serum to an ARUP Standard Transport Tube. (Min: 0.15 mL)
Storage/Transport Temperature: Refrigerated. Also acceptable: Frozen.
Unacceptable Conditions: Other body fluids. Contaminated, hemolyzed, grossly icteric, 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)

Reference Interval: 0-19 Units: Negative

Interpretive Data: IgG antibodies to 3-hydroxy-3-methylglutaryl-coenzyme A reductase (HMGCR) are mainly associated with necrotizing autoimmune myopathy (NAM) in a subset of statin-treated patients. Although infrequent, these antibodies may also be observed in statin-naive patients with NAM. Strong clinical correlation is recommended in the absence of muscle fiber necrosis, elevated serum creatinine kinase, perimysial pathology, and/or statin exposure.

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

CPT Code(s): 83516

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

0050667 Immune Complex Panel C1Q/RAJI

Specimen Required: Patient Prep:
Collect: Plain red or serum separator tube (SST).
Specimen Preparation: Allow complete clotting of red blood cells (up to 1 hour), then separate serum from cells within 30 minutes and freeze immediately. Transfer **TWO** (2) 1 mL aliquots of serum to individual ARUP Standard Transport Tubes. (Min: 0.5 mL/aliquot)
Storage/Transport Temperature: **CRITICAL FROZEN. Separate specimens must be submitted when multiple tests are ordered.**
Unacceptable Conditions: Non-frozen specimens. Specimens exposed to repeated freeze/thaw cycles.
Stability (collection to initiation of testing):
Raji: Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 30 days
C1q: (After separation from cells): Ambient: 2 hours; Refrigerated: Unacceptable; Frozen: 2 weeks (avoid repeated freeze/thaw cycles)

0050340 Immunoglobulin A IGA

Reference Interval: Effective February 16, 2016

0-30 days: 1-7 mg/dL	9-11 months: 16-83 mg/dL
1 month: 1-53 mg/dL	1 year: 14-105 mg/dL
2 months: 3-47 mg/dL	2 years: 14-122 mg/dL
3 months: 5-46 mg/dL	3 years: 22-157 mg/dL
4 months: 4-72 mg/dL	4 years: 25-152 mg/dL
5 months: 8-83 mg/dL	5-7 years: 33-200 mg/dL
6 months: 8-67 mg/dL	8-9 years: 45-234 mg/dL
7-8 months: 11-89 mg/dL	10 years and older: 68-408 mg/dL

0093149 Immunoglobulin A Subclasses (1 and 2) IGA SUB

Reference Interval: Effective February 16, 2016

Test Number	Components	Reference Interval	
0050340	Immunoglobulin A		
		0-30 days: 1-7 mg/dL 1 month: 1-53 mg/dL 2 months: 3-47 mg/dL 3 months: 5-46 mg/dL 4 months: 4-72 mg/dL 5 months: 8-83 mg/dL 6 months: 8-67 mg/dL 7-8 months: 11-89 mg/dL	9-11 months: 16-83 mg/dL 1 year: 14-105 mg/dL 2 years: 14-122 mg/dL 3 years: 22-157 mg/dL 4 years: 25-152 mg/dL 5-7 years: 33-200 mg/dL 8-9 years: 45-234 mg/dL 10 years and older: 68-408 mg/dL
	Immunoglobulin A Subclass 1	0-11 months: 1-115 mg/dL 1 year: 3-120 mg/dL 2 years: 7-132 mg/dL 3 years: 11-143 mg/dL 4-7 years: 23-175 mg/dL 8-11 years: 33-204 mg/dL 12-18 years: 47-249 mg/dL Adult: 60-294 mg/dL	
	Immunoglobulin A Subclass 2	0-11 months: 0-19 mg/dL 1 year: 0-23 mg/dL 2 years: 1-23 mg/dL 3 years: 1-25 mg/dL 4-7 years: 2-33 mg/dL 8-11 years: 2-37 mg/dL 12-18 years: 4-50 mg/dL Adult: 6-61 mg/dL	

0050576 Immunoglobulin G Subclass 4 IGG4

Reference Interval: Effective February 16, 2016

Cord blood: 1-47 mg/dL 0-2 months: 1-33 mg/dL 3-5 months: 1-14 mg/dL 6-8 months: 1-16 mg/dL 9-23 months: 1-65 mg/dL 2 years: 0-120 mg/dL 3-4 years: 0-90 mg/dL	5-6 years: 2-116 mg/dL 7-8 years: 0-138 mg/dL 9-10 years: 1-95 mg/dL 11-12 years: 1-153 mg/dL 13-14 years: 2-143 mg/dL 15 years and older: 1-123 mg/dL

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

Reference Interval: Effective February 16, 2016

Test Number	Components	Reference Interval	
0050571	Immunoglobulin G Subclass 1	Cord blood: 435-1084 mg/dL 0-2 months: 218-498 mg/dL 3-5 months: 143-394 mg/dL 6-8 months: 190-388 mg/dL 9-23 months: 288-880 mg/dL 2 years: 170-950 mg/dL 3-4 years: 290-1065 mg/dL	5-6 years: 330-1065 mg/dL 7-8 years: 225-1100 mg/dL 9-10 years: 390-1235 mg/dL 11-12 years: 380-1420 mg/dL 13-14 years: 165-1440 mg/dL 15 years and older: 240-1118 mg/dL
0050572	Immunoglobulin G Subclass 2	Cord blood: 143-453 mg/dL 0-2 months: 40-167 mg/dL 3-5 months: 23-147 mg/dL 6-8 months: 37-60 mg/dL 9-23 months: 30-327 mg/dL 2 years: 22-440 mg/dL 3-4 years: 28-315 mg/dL	5-6 years: 57-345 mg/dL 7-8 years: 42-375 mg/dL 9-10 years: 61-430 mg/dL 11-12 years: 73-455 mg/dL 13-14 years: 71-460 mg/dL 15 years and older: 124-549 mg/dL
0050573	Immunoglobulin G Subclass 3	Cord blood: 27-146 mg/dL 0-2 months: 4-23 mg/dL 3-5 months: 4-70 mg/dL 6-8 months: 12-62 mg/dL 9-23 months: 13-82 mg/dL 2 years: 4-69 mg/dL 3-4 years: 4-71 mg/dL	5-6 years: 8-126 mg/dL 7-8 years: 9-107 mg/dL 9-10 years: 10-98 mg/dL 11-12 years: 16-194 mg/dL 13-14 years: 12-178 mg/dL 15 years and older: 21-134 mg/dL
0050576	Immunoglobulin G Subclass 4	Cord blood: 1-47 mg/dL 0-2 months: 1-33 mg/dL 3-5 months: 1-14 mg/dL 6-8 months: 1-16 mg/dL 9-23 months: 1-65 mg/dL 2 years: 0-120 mg/dL 3-4 years: 0-90 mg/dL	5-6 years: 2-116 mg/dL 7-8 years: 0-138 mg/dL 9-10 years: 1-95 mg/dL 11-12 years: 1-153 mg/dL 13-14 years: 2-143 mg/dL 15 years and older: 1-123 mg/dL

0050355 Immunoglobulin M IGM

Reference Interval: Effective February 16, 2016

0-30 days: 0-24 mg/dL 1 month: 19-83 mg/dL 2 months: 16-100 mg/dL 3 months: 23-85 mg/dL 4 months: 26-96 mg/dL 5 months: 31-103 mg/dL 6 months: 33-97 mg/dL 7-8 months: 32-120 mg/dL	9-11 months: 39-142 mg/dL 1 year: 41-164 mg/dL 2 years: 46-160 mg/dL 3 years: 45-190 mg/dL 4 years: 41-186 mg/dL 5-7 years: 46-197 mg/dL 8-9 years: 49-230 mg/dL 10 years and older: 35-263 mg/dL

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

Reference Interval: Effective February 16, 2016

Test Number	Components	Reference Interval	
0050340	Immunoglobulin A		
		0-30 days: 1-7 mg/dL 1 month: 1-53 mg/dL 2 months: 3-47 mg/dL 3 months: 5-46 mg/dL 4 months: 4-72 mg/dL 5 months: 8-83 mg/dL 6 months: 8-67 mg/dL 7-8 months: 11-89 mg/dL	9-11 months: 16-83 mg/dL 1 year: 14-105 mg/dL 2 years: 14-122 mg/dL 3 years: 22-157 mg/dL 4 years: 25-152 mg/dL 5-7 years: 33-200 mg/dL 8-9 years: 45-234 mg/dL 10 years and older: 68-408 mg/dL
0050350	Immunoglobulin G		
		0- 30 days: 611-1542 mg/dL 1 month: 241-870 mg/dL 2 months: 198-577 mg/dL 3 months: 169-558 mg/dL 4 months: 188-536 mg/dL 5 months: 165-781 mg/dL 6 months: 206-676 mg/dL 7-8 months: 208-868 mg/dL	9-11 months: 282-1026 mg/dL 1 year: 331-1164 mg/dL 2 years: 407-1009 mg/dL 3 years: 423-1090 mg/dL 4 years: 444-1187 mg/dL 5-7 years: 608-1229 mg/dL 8-9 years: 584-1509 mg/dL 10 years and older: 768-1632 mg/dL
0050355	Immunoglobulin M		
		0-30 days: 0-24 mg/dL 1 month: 19-83 mg/dL 2 months: 16-100 mg/dL 3 months: 23-85 mg/dL 4 months: 26-96 mg/dL 5 months: 31-103 mg/dL 6 months: 33-97 mg/dL 7-8 months: 32-120 mg/dL	9-11 months: 39-142 mg/dL 1 year: 41-164 mg/dL 2 years: 46-160 mg/dL 3 years: 45-190 mg/dL 4 years: 41-186 mg/dL 5-7 years: 46-197 mg/dL 8-9 years: 49-230 mg/dL 10 years and older: 35-263 mg/dL

New Test 2013115 Interleukin 17 IL17

Available February 16, 2016

Methodology: Quantitative Multiplex Bead Assay
Performed: Mon, Wed, Fri
Reported: 1-4 days

Specimen Required: Collect: Serum Separator Tube (SST), Plain Red, or Green (Lithium Heparin).
Specimen Preparation: Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP Standard Transport Tube. (Min: 0.3 mL)
Storage/Transport Temperature: **CRITICAL FROZEN. Separate specimens must be submitted when multiple tests are ordered.**
Unacceptable Conditions: Contaminated or heat-inactivated specimens.
Stability (collection to initiation of testing): After separation from cells: Ambient: 30 minutes; Refrigerated: Unacceptable; Frozen: 1 year

Reference Interval: 13 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.

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

Note: Lower limit of detection is 5 pg/mL.

CPT Code(s): 83520

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

2000271	**Isohemagglutinin Titer, IgG**	**IRL ISO G**

Specimen Required:
Collect: Lavender (EDTA), or pink (K_2EDTA).

2000280	**Isohemagglutinin Titer, IgG and IgM**	**IRL ISO MG**

Specimen Required:
Collect: Lavender (EDTA), or pink (K_2EDTA).

2000270	**Isohemagglutinin Titer, IgM**	**IRL ISO M**

Specimen Required:
Collect: Lavender (EDTA), or pink (K_2EDTA).

2002888	**Kappa/Lambda Light Chain Panel by in situ Hybridization, Paraffin**	**K/L ISH**

HOT LINE NOTE: There is a component change associated with this test.
Change component 2003001 H and E Slide Description from Prompt test to Resultable test.

New Test **2012207** ***KIT* D816V Mutation Detection by PCR for Gleevec Eligibility in Aggressive Systemic Mastocytosis (ASM)** **KIT GLV**

Available January 19, 2016

Additional Technical Information

Methodology: Polymerase Chain Reaction
Performed: **DNA isolation:** Sun-Sat
Assay: Mon, Thu
Reported: 2-7 days

Specimen Required: Patient Prep: The *KIT* D816V for Gleevec Eligibility in ASM is approved by the FDA as a Humanitarian Use Device for qualitative polymerase chain reaction (PCR) detection of *KIT* D816V mutational status in patients with aggressive systemic mastocytosis (ASM). Testing must be ordered using the following instructions:
1. The ordering physician must register with the Internal Review Board (IRB) for *KIT* D816V for Gleevec Eligibility in ASM testing. Go to http://www.aruplab.com/KITD816V to obtain IRB registration online.
2. The test should be ordered using the ARUP test requisition form or via ARUP's web-based ordering interface (available only to existing ARUP clients). The full name of the ordering physician must be included on the ARUP form to ensure timely testing of the specimen. Specimens submitted with incomplete information may delay specimen testing.
3. Physicians are instructed as follows: ARUP does not accept specimens directly from physician offices. ARUP only accepts specimens from established clients. To send a specimen to ARUP, contact your local hospital/reference lab to determine if they are an ARUP client and can send the specimen. If they cannot send the specimens to ARUP, contact ARUP Client Services at (800) 522-2787 to be directed to an alternative ordering mechanism.
4. Information about the *KIT* D816V for Gleevec Eligibility in ASM test and IRB registration may be accessed at http://www.aruplab.com/KITD816V.
5. ARUP will receive specimens via usual shipping routes, from designated clients. When the specimen arrives, with an accompanying requisition, the physician's full name will be logged in, if present. If the ordering physician's full name is not present, the specimen is placed on EXCEPT (handled by the Exception Handling services group) after evaluation by the Integrated Oncology and Genetics (IOG) services group. The IOG services group will then attempt to locate the physician for confirmation of IRB registration. Upon confirmation of physician registration, the IOG services group will notify the Molecular Oncology clinical laboratory, and testing will proceed.
Collect: Fresh bone marrow.
Specimen Preparation: Transfer 3 mL bone marrow to an EDTA tube. (Min: 1 mL)
Storage/Transport Temperature: Refrigerated.
Unacceptable Conditions: Whole blood. Paraffin-embedded or clotted specimens.
Stability (collection to initiation of testing): Specimen must be received and testing initiated within: Ambient: Unacceptable; Refrigerated: 3 days; Frozen: Unacceptable

Reference Interval: By report

Interpretive Data: Refer to report.

CPT Code(s): 81402

New York DOH Approved.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

0020505 **Lactate Dehydrogenase Total, Body Fluid** **LDH-FL**

Specimen Required:
Collect: CSF, Pericardial, Peritoneal/Ascites, Pleural, or Synovial fluid.

Interpretive Data: For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

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

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0097114, SR Source
Add component 2013054, LDH Fluid Source

0020006 Lactate Dehydrogenase, Serum or Plasma — LDH

Specimen Required:

Storage/Transport Temperature: Room temperature.

0020715 Lipase, Fluid — LIP FL

Specimen Required:

Collect: Biliary/Hepatic, Drain, Pancreatic, Pericardial, Peritoneal/Ascites, Pleural or Synovial fluid.
Specimen Preparation: Centrifuge to remove cellular material. Transfer 1 mL body fluid to an ARUP Standard Transport Tube. (Min: 0.5 mL)

Interpretive Data: For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

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

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0020777, Source, Fluid
Add component 2013057, Lipase Fluid Source

0030181 Lupus Anticoagulant Reflexive Panel — LUPUS R

Reference Interval: Effective February 16, 2016

Test Number	Components	Reference Interval
	Dilute Russell Viper Venom Time (dRVVT)	33-44 seconds
	Dilute Russell Viper Venom (dRVVT) 1:1 Mix **(performed if dRVVT > 44 seconds)**	33-44 seconds
	Dilute Russell Viper Venom Time (dRVVT) Confirmation Test **(performed if dRVVT 1:1 Mix > 44 seconds)**	Negative
	Partial Thromboplastin Time	32-48 seconds
	Thrombin Time	14.7-19.5 seconds
	Reptilase Time	Less than 22.0 seconds
	PTT Heparin Neutralized	32-48 seconds
	Partial Thromboplastin Time 1:1 Mix **(performed if PTT > 48 seconds)**	32-48 seconds
	Platelet Neutralization Procedure **(performed if PTT 1:1 Mix > 48 seconds)**	Negative
	Hexagonal Phospholipid Neutralization	Negative

New Test **2013018** **Lurasidone Quantitative, Serum or Plasma** **LURASID**
Available January 19, 2016

Methodology: Quantitative High Performance Liquid Chromatography/Tandem Mass Spectrometry
Performed: Varies
Reported: 7-10 days

Specimen Required: Collect: Plain red, lavender (EDTA), or pink (K_2EDTA).
Specimen Preparation: Transfer 1 mL serum or plasma to an ARUP Standard Transport Tube. (Min: 0.3 mL)
Storage/Transport Temperature: Refrigerated. Also acceptable: Room temperature or frozen.
Unacceptable Conditions: Separator tubes.
Stability (collection to initiation of testing): Ambient: 1 month; Refrigerated: 1 month; Frozen: 15 months

CPT Code(s): 80342; (Alt code: G0480)
New York DOH Approved.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

New Test **2013117** **Lymphocyte Antigen and Mitogen Proliferation Panel with Cytokine Response** **LAM CYT**

Available April 4, 2016

Time Sensitive

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

Methodology: Cell Culture/Multiplex Bead Assay
Performed: Tue-Fri
Reported: 9-10 days

Specimen Required: Patient Prep: Collect control specimen from a healthy individual unrelated to patient at approximately the same time as and under similar conditions to the patient.
Collect: Green (sodium heparin) (patient) **AND** green (sodium heparin) (control). Also acceptable: Yellow (ACD solution A) (patient) **AND** yellow (ACD solution A) (control). **Patient and control specimens must be collected within 48 hours of test.**
Specimen Preparation: Transport 20 mL whole blood (patient) **AND** 20 mL whole blood (control) in original collection tubes. (Min: 14 mL (patient) **AND** 14 mL (control)) **Do not refrigerate or freeze. LIVE CELLS REQUIRED.**
Infant Minimum: 3 mL (patient) **AND** 14 mL (control).
Storage/Transport Temperature: **CRITICAL ROOM TEMPERATURE.**
Unacceptable Conditions: Yellow (ACD Solution **B**). Specimens in transport longer than 48 hours.
Stability (collection to initiation of testing): Ambient: 48 hours; Refrigerated: Unacceptable; Frozen: Unacceptable
New York State Clients: Ambient 24 hours; Refrigerated: Unacceptable; Frozen: Unacceptable

Reference Interval: By report

Interpretive Data: Candida and tetanus antigens are tested independently in lymphocyte culture. Lymphocyte proliferation in response to these antigens is determined by 3H-thymidine incorporation.

Phytohemagglutinin, concanavalin A and pokeweed mitogen are tested independently in lymphocyte culture. Lymphocyte proliferation in response to the non-specific mitogens phytohemagglutinin (PHA), concanavalin A (Con A) and pokeweed (PW) are determined by 3H-thymidine incorporation.

Results are reported as counts per minute (CPM) mitogen stimulated versus a control culture and a stimulation Index (SI) which represents the ratio of CPM of the stimulated lymphocytes to the mean CPM of the unstimulated control.

SI* = Stimulation Index (CPM Mitogen/CPM Media alone)

Antigens (*Candida albicans*, tetanus toxoid) and mitogens (phytohemagglutinin, concanavalin A, pokeweed) are tested independently in lymphocyte culture. Peripheral Blood Mononuclear Cell (PBMC) cytokine production responses to these antigens and mitogens are determined by quantitative multiplex bead assay. Results are used to understand the pathophysiology of immune, infectious, or inflammatory disorders, or may be used for research purposes.

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

Note: The following cytokines (and receptor) are reported: IL-2, sIL-2R (sCD25), IL-4, IL-5, IL-10, IL-13, IL-1b, IL-6, IL-8, IL-17, TNF-a, and IFN-g. Interpretation comparing the patient results to the simultaneously collected client normal control and the laboratory normal control will be provided by an ARUP medical director.

CPT Code(s): 86353 x5; 83520 x12

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

New Test **2013082** ***MET* Gene Amplification by FISH** **MET FISH**
Available January 19, 2016

Additional Technical Information

Methodology: Fluorescence in situ Hybridization
Performed: Varies
Reported: 3-7 days

Specimen Required: Collect: Tumor tissue.
Specimen Preparation: Formalin fix (10 percent neutral buffered formalin) and paraffin embed tumor tissue. Transport tissue block or 4 unstained, consecutively cut, 5-micron thick sections, mounted on positively charged glass slides. (Min: 4 slides) Protect paraffin block and/or slides from excessive heat.
Storage/Transport Temperature: Room temperature. Also acceptable: Refrigerated.
Remarks: Include surgical pathology report with reason for referral. The laboratory will not reject specimens that arrive without a pathology report but will hold the specimen until this information is received.
Stability (collection to initiation of testing): Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable

Reference Interval: By report

Interpretive Data: See Compliance Statement A: www.aruplab.com/CS

CPT Code(s): 88366

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

New Test **2013014** **Mitotane, Serum or Plasma** **MITOT SP**
Available January 19, 2016

Methodology: Quantitative Gas Chromatography
Performed: Varies
Reported: 3-9 days

Specimen Required: Collect: Plain red, lavender (EDTA), or pink (K_2EDTA).
Specimen Preparation: Transfer 1 mL serum or plasma to an ARUP Standard Transport Tube. (Min: 0.3 mL)
Storage/Transport Temperature: Refrigerated. Also acceptable: Room temperature or frozen.
Unacceptable Conditions: Separator tubes.
Stability (collection to initiation of testing): Ambient: 2 weeks; Refrigerated: 2 weeks; Frozen: 2 weeks

Reference Interval: By report

CPT Code(s): 80375 (Alt code: G0480)

New York DOH Approved.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

0050615 Monoclonal Protein Detection Quantitation and Characterization, SPEP, IFE, IgA, IgG, IgM, Serum — IFE

Reference Interval: Effective February 16, 2016

Test Number	Components	Reference Interval
0050640	Protein Electrophoresis, Serum	

Test Number	Components	Reference Interval
	Total Protein-Electrophoresis, 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

0050340	Immunoglobulin A	
	0-30 days: 1-7 mg/dL 1 month: 1-53 mg/dL 2 months: 3-47 mg/dL 3 months: 5-46 mg/dL 4 months: 4-72 mg/dL 5 months: 8-83 mg/dL 6 months: 8-67 mg/dL 7-8 months: 11-89 mg/dL	9-11 months: 16-83 mg/dL 1 year: 14-105 mg/dL 2 years: 14-122 mg/dL 3 years: 22-157 mg/dL 4 years: 25-152 mg/dL 5-7 years: 33-200 mg/dL 8-9 years: 45-234 mg/dL 10 years and older: 68-408 mg/dL
0050350	Immunoglobulin G	
	0- 30 days: 611-1542 mg/dL 1 month: 241-870 mg/dL 2 months: 198-577 mg/dL 3 months: 169-558 mg/dL 4 months: 188-536 mg/dL 5 months: 165-781 mg/dL 6 months: 206-676 mg/dL 7-8 months: 208-868 mg/dL	9-11 months: 282-1026 mg/dL 1 year: 331-1164 mg/dL 2 years: 407-1009 mg/dL 3 years: 423-1090 mg/dL 4 years: 444-1187 mg/dL 5-7 years: 608-1229 mg/dL 8-9 years: 584-1509 mg/dL 10 years and older: 768-1632 mg/dL
0050355	Immunoglobulin M	
	0-30 days: 0-24 mg/dL 1 month: 19-83 mg/dL 2 months: 16-100 mg/dL 3 months: 23-85 mg/dL 4 months: 26-96 mg/dL 5 months: 31-103 mg/dL 6 months: 33-97 mg/dL 7-8 months: 32-120 mg/dL	9-11 months: 39-142 mg/dL 1 year: 41-164 mg/dL 2 years: 46-160 mg/dL 3 years: 45-190 mg/dL 4 years: 41-186 mg/dL 5-7 years: 46-197 mg/dL 8-9 years: 49-230 mg/dL 10 years and older: 35-263 mg/dL

2002715 Monoclonal Protein Detection, Quantitation, Characterization, SPEP, IFE, IgA, IgG, IgM, FLC — IFE FLC

Reference Interval: Effective February 16, 2016

Test Number	Components	Reference Interval
0050640	Protein Electrophoresis, Serum	

Test Number	Components	Reference Interval
	Total Protein-Electrophoresis, 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

0050340	Immunoglobulin A	0-30 days: 1-7 mg/dL 1 month: 1-53 mg/dL 2 months: 3-47 mg/dL 3 months: 5-46 mg/dL 4 months: 4-72 mg/dL 5 months: 8-83 mg/dL 6 months: 8-67 mg/dL 7-8 months: 11-89 mg/dL	9-11 months: 16-83 mg/dL 1 year: 14-105 mg/dL 2 years: 14-122 mg/dL 3 years: 22-157 mg/dL 4 years: 25-152 mg/dL 5-7 years: 33-200 mg/dL 8-9 years: 45-234 mg/dL 10 years and older: 68-408 mg/dL
0050350	Immunoglobulin G	0- 30 days: 611-1542 mg/dL 1 month: 241-870 mg/dL 2 months: 198-577 mg/dL 3 months: 169-558 mg/dL 4 months: 188-536 mg/dL 5 months: 165-781 mg/dL 6 months: 206-676 mg/dL 7-8 months: 208-868 mg/dL	9-11 months: 282-1026 mg/dL 1 year: 331-1164 mg/dL 2 years: 407-1009 mg/dL 3 years: 423-1090 mg/dL 4 years: 444-1187 mg/dL 5-7 years: 608-1229 mg/dL 8-9 years: 584-1509 mg/dL 10 years and older: 768-1632 mg/dL
0050355	Immunoglobulin M	0-30 days: 0-24 mg/dL 1 month: 19-83 mg/dL 2 months: 16-100 mg/dL 3 months: 23-85 mg/dL 4 months: 26-96 mg/dL 5 months: 31-103 mg/dL 6 months: 33-97 mg/dL 7-8 months: 32-120 mg/dL	9-11 months: 39-142 mg/dL 1 year: 41-164 mg/dL 2 years: 46-160 mg/dL 3 years: 45-190 mg/dL 4 years: 41-186 mg/dL 5-7 years: 46-197 mg/dL 8-9 years: 49-230 mg/dL 10 years and older: 35-263 mg/dL
	Kappa Quantitative Free Light Chains, Serum	0.33 - 1.94 mg/dL	
	Lambda Quantitative Free Light Chains, Serum	0.57-2.63 mg/dL	
	Kappa/Lambda Free Light Chain Ratio, Serum	0.26-1.65	

2007967 Motor and Sensory Neuropathy Evaluation with Immunofixation Electrophoresis and Reflex to Titer and Neuronal Immunoblot — MSNCR

Reference Interval: Effective February 16, 2016

Test Number	Components	Reference Interval
	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
2007963	Neuronal Nuclear Antibodies (Hu, Ri, Yo) IgG by Immunoblot	None Detected
0051285	Myelin Associated Glycoprotein (MAG) Antibody, IgM	Less than 1000 TU
0051284	Sulfate-3-Glucuronyl Paragloboside (SGPG) Antibody, IgM	Less than 1.00 IV
	Asialo-GM1 Antibodies, IgG/IgM	29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive 101 IV or greater: Strong Positive
	GM1 Antibodies, IgG/IgM	29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive 101 IV or greater: Strong Positive
	GD1a Antibodies, IgG/IgM	29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive 101 IV or greater: Strong Positive
	GD1b Antibodies, IgG/IgM	29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive 101 IV or greater: Strong Positive
	GQ1b Antibodies, IgG/IgM	29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive 101 IV or greater: Strong Positive
	Total Protein-Electrophoresis, Serum	6.00-8.30 g/dL
	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	0-30 days: 1-7 mg/dL 1 month: 1-53 mg/dL 2 months: 3-47 mg/dL 3 months: 5-46 mg/dL 4 months: 4-72 mg/dL 5 months: 8-83 mg/dL 6 months: 8-67 mg/dL 7-8 months: 11-89 mg/dL 9-11 months: 16-83 mg/dL 1 year: 14-105 mg/dL 2 years: 14-122 mg/dL 3 years: 22-157 mg/dL 4 years: 25-152 mg/dL 5-7 years: 33-200 mg/dL 8-9 years: 45-234 mg/dL 10 years and older: 68-408 mg/dL
0050350	Immunoglobulin G	0- 30 days: 611-1542 mg/dL 1 month: 241-870 mg/dL 2 months: 198-577 mg/dL 3 months: 169-558 mg/dL 4 months: 188-536 mg/dL 5 months: 165-781 mg/dL 6 months: 206-676 mg/dL 7-8 months: 208-868 mg/dL 9-11 months: 282-1026 mg/dL 1 year: 331-1164 mg/dL 2 years: 407-1009 mg/dL 3 years: 423-1090 mg/dL 4 years: 444-1187 mg/dL 5-7 years: 608-1229 mg/dL 8-9 years: 584-1509 mg/dL 10 years and older: 768-1632 mg/dL
0050355	Immunoglobulin M	

		0-30 days: 0-24 mg/dL 1 month: 19-83 mg/dL 2 months: 16-100 mg/dL 3 months: 23-85 mg/dL 4 months: 26-96 mg/dL 5 months: 31-103 mg/dL 6 months: 33-97 mg/dL 7-8 months: 32-120 mg/dL	9-11 months: 39-142 mg/dL 1 year: 41-164 mg/dL 2 years: 46-160 mg/dL 3 years: 45-190 mg/dL 4 years: 41-186 mg/dL 5-7 years: 46-197 mg/dL 8-9 years: 49-230 mg/dL 10 years and older: 35-263 mg/dL

0051225 Motor Neuropathy Panel MSN PAN

Reference Interval: Effective February 16, 2016

Test Number	Components	Reference Interval
	Asialo-GM1 Antibodies, IgG/IgM	29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive 101 IV or greater: Strong Positive
	GM1 Antibodies, IgG/IgM	29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive 101 IV or greater: Strong Positive
	GD1a Antibodies, IgG/IgM	29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive 101 IV or greater: Strong Positive
	GD1b Antibodies, IgG/IgM	29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive 101 IV or greater: Strong Positive
	GQ1b Antibodies, IgG/IgM	29 IV or less: Negative 30-50 IV: Equivocal 51-100 IV: Positive 101 IV or greater: Strong Positive
	Total Protein-Electrophoresis, Serum	6.00-8.30 g/dL
	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	0-30 days: 1-7 mg/dL 1 month: 1-53 mg/dL 2 months: 3-47 mg/dL 3 months: 5-46 mg/dL 4 months: 4-72 mg/dL 5 months: 8-83 mg/dL 6 months: 8-67 mg/dL 7-8 months: 11-89 mg/dL 9-11 months: 16-83 mg/dL 1 year: 14-105 mg/dL 2 years: 14-122 mg/dL 3 years: 22-157 mg/dL 4 years: 25-152 mg/dL 5-7 years: 33-200 mg/dL 8-9 years: 45-234 mg/dL 10 years and older: 68-408 mg/dL
0050350	Immunoglobulin G	0- 30 days: 611-1542 mg/dL 1 month: 241-870 mg/dL 2 months: 198-577 mg/dL 3 months: 169-558 mg/dL 4 months: 188-536 mg/dL 5 months: 165-781 mg/dL 6 months: 206-676 mg/dL 7-8 months: 208-868 mg/dL 9-11 months: 282-1026 mg/dL 1 year: 331-1164 mg/dL 2 years: 407-1009 mg/dL 3 years: 423-1090 mg/dL 4 years: 444-1187 mg/dL 5-7 years: 608-1229 mg/dL 8-9 years: 584-1509 mg/dL 10 years and older: 768-1632 mg/dL
0050355	Immunoglobulin M	0-30 days: 0-24 mg/dL 1 month: 19-83 mg/dL 2 months: 16-100 mg/dL 3 months: 23-85 mg/dL 4 months: 26-96 mg/dL 5 months: 31-103 mg/dL 6 months: 33-97 mg/dL 7-8 months: 32-120 mg/dL 9-11 months: 39-142 mg/dL 1 year: 41-164 mg/dL 2 years: 46-160 mg/dL 3 years: 45-190 mg/dL 4 years: 41-186 mg/dL 5-7 years: 46-197 mg/dL 8-9 years: 49-230 mg/dL 10 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

0081352 Mucopolysaccharides Screen - Electrophoresis and Quantitation, Urine MPS SCREEN

CPT Code(s): 82664; 83864

2007190 **Occult Blood, Fecal by Immunoassay** **FOB IA**

Specimen Required:

Specimen Preparation: Patient will dip sampling bottle transfer wand into stool collection and place back into sampling bottle (ARUP Supply #49952) available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522-2787. Stool must be transferred to sampling bottle within 4 hours.

0098834 **Oxcarbazepine or Eslicarbazepine Metabolite (MHD)** **OXCARB**

HOT LINE NOTE: There is a clinically significant charting name change associated with this test.
Change the charting name of component 0098834 from Oxcarbazepine Metabolite to Oxcarb or Eslicarb Metabolite (MHD)

2010102 **PCA3 - Prostate Cancer Biomarker by Transcription-Mediated Amplification** **PCA3 TMA**

Performed: Thu
Reported: 3-8 days

Specimen Required:

Specimen Preparation: Invert urine container 5 times to mix. Transfer 2.5 mL urine ASAP or within 4 hours of collection into two (2) Progensa PCA3 Urine Specimen Transport Tubes (ARUP Supply #45682) available online through eSupply using ARUP Connect or contact ARUP Client Services at (800) 522-2787. (Min: 2.5 mL per tube) Liquid level must be between black lines on transport tubes. Cap transport tubes and invert 5 times to mix.

New Test 2012147 ***PDGFRB* FISH for Gleevec Eligibility in Myelodysplastic Syndrome/Myeloproliferative Disease (MDS/MPD)** **PDGFRB GLV**

Available February 16, 2016

Time Sensitive

ARUP Consult®
Disease Topics

Myelodysplastic syndromes

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

Specimen Required: Patient Prep: *PDGFRB* FISH for Gleevec Eligibility in MDS/MPD is approved by the FDA as a Humanitarian Device for FISH testing of the *PDGFRB* gene to determine mutational status in patients with MDS/MPD. Testing must be ordered using the following instructions:
1. The ordering physician must register with the Internal Review Board (IRB) for *PDGFRB* FISH for Gleevec Eligibility in MDS/MPD testing. Go to http://www.aruplab.com/PDGFRB to obtain IRB registration online.
2. The test should be ordered using the ARUP test requisition form or via ARUP's web-based ordering interface (available only to existing ARUP clients). The full name of the ordering physician must be included on the ARUP form to ensure timely testing of the specimen. Specimens submitted with incomplete information may delay specimen testing.
3. Physicians are instructed as follows: ARUP does not accept specimens directly from physician offices. ARUP only accepts specimens from established clients. To send a specimen to ARUP, contact your local hospital/reference lab to determine if they are an ARUP client and can send the specimen. If they cannot send the specimens to ARUP, contact ARUP Client Services at (800) 522-2787 to be directed to an alternative ordering mechanism.
4. Information about the *PDGFRB* FISH for Gleevec Eligibility in MDS/MPD test and IRB registration may be accessed at www.aruplab.com/PDGFRB.
5. ARUP will receive specimens via usual shipping routes, from designated clients. When the specimen arrives, with an accompanying requisition, the physician's full name will be logged in, if present. If the ordering physician's full name is not present, the specimen is placed on EXCEPT by the Integrated Oncology and Genetics (IOG) services group. The IOG services group will then attempt to locate the physician for confirmation of IRB registration. Upon confirmation of physician registration, the IOG services group will notify the Cytogenetics clinical laboratory, and testing will proceed.
Collect: Non-diluted bone marrow aspirate collected in a heparinized syringe. Also acceptable: Green (sodium heparin).
Specimen Preparation: Transfer 3 mL bone marrow to a green (sodium heparin) tube. (Min: 1 mL)
Storage/Transport Temperature: Room temperature.
Unacceptable Conditions: Paraffin-embedded specimens. Clotted specimens.
Stability (collection to initiation of testing): Specimen must be received and testing initiated within: Ambient: 3 days; Refrigerated: Unacceptable; Frozen: Unacceptable

Reference Interval: By report

Interpretive Data: Refer to report.

CPT Code(s): 88271; 88275; 88291

New York DOH Approved.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

New Test 2013025 **Perampanel Quantitative, Serum or Plasma** **PERAMP**
Available January 19, 2016

Methodology: Quantitative High Performance Liquid Chromatography/Tandem Mass Spectrometry
Performed: Varies
Reported: 3-9 days

Specimen Required: Collect: Plain red, lavender (EDTA), or pink (K_2EDTA).
Specimen Preparation: Transfer 1 mL serum or plasma to an ARUP Standard Transport Tube. (Min: 0.3 mL)
Storage/Transport Temperature: Refrigerated. Also acceptable: Room temperature or frozen.
Unacceptable Conditions: Separator tubes.
Stability (collection to initiation of testing): Ambient: 1 month; Refrigerated: 1 month; Frozen: 1 month

CPT Code(s): 80339 (Alt code: G0480)

New York DOH Approved.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

New Test 2013008 **Periprosthetic Joint Infection (PJI) Detection (Synovasure)** **SYNOVA PJI**
Available January 19, 2016

Methodology: Qualitative Enzyme-Linked Immunosorbent Assay
Performed: Varies
Reported: 3-5 days

Specimen Required: Collect: Synovial fluid in plain red. **Specimens must be collected and shipped Monday-Wednesday only and not the day before a holiday.**
Specimen Preparation: Transport 1 mL synovial fluid. (Min: 0.5 mL)
Storage/Transport Temperature: Refrigerated.
Stability (collection to initiation of testing): Ambient: 24 hours; Refrigerated: 72 hours; Frozen: Unacceptable

Reference Interval: By report

CPT Code(s): 86140, 84311, 83516

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

New Test **2013070** **Platelet Surface Glycoprotein Expression (PGE) by Flow Cytometry, Whole Blood** **PGE**

Available January 19, 2016

Methodology: Qualitative Flow Cytometry
Performed: Sun-Sat
Reported: 1-3 days

Specimen Required: Collect: Lavender (EDTA), pink (K_2 EDTA), or yellow (ACD Solution B).
Specimen Preparation: Transport 4 mL whole blood. (Min: 0.1 mL)
Storage/Transport Temperature: Room temperature.
Stability (collection to initiation of testing): EDTA: Ambient: 72 hours; Refrigerated: 72 hours; Frozen: Unacceptable
ACD solution B: Ambient: 72 hours; Refrigerated: Unacceptable; Frozen: Unacceptable

Reference Interval: Normal

Interpretive Data: Refer to report.

CPT Code(s): 86022 x3

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

0020155 **Potassium, Fluid** **K FL**

Specimen Required:
Collect: CSF, Drain, Pancreatic, Pericardial, Peritoneal/Ascites or Pleural fluid.

Interpretive Data: For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0020777, Source, Fluid
Add component 2013038, Potassium Fluid Source

2008095 **14-3-3 Protein Tau/Theta with Reflex to RT-QuIC Analysis, CSF** **14-3-3 CSF**

Specimen Required:
Specimen Preparation: The first 2 mL of CSF that flows from the tap should be discarded. Transfer 5 mL CSF to ARUP Standard Transport Tubes. (Min: 2 mL) Freeze immediately.

0020502 **Protein, Total, Body Fluid** **TP-FL**

Specimen Required:
Collect: Pericardial, Peritoneal/Ascites, Pleural, or Synovial fluid.

Interpretive Data: For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

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

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0097114, SR Source
Add component 2013063, Total Protein Fluid Source

0080312 **Pyruvic Acid, CSF** **PYRU CSF**

Specimen Required:
Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 2 days; Frozen: 1 month

0050302 **Raji Cell Immune Complex Assay** **RAJI**

Specimen Required:
Specimen Preparation: Allow complete clotting of red blood cells (up to 1 hour), then separate serum from cells within 30 minutes and freeze immediately. Transport 1 mL serum. (Min: 0.5 mL) If ordered in conjunction with a C1q Binding Assay, transfer TWO (2) 1 mL aliquots of serum to individual ARUP Standard Transport Tubes.

2003347 **Rheumatoid Factor, Body Fluid** **RA-FL**

Specimen Required:
Collect: CSF, Pericardial, Pleural, or Synovial fluid.

Interpretive Data: For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0097114, SR Source
Add component 2013048, Rheumatoid Factor Fluid Source

New Test 2012618 **Risk of Ovarian Malignancy Algorithm** **ROMA**
Available January 19, 2016

Methodology: Quantitative Enzyme Immunoassay, Electrochemiluminescent Immunoassay
Performed: Thu, Sun
Reported: 1-8 days

Specimen Required: Collect: Plain red or serum separator tube (SST).
Specimen Preparation: Allow specimen to clot completely at room temperature. Transfer 1.5 mL serum to an ARUP Standard Transport Tube. (Min: 1 mL)
Storage/Transport Temperature: Frozen.
Unacceptable Conditions: Hemolyzed or lipemic specimens.
Stability (collection to initiation of testing): Ambient: 4 hours; Refrigerated: 72 hours; Frozen: 9 months

Reference Interval: By Report

Interpretive Data: The Risk of Ovarian Malignancy Algorithm (ROMA) combines the results of HE4, CA125, and menopausal status into a numerical score. If the patient is premenopausal, then a ROMA score of less than 1.31 is consistent with a low likelihood of having a malignancy on surgery. If the patient is postmenopausal, then a ROMA score of less than 2.77 is consistent with a low likelihood of having a malignancy on surgery.

ROMA is intended to aid in assessing whether a premenopausal or postmenopausal woman who presents with an ovarian adnexal mass is at high or low likelihood of having malignancy on surgery. ROMA is indicated for women who meet the following criteria: over age 18; ovarian adnexal mass present for which surgery is planned, and not yet referred to an oncologist. ROMA must be interpreted in conjunction with an independent clinical and radiological assessment. The test is not intended as a screening, stand-alone or tumor-monitoring assay. Tumor monitoring using HE4 and/or CA125 should be ordered separately.

CPT Code(s): 86304, 86305 or 81500 (MAAA)

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

New Test 2013011 **Selenium, RBCs** **SELENI RBC**
Available January 19, 2016

Methodology: Quantitative Inductively Coupled Plasma-Mass Spectrometry
Performed: Varies
Reported: 3-11 days

Specimen Required: Collect: Royal blue (EDTA).
Specimen Preparation: Separate cells ASAP or within 2 hours of collection. Transport 1 mL RBCs in the original collection tube. (Min: 0.4 mL)
Storage/Transport Temperature: Refrigerated. Also acceptable: Room temperature.
Stability (collection to initiation of testing): Ambient: 1 month; Refrigerated: 1 month; Frozen: Unacceptable

Reference Interval: By Report

CPT Code(s): 84255

New York DOH approval pending. Call for status update.

HOT LINE NOTE: Refer to the Test Mix Addendum for interface build information.

0020154 **Sodium, Fluid** **NA FL**

Specimen Required:
Collect: CSF, Drain, Pancreatic, Pericardial, Peritoneal/Ascites or Pleural fluid.

Interpretive Data: For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0020777, Source, Fluid
Add component 2013037, Sodium Fluid Source

0091100 **Sulfonylurea Hypoglycemia Panel, Quantitative, Urine** **SULFON UR**

2011134 **Thiopurine Drug Metabolites** **THIOPMET**

CPT Code(s): 83789

0050920 ***Treponema pallidum* Antibody, IgG by ELISA** **SYPH G**

Reference Interval: **Effective February 16, 2016**

Reference Interval	
0.9 IV or Less	Negative - No significant level of *Treponema pallidum* IgG antibody detected.
1.0 IV	Equivocal - Questionable presence of *Treponema pallidum* IgG antibody detected. Repeat testing in 10-14 days may be helpful.
1.1 IV or Greater	Positive - Presence of IgG antibody to *Treponema pallidum* detected, suggestive of current or past infection.

0050787 ***Trichinella* Antibody, IgG by ELISA** **TRICH**

0020713 **Triglycerides, Fluid** **TRG FL**

Specimen Required:
Collect: Drain, Pericardial, Peritoneal/Ascites, or Pleural fluid.

Interpretive Data: For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

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

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0020777, Source, Fluid
Add component 2013066, Triglycerides Fluid Source

0020040 **Triglycerides, Serum or Plasma** **TRG**

Note: Assay interference (negative) may be observed when high concentrations of N-acetylcysteine (NAC) are present. Negative interference has also been reported with NAPQI (an acetaminophen metabolite), but only with concentrations at or above those expected during acetaminophen overdose.

0020513 **Uric Acid, Body Fluid** **URIC-FL**

Specimen Required:
Collect: Drain, Peritoneal/Ascites, Pleural or Synovial fluid.

Interpretive Data: For information on body fluid reference ranges and/or interpretive guidance visit http://aruplab.com/bodyfluids/

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

HOT LINE NOTE: There is a component change associated with this test.
Remove component 0097114, SR Source
Add component 2013069, Uric Acid Fluid Source

0020026 **Uric Acid, Serum or Plasma** **URIC**

Note: Assay interference (negative) may be observed when high concentrations of N-acetylcysteine (NAC) are present. Negative interference has also been reported with NAPQI (an acetaminophen metabolite) but only when concentrations are at or above those expected during acetaminophen overdose.

0095263 **VAP Cholesterol, Serum** **VAP CHOL**

Specimen Required: Patient Prep: Fasting specimen is preferred.

0080380 **Vitamin C (Ascorbic Acid), Plasma** **VIT C**

Specimen Required:
Specimen Preparation: **Protect from light, centrifuge, transfer plasma and freeze within 1 hour of collection.** Transfer 0.5 mL plasma to an ARUP Amber Transport Tube. (Min: 0.3 mL)

The following will be discontinued from ARUP's test menu on April 4, 2016.
Replacement test options are supplied if applicable.

Test Number	Test Name	Refer To Replacement
2007880	Alpha Subunit, Pituitary Glycoprotein Hormones	Alpha Subunit, Pituitary Glycoprotein Hormones (PGH) (2013034)
0051288	Beta-2-Adrenergic Receptor (*ADBR2*) Haplotyping	
0091166	Carbamazepine - 10,11 Epoxide, Urine	
0090346	Chloramphenicol	
0051540	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, 12 Cytokines	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation (2013109)
0051574	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interferon gamma	
0051580	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 1 beta	
0051578	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 10	
0051579	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 13	
0051571	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 2	
0051572	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 2 Receptor (CD25), Soluble	
0051576	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 4	
0051577	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 5	
0051581	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 6	
0051582	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Interleukin 8	
0051583	Cytokine Production by Mononuclear Cells in Response to Mitogen Stimulation, Tumor Necrosis Factor alpha	
0091467	Dipyridamole, Serum or Plasma	
0090560	Drug Screen (Nonforensic), Comprehensive, Serum and Urine	Drug Screen (Nonforensic), Urine, Qualitative (0090500) or Drug Screen (Nonforensic), Serum (0090499)
2008440	Herpesvirus 8 (HHV-8) DNA, Quantitative Real-Time PCR	Human Herpesvirus 8 (HHV-8) by Quantitative PCR (2013089)
2002996	Herpesvirus 8 DNA, Qualitative Real-Time PCR	Human Herpesvirus 8 (HHV-8) by Quantitative PCR (2013089)
0051393	Interleukin-1-Receptor-Associated Kinase-4 (IRAK-4) Deficiency Screen	Toll-Like Receptor Function (0051589)
0091295	Loxapine Quantitative, Serum or Plasma	
0051584	Lymphocyte Antigen and Mitogen Proliferation Panel with Cytokine Response to Mitogens, 12 Cytokines	Lymphocyte Antigen and Mitogen Proliferation Panel with Cytokine Response (2013117)
0051587	Lymphocyte Antigen and Mitogen Proliferation Panel with Cytokine Response to Mitogens, Monokines	
0051585	Lymphocyte Antigen and Mitogen Proliferation Panel with Cytokine Response to Mitogens, TH1 Cytokines	
0051586	Lymphocyte Antigen and Mitogen Proliferation Panel with Cytokine Response to Mitogens, TH2 Cytokines	
0091543	Midazolam Quantitation, Serum or Plasma	
0091383	Xylenes (Total), Serum or Plasma	