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0020009	GT	Gamma Glutamyl Transferase, Serum or Plasma			x																
0020012	ALDOLASE	Aldolase, Serum			x																
0020045	LA	Lactic Acid, Plasma (Change effective as of 07/21/25: Refer to 3019650 in the July Hotline)																		x	
0020053	CH HDL	HDL Cholesterol			x	x															
0020096	COPPER	Copper, Serum or Plasma			x				x												
0020097	ZINC	Zinc, Serum or Plasma			x				x												
0020098	LEAD-WB	Lead, Whole Blood (Venous)		x					x	x	x										
0020245	BICARB	Bicarbonate (HCO[3]), Urine (Change effective as of 07/21/25: Refer to 3019581 in the July Hotline)																		x	
0020257	LDL Direct	LDL Cholesterol, Direct			x	x			x												
0020468	CRISK E	Lipid Panel, Extended			x																
0020504	Lactic Acid, BF	Lactic Acid, Body Fluid (Inactive as of 07/21/25)																			x
0020516	LA-CF	Lactic Acid, CSF(Change effective as of 07/21/25: Refer to 3019672 in the July Hotline)																		x	

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0020544	ACS	Acid Phosphatase, Total, Serum			x																
0020584	HY MET B4	Heavy Metals Panel 4, Whole Blood		x						x	x										
0020614	ZPP IND	Zinc Protoporphyrin (ZPP), Whole Blood Industrial									x										
0020745	LEAD CAP	Lead, Whole Blood (Capillary)		x	x				x	x	x										
0020852	CITRIC U	Citric Acid, Urine			x																
0025013	CD EXP	Cadmium Exposure Panel - OSHA							x	x	x										
0025016	LEAD-IND	Lead, Industrial, Whole Blood		x					x	x	x										
0025023	SE S	Selenium, Serum or Plasma			x				x												
0025037	COBALT S	Cobalt, Serum or Plasma			x				x												
0050070	AMB	Entamoeba histolytica (amebiasis), Antibody, IgG			x	x	x														
0050165	CMV IGG	Cytomegalovirus Antibody, IgG			x					x											
0050225	EBV EAD	Epstein-Barr Virus Antibody to Early D Antigen (EA-D), IgG							x	x											
0050235	EBV G	Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgG							x	x											
0050240	EBV M	Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgM							x	x											

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0050245	EBV NA	Epstein-Barr Virus Antibody to Nuclear Antigen, IgG							x	x											
0050280	HAPTO	Haptoglobin			x																
0050293	HERPES	Herpes Simplex Virus Type 1 and/or 2 Antibodies, IgG			x					x											
0050379	HERPICSF	Herpes Simplex Virus Type 1 Glycoprotein G-Specific Antibody, IgG by ELISA, CSF			x																
0050392	HLAB27 PCR	Ankylosing Spondylitis (HLA-B27) Genotyping (Change effective as of 7/21/2025: Refer to 3019466 in the July Hotline)																		x	
0050394	HER1/2CSF	Herpes Simplex Virus Type 1 and/or 2 Antibodies, IgG, CSF			x																
0050521	TOXO PAN	Toxoplasma gondii Antibodies, IgG and IgM			x				x	x											
0050551	RUBEIGM	Rubella Antibody, IgM			x																
0050552	RUBE G/M	Rubella Antibodies, IgG and IgM			x				x	x											
0050553	CMV IGM	Cytomegalovirus Antibody, IgM			x																
0050557	TOXEIGM	Toxoplasma gondii Antibody, IgM			x																

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0050564	SC PAN	Saccharomyces cerevisiae Antibodies, IgG & IgA					x														
0050596	PCA	Gastric Parietal Cell Antibody, IgG					x														
0050600	EBV PAN	Epstein-Barr Virus Antibody Panel I								x											
0050602	EBV PAN 2	Epstein-Barr Virus Antibody Panel II								x											
0050622	CMV PAN	Cytomegalovirus Antibodies, IgG and IgM			x				x	x											
0050736	EMAR TITER	Endomysial Antibody, IgA by IFA			x																
0050770	TOXEIGG	Toxoplasma gondii Antibody, IgG			x					x											
0050771	RUBEIGG	Rubella Antibody, IgG			x					x											
0050772	TORCH IGG	TORCH Antibodies, IgG			x				x	x											
0050777	MHA	Treponema pallidum Antibody by TP-PA					x														
0050779	DTH	Diphtheria, Tetanus, and H. Influenzae b Antibodies, IgG			x																
0050791	SSA/SSB	Extractable Nuclear Antigen Antibodies (SSA 52, SSA 60, and SSB)			x																
0050905	PHOS AB	Phosphatidylserine Antibodies, IgG, IgM, and IgA					x														

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0051205	MCADPCR	Medium Chain Acyl-CoA Dehydrogenase (ACADM) 2 Mutations (Change effective as of 07/21/25: Refer to 3019336 in the July Hotline)																		x	
0051244	*ASM TITER	Smooth Muscle Antibody, IgG Titer			x																
0051270	GALTDNA FE	Galactosemia (GALT) 9 Mutations, Fetal			x				x												
0051302	PROTHROM G	Prothrombin Antibody, IgG					x														
0051368	RHD	RhD Gene (RHD) Copy Number (Change effective as of 7/21/25: Refer to 3019342 in the July Hotline)																		x	
0051415	AJP	Ashkenazi Jewish Diseases, 16 Genes			x			x	x												
0051627	EBV PAN 3	Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgG and IgA								x											
0051708	HERPR PAN2	Herpes Simplex Virus Type 1 and/or 2 Antibodies, IgG with Reflex to Type 1 and 2 Glycoprotein G-Specific Ab, IgG			x				x	x											
0055405	WH F IGG	Allergen, Insects and Venom, White-Faced Hornet IgG			x																

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0055410	YEL J IGG	Allergen, Insects and Venom, Yellow Jacket IgG			x																
0055415	PAP-W IGG	Allergen, Insects and Venom, Paper Wasp IgG			x																
0055420	YE F IGG	Allergen, Insects and Venom, Yellow Hornet IgG			x																
0055656	HFE PCR	Hemochromatosis (HFE) 3 Mutations (Change effective as of 07/21/25: Refer to 3019007 in the July Hotline)																		x	
0060217	MA AFB	Antimicrobial Susceptibility, AFB/Mycobacteria			x				x	x											
0070189	BILE AC	Bile Acids, Total			x																
0080315	Phenylal Qnt P	Phenylalanine Monitoring, Plasma (Change effective as of 07/21/25: Refer to 0080336)																		x	
0080355	Tyrosine Qnt P	Tyrosine, Plasma (Change effective as of 07/21/25: Refer to 0080336)																		x	
0080525	VIT A	Vitamin A (Retinol), Serum or Plasma			x																
0081105	CYS PAN	Cystinuria Panel (Change effective as of 07/21/25: Refer to 2009419)																		x	

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0090284	Almond IgG	Allergen, Food, Almond IgG			x																
0090286	Banana IgG	Allergen, Food, Banana IgG			x																
0090287	Garlic IgG	Allergen, Food, Garlic IgG			x																
0090289	Gluten IgG	Allergen, Food, Gluten IgG			x																
0090291	Whey IgG	Allergen, Food, Whey IgG			x																
0093454	Fus M IgG	Allergen, Fungi and Molds, Fusarium proliferatum/moniliforme IgG			x																
0097299	Mushroom IgG	Allergen, Food, Mushroom IgG			x																
0097302	Coffee IgG	Allergen, Food, Coffee IgG			x																
0097304	C albicans G	Allergen, Fungi and Molds, Candida albicans IgG			x																
0097305	Aureo Pu IgG	Allergen, Fungi and Molds, Aureobasidium pullulans IgG			x																
0097306	Onion IgG	Allergen, Food, Onion IgG			x																
0097307	Rhizopus IgG	Allergen, Fungi and Molds, Rhizopus nigricans IgG			x																
0097308	Stemph B IgG	Allergen, Stemphylium herbarum/botryosum, IgG			x																

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0097309	Phoma b IgG	Allergen, Fungi and Molds, Phoma betae IgG			x																
0097310	Penicil n G	Allergen, Fungi and Molds, Penicillium chrysogenum/notatum IgG			x																
0097313	Helmin IgG	Allergen, Fungi and Molds, Helminthosporium halodes/Setomelanomma rostrata IgG			x																
0097314	CladosporIgG	Allergen, Fungi and Molds, Cladosporium IgG			x																
0097315	Egg Yolk IgG	Allergen, Food, Egg Yolk IgG			x																
0097316	Mucor IgG	Allergen, Fungi and Molds, Mucor racemosus IgG			x																
0097323	Rice IgG	Allergen, Food, Rice IgG			x																
0097636	Wheat IgG	Allergen, Food, Wheat IgG			x																
0097641	Potato IgG	Allergen, Food, Potato (White) IgG			x																
0097642	Rye IgG	Allergen, Food, Rye IgG			x																
0097643	Soybean IgG	Allergen, Food, Soybean IgG			x																
0097644	Tomato IgG	Allergen, Tomato IgG			x																
0097647	Orange IgG	Allergen, Food, Orange IgG			x																

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0097648	Peanut IgG	Allergen, Food, Peanut IgG			x																
0097649	Pork IgG	Allergen, Food, Pork IgG			x																
0097651	Lettuce IgG	Allergen, Food, Lettuce IgG			x																
0097652	Malt IgG	Allergen, Food, Malt IgG			x																
0097653	Casein IgG	Allergen, Food, Casein (Cow's Milk) IgG			x																
0097654	Oat IgG	Allergen, Food, Oat IgG			x																
0097656	Chicken IgG	Allergen, Food, Chicken IgG			x																
0097657	Choco IgG	Allergen, Food, Chocolate IgG			x																
0097658	Corn IgG	Allergen, Food, Corn IgG			x																
0097659	Egg White G	Allergen, Food, Egg White IgG			x																
0097706	Yeast IgG	Allergen, Food, Baker's Yeast IgG			x																
0097707	Barley IgG	Allergen, Food, Barley IgG			x																
0097708	Beef IgG	Allergen, Food, Beef IgG			x																
0097773	Alt Tenuis G	Allergen, Fungi and Molds, Alternaria tenuis IgG			x																
0098627	KEPPRA	Keppra (Levetiracetam)				x										x					
0098830	CR S	Chromium, Serum			x				x												
0099045	Arsenic Blood	Arsenic, Whole Blood		x					x		x										

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0099231	COBALT B	Cobalt, Whole Blood		x					x	x	x										
0099249	RIBPP	Ribosomal P Protein Antibody			x																
0099266	AL S	Aluminum, Serum			x																
0099272	MANG WB	Manganese, Whole Blood							x		x										
0099305	Mercury Blood	Mercury, Whole Blood							x		x										
0099452	NICKEL	Nickel, Serum			x				x												
0099470	HY MET B	Heavy Metals Panel 3, Whole Blood		x						x	x										
0099478	BS B	Bismuth, Whole Blood		x					x												
0099592	JO 1 IgG	Jo-1 Antibody, IgG			x																
0099610	THALB	Thallium, Whole Blood							x		x										
0099675	Cadmium Bld	Cadmium, Whole Blood		x					x		x										
2000136	TH REQUEST	Cytology, ThinPrep Pap Test and Human Papillomavirus (HPV) High Risk Screen by Transcription-Mediated Amplification (TMA), With Reflex to Genotypes 16 and 18/45 (Change effective as of 07/21/25: Refer to 3018973 in the July Hotline)																		x	

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2000137	GT REQUEST	Cytology, ThinPrep Pap Test (Change effective as of 07/21/25: Refer to 3018968 in the July Hotline)																		x	
2000138	TR REQUEST	Cytology, ThinPrep Pap Test With Reflex to Human Papillomavirus (HPV), High Risk Screen by Transcription-Mediated Amplification (TMA), With Reflex to Genotypes 16 and 18/45 (Change effective as of 07/21/25: Refer to 3018971 in the July Hotline)																		x	
2001763	HIRSUTISM	Hirsutism Evaluation Panel			x																
2002282	CAH 11-B HYDROX	Congenital Adrenal Hyperplasia Panel, 11-Beta Hydroxylase Deficiency			x																
2003248	DEXA TMS	Dexamethasone, Serum or Plasma by LC-MS/MS			x																
2004221	NMDA IGG	N-methyl-D-Aspartate Receptor (NMDAR) Antibody, IgG by CBA-IFA, Serum With Reflex to Titer			x																
2005248	BILCSF	Bilirubin, CSF														x					
2005287	CHROMATIN	Chromatin Antibody, IgG					x														

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2005405	METREXSN	Methotrexate, Sensitive (Change effective as of 07/21/25: Refer to 3019648 in the July Hotline)																		x	
2005779	PNEUMO 23	Streptococcus pneumoniae Antibodies, IgG (23 Serotypes)			x																
2007192	ADENO QNT	Adenovirus, Quantitative PCR						x	x												
2007211	PEANUT COM	Allergen, Food, Peanut Components IgE			x																
2007213	G FOOD PAN	Allergens, Food, Extended Panel IgG			x																
2007214	IGG MEATS	Allergens, Food, Meat Panel IgG			x																
2007215	G FOOD COM	Allergens, Food, Common Panel IgG			x																
2007216	IGG FOOD	Allergens, Food, IgG Panel			x																
2007220	ECHINO IGG	Echinococcus Antibody, IgG					x														
2007463	IODINESER	Iodine, Serum			x																
2007601	ANTI-C1Q	Anti-C1q Antibody, IgG					x														
2009447	APS/PT G	Phosphatidylserine and Prothrombin Antibody, IgG					x														
2009451	APS/PT PAN	Phosphatidylserine and Prothrombin Antibodies, IgG and IgM					x														

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2011418	MC CRO	Carbapenem-Resistant Organism Culture			x																
2011723	AVOCADOIGG	Allergen, Food, Avocado IgG			x																
2011725	BROCC IGG	Allergen, Food, Broccoli IgG			x																
2011727	CASHEW IGG	Allergen, Food, Cashew IgG			x																
2011729	CHSMLD IGG	Allergen, Food, Cheese Mold IgG			x																
2011731	CLAM IGG	Allergen, Food, Clam IgG			x																
2011733	COCONUTIGG	Allergen, Food, Coconut IgG			x																
2011735	CRAB IGG	Allergen, Food, Crab IgG			x																
2011737	LOBSTERIGG	Allergen, Food, Lobster IgG			x																
2011739	OYSTER IGG	Allergen, Food, Oyster IgG			x																
2011741	PNAPPL IGG	Allergen, Food, Pineapple IgG			x																
2011743	SCALLOPIGG	Allergen, Food, Scallop IgG			x																
2011745	SHRIMP IGG	Allergen, Food, Shrimp IgG			x																
2011747	STRWBRYIGG	Allergen, Food, Strawberry IgG			x																
2011749	TUNA IGG	Allergen, Food, Tuna IgG			x																
2011751	TURKEY IGG	Allergen, Food, Turkey IgG			x																

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2011753	WALNUT IGG	Allergen, Food, Walnut IgG			x																
2011808	CHIKG	Chikungunya Antibody, IgG			x																
2011810	CHIKM	Chikungunya Antibody, IgM			x																
2011812	CHIKPAN	Chikungunya Antibodies, IgG and IgM			x																
2011815	OLIVES IGG	Allergen, Food, Olives IgG			x																
2011817	CHEDCHEESE	Allergen, Food, Cheddar Cheese IgG			x																
2011819	WHOLE EGG	Allergen, Food, Whole Egg, IgG			x																
2012166	DPYD	Dihydropyrimidine Dehydrogenase (DPYD)										x									
3000143	MS QUAD	Maternal Serum Screen, Alpha Fetoprotein, hCG, Estriol, and Inhibin A (Quad)										x									
3000144	MS AFP	Maternal Serum Screen, Alpha Fetoprotein										x									
3000145	MS FTS	Maternal Serum Screen, First Trimester, hCG, PAPP-A, NT										x									
3000146	MS SEQ1	Maternal Screening, Sequential, Specimen #1, hCG, PAPP-A, NT										x									

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3000147	MS INT1	Maternal Serum Screening, Integrated, Specimen #1, PAPP-A, NT										x									
3000462	IMM PLT	Immature PLT Fraction (Inactive as of 07/21/25)																			x
3000876	ASPERF IGG	Aspergillus fumigatus Antibody IgG			x																
3000894	HHACASCADE	Hereditary Hemolytic Anemia Cascade																x			
3001518	3A4/3A5	CYP3A4 and CYP3A5										x									
3001524	CYP PANEL	Cytochrome P450 Genotyping Panel										x									
3001831	CTNT	Troponin T (cTnT) 5th Generation					x														
3002477	GP210 AB	Anti-gp210 Antibody, IgG					x														
3002478	SP100 AB	Anti-sp100 Antibody, IgG					x														
3002482	SP100GP210	Anti-sp100 and anti-gp210 Antibodies, IgG					x														
3002598	PETH	Phosphatidylethanol (PEth), Whole Blood, Quantitative			x																
3003043	NIPT NGSAN	Non-Invasive Prenatal Aneuploidy Screen by cell-free DNA Sequencing			x																
3003748	IBD-PAN	Inflammatory Bowel Disease Differentiation Panel					x														

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3003924	ALPHAGALPN	Allergen, Food, Alpha-Gal (galactose-alpha-1,3-galatose) Panel			x																
3003992	CARP IGG	Carbamylated Protein (CarP) Antibody, IgG					x														
3004255	CYP GD	Cytochrome P450 Genotyping Panel, with GeneDose Access										x									
3004273	CMAPFFPE	Cytogenomic Molecular Inversion Probe Array FFPE Tissue - Products of Conception										x									
3004275	FFPEARRAY	Cytogenomic Molecular Inversion Probe Array FFPE Tissue - Oncology										x									
3004471	PGX PSYCH	Pharmacogenetics Panel: Psychotropics										x									
3004833	COMPDRUGSP	Drug Profile, Expanded Targeted Panel by LC-MS/MS, Serum/Plasma					x														
3005060	COMPDRUGUR	Drug Profile, Expanded Targeted Panel by LC-MS/MS, Urine					x														
3005425	STRPOST-MO	Chimerism, Posttransplant, Sorted Cells (Monocytes) (Inactive as of 7/21/25)																			x
3006066	TOXOCARAG	Toxocara Antibodies, IgG by ELISA				x	x		x												
3006366	PGXPSYCGD	Pharmacogenetics Panel: Psychotropics, with GeneDose Access										x									

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Test Number	Mnemonic	Test Name	New Test	Test Name Change	Specimen Requirements	Methodology	Performed/Reported	Note	Interpretive Data	Reference Interval	Component Charting Name	Component Change	Reflex Pattern	Result Type	Ask at Order Prompt	Numeric Map	Unit of Measure	CPT Code	Pricing Change	Inactivation w/ Replacement	Inactivation w/o Replacement
3016636	HPV PRMRY	HPV Primary Screen by PCR With Reflex to Cytology					x	x	x									x			
3016767	ANTI-PLA2R	Anti-Phospholipase A2 Receptor (PLA2R) Antibody, IgG by ELISA					x														
3017156	THROMRISK	Thrombotic Risk Reflex Panel			x																
3017747	HERPR CSF	Herpes Simplex Virus Type 1 and/or 2 Antibodies, IgG (CSF) With Reflex to Type 1 and 2 Glycoprotein G-Specific Ab, IgG			x																
3017866	DPYDUGT1A1	Dihydropyrimidine Dehydrogenase (DPYD) and UPD Glucuronosyltransferase 1A1 (UGT1A1) Genotyping (Change effective as of 07/21/25: Refer to 3019841 in the July Hotline)																		x	
3017902	SC5B-9	SC5b-9			x																
3018799	TNUT PAN R	Allergen, Food, Tree Nuts With Reflex to Components, IgE			x																
3018866	COMBI PAN2	Dermatomyositis and Polymyositis Panel			x																
3018867	MYOS EXT2	Extended Myositis Panel			x																
3018868	POLY MYO2	Polymyositis Panel			x																

Effective as of 07/21/2025

Additional ordering and billing information

Information when ordering laboratory tests that are billed to Medicare/Medicaid

Information regarding Current Procedural Terminology (CPT)

Test Number	Mnemonic	Test Name	New Test	Test Name Change	Specimen Requirements	Methodology	Performed/Reported	Note	Interpretive Data	Reference Interval	Component Charting Name	Component Change	Reflex Pattern	Result Type	Ask at Order Prompt	Numeric Map	Unit of Measure	CPT Code	Pricing Change	Inactivation w/ Replacement	Inactivation w/o Replacement
3018869	ILD PANEL2	Interstitial Lung Disease Autoantibody Panel			x																
3018870	DERM PAN2	Dermatomyositis Autoantibody Panel			x																
3018968	TP REQUEST	ThinPrep PAP Test (Standalone)	x																		
3018971	TA REQUEST	ThinPrep PAP Test With Reflex to HPV if ASCUS	x																		
3018973	TM REQUEST	ThinPrep PAP Test With Co-Test HPV	x																		
3019007	HFEPCR	Hemochromatosis (HFE) 3 Variants	x																		
3019269	MEASLESPCR	Measles Virus by Qualitative NAAT	x																		
3019336	MCAD_PCR	Medium Chain Acyl-CoA Dehydrogenase (ACADM) 2 Variants	x																		
3019342	RHD PCR	RhD Gene (RHD) Copy Number by PCR	x																		
3019353	ICOS_IHC	ICOS by Immunohistochemistry	x																		
3019466	HLA-B27PCR	Ankylosing Spondylitis (HLA-B27) Genotyping	x																		
3019471	THC CRT	THC Metabolite, with Ratio, Urine	x																		
3019538	H3K36MIHC	H3K36M by Immunohistochemistry	x																		
3019566	HBA FGA FE	Alpha Globin (HBA1 and HBA2) Sequencing and Deletion/Duplication, Fetal	x																		

Effective as of 07/21/2025

Additional ordering and billing information

Information when ordering laboratory tests that are billed to Medicare/Medicaid

Information regarding Current Procedural Terminology (CPT)

Test Number	Mnemonic	Test Name	New Test	Test Name Change	Specimen Requirements	Methodology	Performed/Reported	Note	Interpretive Data	Reference Interval	Component Charting Name	Component Change	Reflex Pattern	Result Type	Ask at Order Prompt	Numeric Map	Unit of Measure	CPT Code	Pricing Change	Inactivation w/ Replacement	Inactivation w/o Replacement
3019581	BICARBON	Bicarbonate, Urine	x																		
3019583	BICARB BF	Bicarbonate, Body Fluid	x																		
3019585	MA CARBA5	Antimicrobial Susceptibility - Carbapenemase Detection by CARBA5	x																		
3019648	METHOTREX	Methotrexate, Serum or Plasma	x																		
3019650	LACTATE P	Lactate, Plasma	x																		
3019652	TRBC1_IHC	TRBC1 by Immunohistochemistry	x																		
3019672	LACT CSF	Lactate, CSF	x																		
3019841	UGT1A1DPYD	UPD Glucuronosyltransferase 1A1 (UGT1A1) and Dihydropyrimidine Dehydrogenase (DPYD) Genotyping	x																		

TEST CHANGE

Gamma Glutamyl Transferase, Serum or Plasma

0020009, GT

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube or plasma separator tube. Also acceptable: Green (lithium heparin~~Pink (K2EDTA~~).
Specimen Preparation:	Allow serum tube to clot completely at room temperature. Separate serum or plasma from cells within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP Standard Transport Tube. (Min: 0.2 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Grossly hemolyzed specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 1 week; Refrigerated: 1 week; Frozen: 2 months
Methodology:	Quantitative Enzymatic Assay
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	82977
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Reference Interval:

By report (reports may vary based on instrumentation)

TEST CHANGE

Aldolase, Serum

0020012, ALDOLASE

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube.
Specimen Preparation:	Allow specimen to clot completely at room temperature. Transfer 1 mL serum to an ARUP standard transport tube. ~~Standard Transport Tube.~~ (Min: 0.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Specimen types other than serum. Hemolyzed specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 24~~8~~ hours; Refrigerated: 5 days; Frozen: 6 months
Methodology:	Quantitative Enzymatic Assay
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	82085
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Reference Interval:

0-30 days	6.0-32.0 U/L
1-5 months	3.0-12.0 U/L
6-35 months	3.5-10.0 U/L
3-6 years	2.7-8.8 U/L
7-17 years	3.3-9.7 U/L
18 years and older	1.2-7.6 U/L

TEST CHANGE

HDL Cholesterol

0020053, CH HDL

Specimen Requirements:	
Patient Preparation:	
Collect:	Plasma separator tube or serum separator tube.
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate serum or plasma from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP standard transport tube. ~~Standard Transport Tube.~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	
Remarks:	
Stability:	After separation from cells: Ambient: 48~~24~~ hours; Refrigerated: 1 week; Frozen: 3 months~~1 month~~
Methodology:	Quantitative Detergent Solubilization~~/Enzymatic Assay~~
Performed:	Sun-Sat
Reported:	Within 24 hours
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.
CPT Codes:	83718
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

An HDL cholesterol less than 40 mg/dL is low and constitutes a coronary heart disease risk factor.
An HDL cholesterol greater than 60 mg/dL is a negative risk factor for coronary heart disease.

CHD Risk Factors
+1 Age: Men > 45
Women > 55 or premature menopause without estrogen therapy
+1 Family history of premature CHD
+1 Current smoking

+1 Hypertension
+1 Diabetes mellitus
+1 Low HDL cholesterol: < 40 mg/dL
-1 High HDL cholesterol: ≥ 60 mg/dL

Reference Interval:

Desirable: 40-59 mg/dL

TEST CHANGE

Copper, Serum or Plasma

0020096, COPPER

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, and nonessential~~non-essential~~ over-the-counter medications (upon the advice of their physician).
Collect:	Royal blue (no additive), royal~~No Additive), Royal~~ blue (K2EDTA), or r~~R~~oyal blue (NaHep).
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum or plasma to an ARUP Trace Element-Free Transport Tube (ARUP supply #43116) available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at ~~(~~800~~-~~) ~~522-2787~~.~~ (Min: 0.5 mL). Do not use utensils (i.e., syringes, needles, or pipettes) in the collection or transfer of the sample, pour directly into transport tube.~~)~~
Transport Temperature:	Room temperature. Also acceptable: Refrigerated or frozen.
Unacceptable Conditions:	Specimens that are not separated from the red cells or clot within 2 hours. Specimens collected in containers other than specified. Specimens transported in containers other than specified.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Indefinitely
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	82525
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Elevated results may be due to skin or collection-related contamination, including the use of a noncertified metal-free collection/transport tube. If contamination concerns exist due to elevated levels of serum/plasma copper, confirmation with a second specimen collected in a certified metal-free tube is recommended.

Serum copper may be elevated with infection, inflammation, stress, and copper supplementation. In females, elevated copper may also be caused by oral contraceptives and pregnancy (concentrations may be elevated up to 3 times normal during the third trimester).

Serum copper may be reduced by use of corticosteroids and zinc and by malnutrition or malabsorption.

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

Reference Interval:

Age	Male	Female
0-10 years	75.0-153.0 ug/dL	75.0-153.0 ug/dL
11 years-12 years	64.0-132.0 ug/dL	64.0-132.0 ug/dL
13 years-18 years	57.0-129.0 ug/dL	57.0-129.0 ug/dL
19 years and older	70.0-140.0 ug/dL	80.0-155.0 ug/dL

TEST CHANGE

Zinc, Serum or Plasma

0020097, ZINC

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Upon the advice of their physician, patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, and nonessential over-the-counter medications for one week prior to sample draw.
Collect:	Royal blue (no additive), royal~~No Additive), Royal~~ blue (K2EDTA), or r~~R~~oyal blue (NaHep).
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum or plasma to an ARUP Trace Element-Free Transport Tube (ARUP supply #43116) available online through eSupply using ARUP Connect(TM)or~~Connector~~ contact ARUP Client Services at ~~(~~800-~~)~~ 522-2787~~.~~ (Min: 0.5 mL). Do not use utensils (i.e., syringes, needles, or pipettes) in the collection or transfer of the sample, pour directly into transport tube.~~)~~
Transport Temperature:	Room temperature. Also acceptable: Refrigerated or frozen.
Unacceptable Conditions:	Specimens that are not separated from the red cells or clot within 2 hours. Specimens collected in containers other than specified. Specimens transported in containers other than specified. Hemolyzed specimens.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Indefinitely
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	84630
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Elevated results may be due to skin or collection-related contamination, including the use of a noncertified metal-free collection/transport tube. If contamination concerns exist due to elevated levels of serum/plasma zinc, confirmation with a second specimen collected in a certified metal-free tube is recommended.

Circulating zinc concentrations are dependent on albumin status and are depressed with malnutrition. Zinc may also be lowered with infection, inflammation, stress, oral contraceptives, and pregnancy. Zinc may be elevated with zinc supplementation or fasting. Elevated zinc concentrations may interfere with copper absorption.

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

Reference Interval:

60.0-120.0 µg/dL

TEST CHANGE

Lead, Whole Blood (Venous)

0020098, LEAD-WB

Specimen Requirements:	
Patient Preparation:	
Collect:	Royal blue (K2EDTA), Royal blue (NaHep), or tan (K2EDTA).
Specimen Preparation:	Transport 3 or 6 mL whole blood in the original collection tube (royal blue). (Min: 0.5 mL) OR Transport 3 mL whole blood in the original collection tube (tan). (Min: 0.5 mL)
Transport Temperature:	Room temperature. Also acceptable: Refrigerated.
Unacceptable Conditions:	Serum. Specimens collected in tubes other than rRoyal blue(K2EDTA), rRoyal blue (NaHep), or tan (K2EDTA). Clotted specimens. Capillary pediatric EDTA collection tubes, refer to Lead, Whole Blood (Capillary) 0020745.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	83655
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Reference intervals are based on the CDC's Blood Lead Reference Value (BLRV).~~Analysis performed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS).~~

~~Elevated results may be due to skin or collection-related contamination, including the use of a noncertified lead-free tube. If contamination concerns exist due to elevated levels of blood lead, confirmation with a second specimen collected in a certified lead-free tube is recommended.~~

~~Information sources for blood lead reference intervals and interpretive comments include the CDC's "Childhood Lead Poisoning Prevention: Recommended Actions Based on Blood Lead Level" and the "Adult Blood Lead Epidemiology and Surveillance: Reference Blood Lead Levels (BLLs) for Adults in the U.S."~~ Thresholds and time intervals for retesting, medical evaluation, and response vary by state and regulatory body. Contact your State Department of Health and/or applicable regulatory agency for specific guidance on medical management recommendations.

Elevated results may be due to skin- or collection-related contamination, including the use of tubes that are not certified to be trace element free. If an elevated result is suspected to be due to contamination, confirmation with a second specimen collected in a certified trace element-free tube is recommended.

Methodology: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS).

~~Adults~~

~~Concentration~~	~~Comment~~
~~5-19.9 ug/dL~~	~~Medical removal is recommended for pregnant women or those who are trying or may become pregnant. Adverse health effects are possible. Reduced lead exposure and increased blood lead monitoring are recommended.~~
~~20-69.9 ug/dL~~	~~Adverse health effects are indicated. Medical removal from lead exposure is required by OSHA if blood lead level exceeds 50 ug/dL. Prompt medical evaluation is recommended.~~
~~Greater than 69.9 ug/dL~~	~~Critical. Immediate medical~~

	evaluation is recommended. Consider chelation therapy when symptoms of lead toxicity are present.

Children

Concentration	Comment
3.5-19.9 ug/dL	Children under the age of 6 years are the most vulnerable to the harmful effects of lead exposure. Environmental investigation and exposure history to identify potential sources of lead. Biological and nutritional monitoring are recommended. Follow-up blood lead monitoring is recommended.
20-44.9 ug/dL	Lead hazard reduction and prompt medical evaluation are recommended. Contact a Pediatric Environmental Health Specialty Unit or poison control center for guidance.
Greater than 44.9 ug/dL	Critical. Immediate medical evaluation, including detailed neurological exam is recommended. Consider chelation therapy when symptoms of lead toxicity are present. Contact a Pediatric Environmental Health Specialty Unit or poison control center for assistance.

Reference Interval:

Test Number~~Effective December 6, 2021~~		Components	Reference Interval	
~~Age~~	~~Reference Internal~~	Lead, Whole Blood (Venous)	Less than or equal to 3.4 µg/L	
~~0-5 years~~	~~Less than or equal to 3.4 ug/dL~~			
~~6 year or above~~	~~Less than or equal to 4.9 ug/dL~~			
		Lead, Whole Blood (Venous)		
			Concentration	Comment
			3.5-19.9 ug/dL	Children under the age of 6 years are the most vulnerable to the harmful effects of lead exposure. Environmental investigation and exposure history to identify potential sources of lead. Biological and nutritional monitoring are recommended. Follow-up blood lead monitoring is recommended.
			20-44.9 ug/dL	Lead hazard reduction and prompt medical evaluation are recommended. Contact a Pediatric Environmental Health Specialty Unit or poison control center for guidance.
			Greater than 44.9 ug/dL	Critical. Immediate medical evaluation, including detailed neurological exam is

Inserted Cells

Inserted Cells

			recommended. Consider chelation therapy when symptoms of lead toxicity are present. Contact a Pediatric Environmental Health Specialty Unit or poison control center for assistance.
	Lead, Whole Blood (Venous)		
		Concentration	Comment
		5-19.9 ug/dL	Medical removal is recommended for pregnant women or those who are trying or may become pregnant. Adverse health effects are possible. Reduced lead exposure and increased blood lead monitoring are recommended.
		20-69.9 ug/dL	Adverse health effects are indicated. Medical removal from lead exposure is required by OSHA if blood lead level exceeds 50 ug/dL. Prompt medical evaluation is recommended.
		Greater than 69.9 ug/dL	Critical. Immediate medical evaluation is recommended. Consider chelation therapy when symptoms of

			lead toxicity are present.

Effective July 21, 2025

TEST CHANGE

LDL Cholesterol, Direct

0020257, LDL D

Specimen Requirements:	
Patient Preparation:	
Collect:	Plasma separator tube or serum separator tube. Also acceptable: Green (lithium heparin), lLavender (K2 EDTA or K3EDTAK3 EDTA), or pPink (K2 EDTA).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate serum or plasma from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	
Remarks:	
Stability:	After separation from cells: Ambient: 248 hours; Refrigerated: 7 days; Frozen: 12 months
Methodology:	Quantitative Detergent Solubilization/ Enzymatic Assay
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	83721
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

CHD Risk Factors:
+1 Age: Men, 45 years and older
+1 Age: Women, 55 years and older or premature menopause without estrogen therapy

+1 Family history of premature CHD
+1 Current smoking
+1 Hypertension
+1 Diabetes mellitus
+1 Low HDL cCholesterol: 39 mg/dL or less
-1 High HDL cCholesterol: 60 mg/dL or greater

LDL Cholesterol: Therapeutic goal
99 mg/dL or less if CHD is present (Optional: 69 mg/dL or less).
129 mg/dL or less if no CHD and two or more risk factors.
159 mg/dL or less if no CHD.
(Circulation 2004; 110:227-39)

Reference Interval:

Age	Desirable	Borderline	Higher Risk
0-19 years	109 mg/dL or less	110-129 mg/dL	130 mg/dL or greater
20 years and older	129 mg/dL or less (99 mg/dL or less if patient has CHD)	130-159 mg/dL	160 mg/dL or greater

TEST CHANGE

Lipid Panel, Extended

0020468, CRISK E

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube or plasma separator tube.
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate serum or plasma from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP standard transport tube. (Min: 0.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Body fluid (refer to Cholesterol, Fluid, ARUP test code 0020714; Triglycerides, Fluid ARUP test code 0020713; and Chylomicron Screen, Body Fluid, ARUP test code 0098457).
Remarks:	
Stability:	After separation from cells: Ambient: 24~~8~~ hours; Refrigerated: 7~~5~~ days; Frozen: 3 month~~s~~
Methodology:	Quantitative Spectrophotometry/Quantitative Enzymatic Assay
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	LDL-cholesterol is measured (not calculated) on this panel.
CPT Codes:	80061; 83721
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

An HDL cholesterol less than 40 mg/dL is low and constitutes a coronary heart disease risk factor. An HDL cholesterol greater than 60 mg/dL is a negative risk factor for coronary heart disease.

Non-HDL cholesterol is a secondary target of therapy in persons with high serum triglycerides (greater than 199 mg/dL). The goal for non-HDL cholesterol in persons with high triglycerides is 30 mg/dL higher than their LDL cholesterol goal.

CHD Risk Factors
+1 Age: Men, 45 years and older
+1 Women, 55 years and older or premature menopause without estrogen therapy
+1 Family history of premature CHD
+1 Current smoking
+1 Hypertension
+1 Diabetes mellitus
+1 Low HDL cholesterol: 39 mg/dL or less
-1 High HDL cholesterol: 60 mg/dL or greater

20 years and older	Desirable	Borderline	Higher Risk
Total Cholesterol	199 mg/dL or less	200-239 mg/dL	240 mg/dL or greater
Triglycerides	149 mg/dL or less	150-199 mg/dL	200-499 mg/dL
HDL Cholesterol	40 mg/dL or greater		39 mg/dL or less
LDL Cholesterol	129 mg/dL or less (99 mg/dL or less if patient has CHD)	130-159 mg/dL	160 mg/dL or greater
VLDL Cholesterol (calculated)	30 mg/dL or less		
0-19 years	Desirable	Borderline	High Risk
Total Cholesterol	169 mg/dL or less	170-199 mg/dL	200 mg/dL or greater
Triglycerides	149 mg/dL or less	150-199 mg/dL	200-499 mg/dL
HDL Cholesterol	40 mg/dL or greater		39 mg/dL or less
LDL-Cholesterol (measured)	109 mg/dL or less	110-129 mg/dL	130 mg/dL or greater
VLDL Cholesterol (calculated)	30 mg/dL or less		

Reference Interval:

By Report

TEST CHANGE

Acid Phosphatase, Total, Serum

0020544, ACS

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or SST~~.~~
Specimen Preparation:	Allow specimen to clot completely at room temperature. Transfer 1.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.5 mL)
Transport Temperature:	CRITICAL FROZEN. Separate specimens must be submitted when multiple tests are ordered.
Unacceptable Conditions:	Plasma. Nonfrozen~~Non-frozen~~ specimens. Hemolyzed specimens.
Remarks:	
Stability:	After separation from cells: Room temperature~~Ambient~~: Unacceptable; Refrigerated: Unacceptable; Frozen: 1 month
Methodology:	Quantitative Enzymatic Assay
Performed:	Sun-Sat
Reported:	1-2 days
Note:	
CPT Codes:	84060
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Reference Interval:	
0.0-4.3 U/L	

TEST CHANGE

Heavy Metals Panel 4, Whole Blood

0020584, HY MET B4

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, non-essential over-the-counter medications (upon the advice of their physician), and avoid shellfish and seafood for 48 to 72 hours.
Collect:	Royal blue(K2EDTA) or Royal blue (NaHep).
Specimen Preparation:	Transport 3 or 6 mL whole blood in the original collection tube. (Min: 0.5 mL)
Transport Temperature:	Room temperature. Also acceptable: Refrigerated.
Unacceptable Conditions:	Specimens collected in tubes other than Royal blue(K2EDTA) or Royal blue (NaHep). Specimens transported in containers other than Royal blue (K2EDTA) or Royal blue (NaHep). Trace Element-Free Transport Tube. Clotted specimens.
Remarks:	
Stability:	Ambient: 1 week; Refrigerated: 1 week; Frozen: Unacceptable
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Performed:	Sun-Sat
Reported:	1-3 days
Note:	Mercury is volatile; concentration may decrease over time. If the specimen is drawn and stored in the appropriate container, the arsenic, cadmium, and lead values do not change with time.
CPT Codes:	82175; 83655; 83825; 82300
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Reference Interval:	

Test Number	Components	Reference Interval
	Lead, Whole Blood (Venous)	Less than or equal to 3.4 µg/L
	Lead, Whole Blood (Venous)	
		Concentration: 3.5-19.9 ug/dL — Comment: Children under the age of 6 years are the most vulnerable to the harmful effects of lead exposure. Environmental investigation and exposure history to identify potential sources of lead. Biological and nutritional monitoring are recommended. Follow-up blood lead monitoring is recommended. Concentration: 20-44.9 ug/dL — Comment: Lead hazard reduction and prompt medical evaluation are recommended. Contact a Pediatric Environmental Health Specialty Unit or poison control center for guidance. Concentration: Greater than 44.9 ug/dL — Comment: Critical. Immediate medical evaluation, including detailed neurological exam is recommended. Consider chelation therapy when symptoms of lead toxicity are present. Contact a Pediatric Environmental Health Specialty Unit or poison control center for assistance.
	Lead, Whole Blood (Venous)	

		Concentration	Comment	
		5-19.9 ug/dL	Medical removal is recommended for pregnant women or those who are trying or may become pregnant. Adverse health effects are possible. Reduced lead exposure and increased blood lead monitoring are recommended.	
		20-69.9 ug/dL	Adverse health effects are indicated. Medical removal from lead exposure is required by OSHA if blood lead level exceeds 50 ug/dL. Prompt medical evaluation is recommended.	
		Greater than 69.9 ug/dL	Critical. Immediate medical evaluation is recommended. Consider chelation therapy when symptoms of lead toxicity are present.	
	~~Lead, Blood (Venous)~~			
		~~Age~~	~~Reference Interval (ug/dL)~~	
		~~0-5 years~~	~~Less than or equal to 3.4~~	
		~~6 years or above~~	~~Less than or equal to 4.9~~	
	Arsenic, Whole Blood	Less than or equal to 12 .0 µg/L		
	Mercury, Whole Blood	Less than or equal to 10.0 µg/L		
	Cadmium, Whole Blood	Less than or equal to 5.0 µg/L		

TEST CHANGE

Zinc Protoporphyrin (ZPP), Whole Blood Industrial

0020614, ZPP IND

Specimen Requirements:	
Patient Preparation:	
Collect:	Lavender (EDTA), royal blue (K2EDTA), royal blue (NaHep), tan (K2EDTA) or pink (K2EDTA).
Specimen Preparation:	Transport 3 or 6 mL whole blood in the original collection tube. (Min: 0.2 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Clotted, frozen, or hemolyzed specimens.
Remarks:	
Stability:	Ambient: 30 hours; Refrigerated: 5 weeks; Frozen: Unacceptable
Methodology:	Quantitative Hematofluorometry
Performed:	Mon-Fri
Reported:	1-4 days
Note:	Elevated ZPP results are seen in early and late iron deficiency, the anemia of chronic disease, chronic lead poisoning, and erythropoietic protoporphyria. Elevated bilirubin or riboflavin and hemolyzed, clotted, or improperly aliquoted specimens may falsely increase the ZPP concentration.
CPT Codes:	84202
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

For occupational exposure to lead, OSHA requires ZPP whole blood concentration to be reported in units of ug/dL. For adults, conversion of ZPP to units of ug/dL assumes a hematocrit of 45%. This test was performed on the ProtoFluor Z system manufactured by Helena Laboratories. The result is not comparable to results obtained from extraction-based methods or from the AVIV ZPP system.

Reference Interval:

Test Number	Components	Reference Interval
	Zinc Protoporphyrin (ZPP), Whole Blood	0-40 µg/dL

	Zinc Protoporphyrin (ZPP) WholeBld Ratio	0-69 µmol ZPP/mol heme

TEST CHANGE

Lead, Whole Blood (Capillary)

0020745, LEAD CAP

Specimen Requirements:	
Patient Preparation:	Clean puncture site well with soap and water before collection procedure begins.
Collect:	Lavender microtainer (K2EDTA)
Specimen Preparation:	Invert specimen 10 times to prevent clot formation. Transport 0.5 mL whole blood in the original collection tube. (Min: 0.3 mL)
Transport Temperature:	Room temperature. Also acceptable: Refrigerated.
Unacceptable Conditions:	Specimens collected in tubes other than lavender microtainer (K2EDTA~~K[2]EDTA~~). Specimens transported in tubes other than trace element-free transport tubes or lavender microtainer (K2EDTA~~K[2]EDTA~~) tubes. Heparin anticoagulant. Clotted specimens. Venous whole blood, refer to Lead, Whole Blood (Venous) (ARUP test code 0020098).
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	83655
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Reference intervals are based on the CDC's Blood Lead Reference Value (BLRV). ~~Analysis performed by inductively coupled plasma-mass spectrometry (ICP-MS).~~

~~Elevated results may be due to skin or collection-related contamination, including the use of a noncertified lead-free collection/transport tube. If contamination concerns exist due to elevated levels of blood lead, confirmation with a venous specimen collected in a certified lead-free tube is recommended.~~

~~Repeat testing is recommended prior to initiating chelation therapy or conducting environmental investigations of potential lead sources. Repeat testing collections should be performed using a venous specimen collected in a certified lead-free collection tube.~~

~~Information sources for blood lead reference intervals and interpretive comments include the CDC's "Childhood Lead Poisoning Prevention: Recommended Actions Based on Blood Lead Level" and the "Adult Blood Lead Epidemiology and Surveillance: Reference Blood Lead Levels (BLLs) for Adults in the U.S."~~ Thresholds and time intervals for retesting, medical evaluation, and response vary by state and regulatory body. Contact your State Department of Health and/or applicable regulatory agency for specific guidance on medical management recommendations.

Capillary collections are prone to contamination from skin and from use of nontrace element-free collection tubes. Results above the reference interval should be confirmed with a venous specimen collected in a certified trace element-free tube.

Methodology: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS).

~~Adults~~

~~Concentration~~	~~Comment~~
~~5-19.9 ug/dL~~	~~Medical removal is recommended for pregnant women or those who are trying or may become pregnant. Adverse health effects are possible. Reduced lead exposure and increased blood lead monitoring are recommended.~~
~~20-69.9 ug/dL~~	~~Adverse health effects are indicated. Medical removal from lead exposure is required by OSHA if blood lead level exceeds 50 ug/dL. Prompt medical~~

	evaluation is recommended.
Greater than 69.9 ug/dL	Critical. Immediate medical evaluation is recommended. Consider chelation therapy when symptoms of lead toxicity are present.

Children

Concentration	Comment
3.5-19.9 ug/dL	Children under the age of 6 years are the most vulnerable to the harmful effects of lead exposure. Environmental investigation and exposure history to identify potential sources of lead. Biological and nutritional monitoring are recommended. Follow-up blood lead monitoring is recommended.
20-44.9 ug/dL	Lead hazard reduction and prompt medical evaluation are recommended. Contact a Pediatric Environmental Health Specialty Unit or poison control center for guidance.
Greater than 44.9 ug/dL	Critical. Immediate medical evaluation, including detailed neurological exam is recommended. Consider chelation therapy when symptoms of lead toxicity are present. Contact a Pediatric

	~~Environmental Health Specialty Unit or poison control center for assistance.~~

Reference Interval:

Test Number	Components	Reference Interval
	Lead, Whole Blood (Capillary)	Less than or equal to 3.4 µg/dL

Effective December 6, 2021

~~0-5 years~~	~~Less than or equal to 3.4 ug/dL~~
~~6 years or above~~	~~Less than or equal to 4.9 ug/dL~~

TEST CHANGE

Citric Acid, Urine

0020852, CITRIC U

Specimen Requirements:	
Patient Preparation:	
Collect:	24-hour urine. Refrigerate during collection. Also acceptable: Random urine.
Specimen Preparation:	Adjust pH to less than or equal to 2 by adding 6M HCl. Transfer a 4 mL aliquot of urine to an ARUP standard transport tube~~Standard Transport Tube~~. (Min: 0.5 mL) Record total volume, collection time interval, and pH on transport tube and test request form. Also acceptable: Specimens previously preserved with boric acid.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	
Remarks:	
Stability:	Ambient: 24~~8~~ hours; Refrigerated: 2 weeks; Frozen: 1 month
Methodology:	Quantitative Enzymatic Assay
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	82507
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Per 24h calculations are provided to aid interpretation for collections with a duration of 24 hours and an average daily urine volume. For specimens with notable deviations in collection time or volume, ratios of analytes to a corresponding urine creatinine concentration may assist in result interpretation.

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

Reference Interval:

Test Number	Components	Reference Interval
	CreatinineCitric Acid, Urine - per 24h	18 years and older: 320-1240 mg/d
		Age / Male (mg/d) / Female (mg/d) 3-8 years / 140-700 / 140-700 9-12 years / 300-1300 / 300-1300 13-17 years / 500-2300 / 400-1600 18-50 years / 1000-2500 / 700-1600 51-80 years / 800-2100 / 500-1400 81 years and older / 600-2000 / 400-1300
	Citric Acid/Creatinine Ratio, Urine	1 year and older: greater than or equal to 150 mg/g.
	Citric Acid, Urine - per 24h	18 years and older: 320-1240 mg/d

TEST CHANGE

Cadmium Exposure Panel - OSHA

0025013, CD EXP

Specimen Requirements:	
Patient Preparation:	To avoid contamination, please collect specimens at the beginning of work shift. Blood and urine should be collected the same day. Urine: Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, and non-essential over-the-counter medications (upon the advice of their physician). High concentrations of iodine may interfere with elemental testing. Collection of urine specimens from patients receiving iodinated or gadolinium-based contrast media should be avoided for a minimum of 72 hours post-exposure. Collection from patients with impaired kidney function should be avoided for a minimum of 14 days post contrast media exposure.
Collect:	Royal blue (K2EDTA) or royal blue (NaHep). AND minimum 40 mL urine using spot technique (single void) in an open-top urine collection cup.
Specimen Preparation:	Transfer specimens to the appropriate transport device using the Cadmium exposure kit, ARUP supply #16450, available online through eSupply using ARUP Connect(TM) or by contacting ARUP Client Services at (800) 522-2787. Blood: Transport 3 or 6 mL whole blood in the original collection tube. (Min: 0.5 mL) Urine for Beta-2-Microglobulin: Transfer 3 mL aliquot from original urine collection to an ARUP Standard Transport Tube. Adjust the pH of this specimen immediately after pouring off collection, so the pH is between 6 and 8. Use 1M HCl or 5 percent NaOH to adjust the urine pH. Label tube as beta2 Microglobulin. Freeze within one hour of collection. Urine for Cadmium: Transfer 7 mL aliquot from original urine collection to ARUP Trace Element-Free Transport Tubes (ARUP supply #43116). Available online through eSupply using ARUP Connect(TM) or by contacting ARUP Client Services at (800) 522-2787. (Min: 0.5 mL) Label tube as Cadmium. Urine for Creatinine: Transfer 2 mL aliquot from original urine collection to an ARUP Standard Transport Tube. (Min: 0.5 mL) Label tube as Creatinine.
Transport Temperature:	Blood: Refrigerated. Urine for Beta-2-Microglobulin: Frozen Urine for Cadmium: Refrigerated. Urine for Creatinine: Refrigerated.
Unacceptable Conditions:	Blood: Specimens collected in tubes other than royal blue

	(K2EDTA) or royal blue (NaHep). Specimens transported in containers other than royal blue (K2EDTA) or royal blue (NaHep) tube or trace element-free transport tube. Clotted specimens. Urine: Specimens transported in nontracenon-trace element -free transport tube (with the exception of the original device).Specimens collected within 72 hours after administration of iodinated or gadolinium-based contrast media. Specimens containing blood or fecal materials.
Remarks:	Record total volume and collection time interval on transport tube and on test request form.
Stability:	Blood: Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable Urine for Beta-2-Microglobulin: Ambient: 8 hours; Refrigerated: 48 hours; Frozen: 2 months Urine for Cadmium: Ambient: 1 week; Refrigerated: 2 weeks; Frozen: 1 year Urine for Creatinine: Ambient: 2 days; Refrigerated: 1 month; Frozen: 6 months
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)/Spectrophotometry/Chemiluminescent Immunoassay(CLIA)
Performed:	Mon-Fri
Reported:	1-5 days
Note:	
CPT Codes:	82300 x2; 82232
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Blood cadmium levels can be used to monitor acute toxicity and, in combination with cadmium urine and B-β2 microglobulin, is the preferred method for monitoring occupational exposure. Symptoms associated with cadmium toxicity vary based upon route of exposure and may include tubular proteinuria, fever, headache, dyspnea, chest pain, conjunctivitis, rhinitis, sore throat, and cough. Ingestion of cadmium in high concentration may cause vomiting, diarrhea, salivation, cramps, and abdominal pain.

Urine cadmium levels can be used to assess cadmium body burden. In chronic exposures, the kidneys are the primary target organ. Symptoms associated with cadmium toxicity vary based upon route of exposure and may include tubular proteinuria, fever, headache, dyspnea, chest pain, conjunctivitis, rhinitis, sore throat, and cough. Ingestion of cadmium in high concentration may cause vomiting, diarrhea, salivation, cramps, and abdominal pain.

Urine B-β2 mMicroglobulin is an early marker of irreversible kidney damage and disease.

Urine creatinine values less than 20 mg/dL represent very dilute urine and collections should be repeated.

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

CADMIUM ACTION LEVELS BEGINNING JANUARY 1999
(Federal Register 1999, Std. CFR, Part 1910. 1027 Appendix A)

Components	A	B	C
Cadmium, Urine (ug/g CRT)	{<=} 3	> 3 to {<=} 7	> 7
Cadmium, Blood (ug/L)	0-5	> 5 to {<=} 10	> 10
β2 Microglobulin, Urine (ug/g CRT)	{<=} 300	> 300 to {<=} 750	> 750*
Monitor	Annual	Semiannual	Quarterly
Medical Exam	Biennial	Annual	Semiannual
Reassess Cadmium exposure in less than two weeks	---------	Discretionary	Mandatory removal

*If an employee's β2 Microglobulin level is above 750 ug/g CRT, in order for mandatory medical removal to be required, either the employee's CdU level must also be >3 ug/g CRT or CdB level must also be >5 ug/L. The determination of discretionary or mandatory removal is made by the examining physician consistent with the medical surveillance specifications in the Federal Register 42456 to 42463. References: 1. US Department of Labor (2004). Cadmium. Occupational Safety and Health Administration. 3136-06R. 2. US Department of Labor (1999). Cadmium. Occupational Safety and Health Standards. 1910.1027

Reference Interval:

Test Number	Components	Reference Interval
	Cadmium, Urine - ratio to CRT	0.0-3.2 µg/g CRT
	Cadmium, Urine - per volume	0.0-1.0 µg/L
	Beta-2-Microglobulin, ratio to CRT	0-300 µg/g CRT
	Beta-2-Microglobulin, Urine	0-300 µg/L
	Cadmium, Whole Blood	Less than or equal to 5.0 µg/L

TEST CHANGE

Lead, Industrial, Whole Blood ~~Exposure Panel, Adults~~

0025016, LEAD-IND

Specimen Requirements:	
Patient Preparation:	Collect from patient aged 16 years or older.
Collect:	Royal blue(K2EDTA), Royal blue (NaHep) or tan (K2EDTA).
Specimen Preparation:	Transport 3 or 6 mL whole blood (royal blue) (Min: 0.5 mL) OR Transport 3 mL whole blood (tan) (Min: 0.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Serum. Specimens collected in tubes other than Royal blue(K2EDTA), Royal blue (NaHep), or tan (K2EDTA). Hemolyzed or clotted specimens.
Remarks:	
Stability:	Ambient: 30 hours; Refrigerated: 5 weeks; Frozen: Unacceptable
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)/Hematofluorometry
Performed:	Sun-Sat
Reported:	1-5 days
Note:	
CPT Codes:	83655; 84202
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Interpretive Data

Reference intervals are based on the CDC's Blood Lead Reference Value (BLRV). ~~Analysis performed by Inductively Coupled Plasma-Mass Spectrometry (ICP-MS).~~

~~Elevated results may be due to skin or collection-related contamination, including the use of a noncertified lead-free collection/transport tube. If contamination concerns exist due to elevated levels of blood lead, confirmation with a second specimen collected in a certified lead-free tube is recommended.~~

~~Reference interval and interpretive comments are based on the CDC's "Childhood Lead Poisoning Prevention: Recommended Actions Based on Blood Lead Level" and the "Adult Blood Lead Epidemiology and Surveillance: Reference Blood Lead Levels (BLLs) for Adults in the U.S."~~

Thresholds and time intervals for retesting, medical evaluation, and response vary by state and regulatory body. ~~Actions described by OSHA in 1978 and finalized in 1983 are shown below.~~ Contact your State Department of Health and/or applicable regulatory agency for specific guidance on medical management recommendations. Actions described by OSHA in 1978 and finalized in 1983 are shown below.

Elevated results may be due to skin- or collection-related contamination, including the use of tubes that are not certified to be trace element free. If an elevated result is suspected to be due to contamination, confirmation with a second specimen collected in a certified trace element-free tube is recommended.

Methodology: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS).

~~Concentration~~	~~Comment~~	
~~5-19.9 ug/dL~~	~~Medical removal is recommended for pregnant women or those who are trying or may become pregnant. Adverse health effects are possible. Reduced lead exposure and increased blood lead monitoring are recommended.~~	
~~20-69.9 ug/dL~~	~~Adverse health effects are indicated. Medical removal from lead exposure is required by OSHA if blood lead level exceeds 50 ug/dL. Prompt medical evaluation is~~	

	~~recommended.~~	
~~Greater than 69.9 ug/dL~~	~~Critical. Immediate medical evaluation is recommended. Consider chelation therapy when symptoms of lead toxicity are present.~~	

"Occupational Safety and Health Standards: Lead (1983). 29 CFR Part 1910.1025 App C" Action required for workers with Elevated Lead Values OSHA, Occupational Exposure to Lead, 1978

No. of Tests	Lead	Action Required
1	Greater than equal to 40.0 ug/dL	Notification of worker in writing; medical examination of worker and consultation.
3 (average)	Greater than or equal to 50.0 ug/dL	Removal of worker from job with potential lead exposure.
1	Greater than or equal to 60.0 ug/dL	Removal of worker from job with potential lead exposure.
2	Less than 40.0 ug/dL	Reinstatement of worker in job with potential lead exposure is based upon symptoms and medical evaluation.

OSHA requirements in effect since 1978 call for the measurement of whole blood lead and zinc protoporphyrins (ZPP) (NCCLS document C42-A, Nov. 1996) to evaluate the occupational exposure to lead. OSHA requires ZPP whole blood testing to be reported in units of ug/dL. For adults, conversion of ZPP units of ug/dL whole blood assumes a hematocrit of 45 percent. Conversion factor: umol/mol heme x 0.584= ug/dL.

Reference Interval:

Test Number	Components	Reference Interval
	Lead, Industrial, Whole Blood	Less than or equal to 3.4~~.9~~ µg/dL
	Zinc Protoporphyrin (ZPP), Whole~~,~~ Blood	0-40 µg/dL
	Zinc Protoporphyrin (ZPP) WholeBld Ratio	0-69 µmol ZPP/mol heme

TEST CHANGE

Selenium, Serum or Plasma

0025023, SE S

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, and nonessential~~non-essential~~ over-the-counter medications (upon the advice of their physician).
Collect:	Royal blue (no additive), royal~~No Additive), Royal~~ blue (K2EDTA), or r~~R~~oyal blue (NaHep).
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum or plasma to an ARUP Trace Element-Free Transport Tube (ARUP supply #43116) available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at ~~(~~800~~-~~) ~~522-2787~~.~~ (Min: 0.5 mL). Do not use utensils (i.e., syringes, needles, or pipettes) in the collection or transfer of the sample, pour directly into transport tube.~~)~~
Transport Temperature:	Room temperature. Also acceptable: Refrigerated or frozen.
Unacceptable Conditions:	Specimens that are not separated from the red cells or clot within 2 hours. Specimens collected in containers other than specified. Specimens transported in containers other than specified.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Indefinitely
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	84255
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Elevated results may be due to contamination from skin or other collection-related issues, including the use of a noncertified metal-free collection/transport tube. If contamination concerns exist due to elevated levels of serum/plasma selenium, confirmation with a second specimen collected in a certified metal-free tube is recommended.

Serum selenium levels can be used in the determination of deficiency or toxicity. Plasma and serum contains 75 percent of the selenium measured in whole blood and reflects recent dietary intake. Selenium deficiency can occur endemically or as a result of sustained TPN or restricted diets and has been associated with cardiomyopathy and may exacerbate hypothyroidism. Selenium toxicity is relatively rare. Excess intake of selenium can result in symptoms consistent with selenosis and include gastrointestinal upset, hair loss, white blotchy nails, and mild nerve damage.

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

Reference Interval:

23.0-190.0 µg/L

TEST CHANGE

Cobalt, Serum or Plasma

0025037, COBALT S

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, and nonessential~~non-essential~~ over-the-counter medications (upon the advice of their physician).
Collect:	Royal blue (no additive), royal~~No Additive), Royal~~ blue (K2EDTA), or r~~R~~oyal blue (NaHep).
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum or plasma to an ARUP Trace Element-Free Transport Tube (ARUP supply #43116) available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at ~~(~~800~~-~~) ~~522-2787.~~ (Min: 0.5 mL). Do not use utensils (i.e., syringes, needles, or pipettes) in the collection or transfer of the sample, pour directly into transport tube.~~)~~
Transport Temperature:	Room temperature. Also acceptable: Refrigerated or frozen.
Unacceptable Conditions:	Specimens collected in containers other than specified. Specimens transported in containers other than specified.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Indefinitely
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	83018
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Elevated results may be due to skin or collection-related contamination, including the use of a noncertified metal-free collection/transport tube. If contamination concerns exist due to elevated levels of serum/plasma cobalt, confirmation with a second specimen collected in a certified metal-

free tube is recommended.

Serum cobalt levels can be used in the assessment of occupational exposure or toxic ingestion. Symptoms associated with cobalt toxicity vary based on route of exposure, and may include cardiomyopathy, allergic dermatitis, pulmonary fibrosis, cough, and dyspnea.

Serum cobalt levels can be significantly higher in patients with metal-on-metal total hip replacement implants than in control patients without metal implants. Serum cobalt levels may be increased in asymptomatic patients with metal-on-metal prosthetics and should be considered in the context of the overall clinical scenario. Whole blood is the specimen type recommended by the U.S. Food and Drug Administration for assessing the risks of metal-on-metal hip implants in symptomatic patients.

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

Reference Interval:

Less than or equal to 1.0 µg/L

TEST CHANGE

Entamoeba histolytica (amebiasis), Antibody, IgG

0050070, AMB

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tube~~Standard Transport Tube~~. (Min: 0.1 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens. Mark specimens plainly as "acute" or "convalescent."
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, hemolyzed, or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay (ELISA)
Performed:	Tue~~, Fri~~
Reported:	1-8~~5~~ days
Note:	In the case of extraintestinal complications, a positive antibody can indicate amebiasis even though stool findings are negative.
CPT Codes:	86753
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Seroconversion between acute and convalescent sera is considered strong evidence of recent infection. The best evidence for infection is a significant change on two appropriately timed specimens where both tests are done in the same laboratory at the same time.

Reference Interval:

Effective February 6, 2017

8 U or less: Negative - No significant level of detectable *E. histolytica* IgG antibody.
9 - 11 U: Equivocal - Repeat testing in 10-14 days may be helpful.
12 U or greater: Positive - IgG antibody to *E. histolytica* detected, suggestive of a current or past infection.

TEST CHANGE

Cytomegalovirus Antibody, IgG

0050165, CMV IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum Separator Tube (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (Avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	86644
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

In immunocompromised patients, CMV serology (IgG or IgM antibody titers) may not be reliable and may be misleading in the diagnosis of acute or reactivation CMV disease. The preferred method for diagnosis is culture of virus and/or demonstration of viral antigen in peripheral white cells (buffy coat), bronchoalveolar lavage (BAL) cells, or tissue biopsies.

This test should not be used for blood donor screening, associated re-entry protocols, or for screening human cell, tissues.~~Human Cell, Tissues~~ and c~~C~~ellular- and tissue-based products~~Tissue-Based Products~~ (HCT/P).

The best evidence for current infection is a significant change on two appropriately timed specimens, where both tests are done in the same laboratory at the same time.

Reference Interval:

0.59 U/mL or less:	Not Detected.
0.60-0.69 U/mL:	Indeterminate - Repeat testing in 10-14 days may be helpful.
0.70 U/mL or greater:	Detected.

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Effective Date: July 21, 2025

TEST CHANGE

Epstein-Barr Virus Antibody to Early D Antigen (EA-D), IgG

0050225, EBV EAD

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate serum from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP standard transport tube. (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay
Performed:	Sun-Sat
Reported:	1-2 days
Note:	EBV EA-D values obtained with different manufacturers' assay methods may not be used interchangeably. The magnitude of the reported EBV EA-D level cannot be correlated to an endpoint titer.
CPT Codes:	86663
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	8.9 U/mL or less: Not Detected 9.0-10.9 U/mL: Indeterminate - Repeat testing in 10-14 days may be helpful. 11.0 U/mL or greater: Detected

Inserted Cells

Reference Interval:

~~Effective February 19, 2013~~

~~8.9 U/mL or less: Not Detected~~
~~9.0-10.9 U/mL: Indeterminate - Repeat testing in 10-14 days may be helpful.~~
~~11.0 U/mL or greater: Detected~~

Deleted Cells

ARUP LABORATORIES | *A nonprofit enterprise of the University of Utah and its Department of Pathology*

Effective Date: July 21, 2025

TEST CHANGE

Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgG

0050235, EBV G

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP standard transport tube. (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay
Performed:	Sun-Sat
Reported:	1-2 days
Note:	EBV IgG values obtained with different manufacturers' assay methods may not be used interchangeably. The magnitude of the reported EBV IgG level cannot be correlated to an endpoint titer.
CPT Codes:	86665
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	17.9 U/mL or less: Not Detected 18.0-21.9 U/mL: Indeterminate. Repeat testing in 10-14 days may be helpful. 22.0 U/mL or greater: Detected

Inserted Cells

Reference Interval:

~~Effective February 19, 2013~~

~~17.9 U/mL or less: Not Detected~~
~~18.0-21.9 U/mL: Indeterminate. Repeat testing in 10-14 days may be helpful.~~
~~22.0 U/mL or greater: Detected~~

Deleted Cells

ARUP LABORATORIES | *A nonprofit enterprise of the University of Utah and its Department of Pathology*

Effective Date: July 21, 2025

TEST CHANGE

Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgM

0050240, EBV M

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP standard transport tube. (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay
Performed:	Sun-Sat
Reported:	1-2 days
Note:	EBV IgM values obtained with different manufacturers' assay methods may not be used interchangeably. The magnitude of the reported EBV IgM level cannot be correlated to an endpoint titer.
CPT Codes:	86665
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	35.9 U/mL or less: Not Detected 36.0-43.9 U/mL: Indeterminate. Repeat testing in 10-14 days may be helpful. 44.0 U/mL or greater: Detected

Inserted Cells

Reference Interval:

~~Effective February 19, 2013~~

~~35.9 U/mL or less: Not Detected~~
~~36.0-43.9 U/mL: Indeterminate. Repeat testing in 10-14 days may be helpful.~~
~~44.0 U/mL or greater: Detected~~

Deleted Cells

ARUP LABORATORIES | *A nonprofit enterprise of the University of Utah and its Department of Pathology*

Effective Date: July 21, 2025

TEST CHANGE

Epstein-Barr Virus Antibody to Nuclear Antigen, IgG

0050245, EBV NA

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP standard transport tube. (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay
Performed:	Sun-Sat
Reported:	1-2 days
Note:	EBNA values obtained with different manufacturers' assay methods may not be used interchangeably. The magnitude of the reported EBNA level cannot be correlated to an endpoint titer.
CPT Codes:	86664
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	17.9 U/mL or less: Not Detected 18.0-21.9 U/mL: Indeterminate. Repeat testing in 10-14 days may be helpful. 22.0 U/mL or greater: Detected

Inserted Cells

Reference Interval:

~~Effective February 19, 2013~~

~~17.9 U/mL or less: Not Detected~~
~~18.0-21.9 U/mL: Indeterminate. Repeat testing in 10-14 days may be helpful.~~
~~22.0 U/mL or greater: Detected~~

Deleted Cells

TEST CHANGE

Haptoglobin

0050280, HAPTO

Specimen Requirements:	
Patient Preparation:	Fasting specimen preferred.
Collect:	Plasma separator tube or serum separator tube. Also acceptable: Green (lithium heparin), or pink (K2EDTA).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate serum or plasma from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Grossly hemolyzed specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 3 months; Refrigerated: 8 months; Frozen: 3~~1~~ months
Methodology:	Quantitative Immunoturbidimetry
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	83010
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Reference Interval:	
30-200 mg/dL	

TEST CHANGE

Herpes Simplex Virus Type 1 and/or 2 Antibodies, IgG

0050293, HERPES

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube. Also acceptable: Serum from umbilical cord blood.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL of serum to an ARUP standard transport tube~~Standard Transport Tube~~. (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens. Mark specimens plainly as "acute" or "convalescent."
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Urine. CSF (refer to Herpes Simplex Virus Type 1 and/or 2 Antibodies, IgG, CSF, ARUP test code 0050394). Contaminated, heat-inactivated, icteric, or hemolyzed specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	86694
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

The best evidence for current infection is a significant change on two appropriately timed specimens, where both tests are done in the same laboratory at the same time.

False positive results are possible. Consider additional testing for HSV-2, particularly if the result for HSV-2 is </= 3.0 IV.

Reference Interval:

0.89 IV or less:	Not Detected.
0.90-1.09 IV:	Indeterminate - Repeat testing in 10-14 days may be helpful.
1.10 IV or greater:	Detected.

TEST CHANGE

Herpes Simplex Virus Type 1 Glycoprotein G-Specific Antibody, IgG by ELISA, CSF

0050379, HERPICSF

Specimen Requirements:	
Patient Preparation:	
Collect:	CSF.
Specimen Preparation:	Transfer 0.5 mL CSF to an ARUP Standard Transport Tube. (Min: 0.2 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Specimen types other than CSF. Contaminated, heat-inactivated, icteric, or hemolyzed specimens.
Remarks:	Indicate source on test request form.
Stability:	Ambient: 8 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay (CLIA)~~Enzyme-Linked Immunosorbent Assay~~
Performed:	Mon, Wed, Fri
Reported:	1-5 days
Note:	
CPT Codes:	86695
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Individuals infected with HSV may not exhibit detectable IgG antibody to type-specific HSV antigens 1 and 2 in the early stages of infection. Detection of antibody presence in these cases may only be possible using a nontype-specific screening test.

The detection of antibodies to herpes simplex virus in CSF may indicate central nervous system infection. However, consideration must be given to possible contamination by blood or transfer of serum antibodies across the blood-brain barrier.

Fourfold or greater rise in CSF antibodies to herpes on specimens at least 4 weeks apart are found in 74-94 percent of patients with herpes encephalitis. Specificity of the test based on a single CSF testing is not established. Presently PCR is the primary means of establishing a diagnosis of herpes encephalitis.

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

Reference Interval:

0.89 IV or less	Negative - No significant level of detectable IgG antibody to HSV type 1 glycoprotein G.
0.90-1.10 IV	Equivocal - Questionable presence of IgG antibody to HSV type 1. Repeat testing in 10-14 days may be helpful.
1.11 IV or greater	Positive - IgG antibody to HSV type 1 glycoprotein G detected, which may indicate a current or past infection.

TEST CHANGE

Herpes Simplex Virus Type 1 and/or 2 Antibodies, IgG, CSF

0050394, HER1/2CSF

Specimen Requirements:	
Patient Preparation:	
Collect:	CSF.
Specimen Preparation:	Transfer 1 mL CSF to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Specimens types other than CSF. Contaminated, heat-inactivated, icteric, or hemolyzed specimens.
Remarks:	Indicate source on test request form.
Stability:	Ambient: 8 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	86694
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

The detection of antibodies to herpes simplex virus in CSF may indicate central nervous system infection. However, consideration must be given to possible contamination by blood or transfer of serum antibodies across the blood-brain barrier.

Fourfold or greater rise in CSF antibodies to herpes on specimens at least 4 weeks apart are found in 74-94% of patients with herpes encephalitis. Specificity of the test based on a single CSF testing is not established. Presently PCR is the primary means of establishing a diagnosis of herpes encephalitis~~.~~

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

False positive results are possible. Consider additional testing for HSV-2, particularly if the result for HSV-2 is less than or equal to~~<~~/= 3.0 IV.

Reference Interval:

0.89 IV or less	Negative - No significant level of detectable HSV IgG antibody.
0.90-1.09 IV	Equivocal - Questionable presence of IgG antibodies. Repeat testing in 10-14 days may be helpful.
1.10 IV or greater	Positive - IgG antibody to HSV detected which may indicate a current or past HSV infection.

TEST CHANGE

Toxoplasma gondii Antibodies, IgG and IgM

0050521, TOXO PAN

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube~~Separator Tube~~ (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or urine. Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	This test should not be used for blood donor screening, associated re-entry protocols, or for screening human cell, tissues,~~Human Cell, Tissues~~ and c~~C~~ellular- and tissue-based products~~Tissue-Based Products~~ (HCT/P).
CPT Codes:	86777; 86778
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Component	Interpretation
Toxoplasma gondii Antibody, IgG	7.1 IU/mL or less: Not Detected. 7.2-8.7 IU/mL: Indeterminate; Repeat testing in

	10-14 days may be helpful. 8.8 IU/mL or greater: Detected.	
Toxoplasma gondii Antibody, IgM	7.9 AU/mL or less: Not Detected. 8.0-9.9 AU/mL: Indeterminate: Repeat testing in 10-14 days may be helpful. 10.0 AU/mL or greater: Detected: Significant level of Toxoplasma gondii IgM antibody detected and may indicate a current or recent infection. However, low levels of IgM antibodies may occasionally persist for more than 12 months post-infection.	

Reference Interval:

Test Number	Components	Reference Interval
	Toxoplasma gondii Ab, IgM	7.9 AU/mL or less
	Toxoplasma gondii Ab, IgG	<=7.1

TEST CHANGE

Rubella Antibody, IgM

0050551, RUBEIGM

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube~~Separator Tube~~ (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."~~.~~
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (Avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	86762
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Testing immediately post-exposure is of no value without a later convalescent specimen. While the presence of IgM antibodies suggests current or recent infection, low levels of IgM antibodies may occasionally persist for more than 12 months post-infection or immunization.

The magnitude of the measured result is not indicative of the amount of antibody present.

Reference Interval:

19.9 AU/mL or less:	Not Detected.
20.0 - 24.9 AU/mL:	Indeterminate - Repeat testing in 10-14 days may be helpful.
25.0 AU/mL or greater:	Detected - IgM antibody to rubella detected, which may indicate a current or recent infection or immunization.

TEST CHANGE

Rubella Antibodies, IgG and IgM

0050552, RUBE G/M

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube.
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate serum from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP standard transport tube. ~~Standard Transport Tube.~~ (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens. Mark specimens plainly as "acute" or "convalescent."
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or urine. Contaminated, heat-inactivated, icteric, or hemolyzed specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	86762 x2
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Testing immediately post-exposure is of no value without a later convalescent specimen. While the presence of IgM antibodies suggests current or recent infection, low levels of IgM antibodies may occasionally persist for more than 12 months post-infection or immunization.

The best evidence for current infection is a significant change on two appropriately timed specimens, where both tests are done in the same laboratory at the same time.

The magnitude of the measured result is not indicative of the amount of antibody present.

Component	Reference Interval
Rubella Antibody, IgG	Less than 9 IU/mL: Not Detected. 9-9.9 IU/mL: Indeterminate: Repeat testing in 10-14 days may be helpful. 10 IU/mL or greater: Detected.
Rubella Antibody, IgM	19.9 AU/mL or less: Not Detected. 20.0 - 24.9 AU/mL: Indeterminate: Repeat testing in 10-14 days may be helpful. 25.0 AU/mL or greater: Detected: IgM antibody to rubella detected, which may indicate a current or recent infection or immunization.

Reference Interval:

Test Number	Components	Reference Interval
	Rubella Antibody IgM	19.9 AU/mL or less
	Rubella Antibody IgG	<=8.9

TEST CHANGE

Cytomegalovirus Antibody, IgM

0050553, CMV IGM

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube~~Separator Tube~~ (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP Standard Transport Tube. (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."~~-~~
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (Avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	86645
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

A negative result does not rule out primary infection, please correlate clinically. CMV serology is not useful for the evaluation of active or reactivated infection in immunocompromised patients. Molecular diagnostic tests (i.e., PCR) are preferred in these cases.

This test should not be used for blood donor screening, associated reentry~~re-entry~~ protocols, or for screening human cell, tissues,~~Human Cell, Tissues~~ and c~~C~~ellular- and tissue-based products~~Tissue-Based Products~~ (HCT/P).

Reference Interval:

29.9 AU/mL or less:	Not Detected.
30.0-34.9 AU/mL:	Indeterminate - Repeat testing in 10-14 days may be helpful.
35.0 AU/mL or greater:	Detected - IgM antibody to CMV detected, which may indicate a current or recent infection. However, low levels of IgM antibodies may occasionally persist for more than 12 months post-infection.

TEST CHANGE

Toxoplasma gondii Antibody, IgM

0050557, TOXEIGM

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum Separator Tube (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (Avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	86778
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

This test is performed using the DiaSorin LIAISON. As suggested by the CDC, any indeterminate or detected *Toxoplasma gondii* IgM result should be retested in parallel with a specimen collected 1-3 weeks later. Further confirmation may be necessary using a different test from another reference laboratory specializing in toxoplasmosis testing where an IgM ELISA should be ordered. Caution should be exercised in the use of IgM antibody levels in prenatal screening. Any *Toxoplasma gondii* IgM in pregnant patients that have also been confirmed by a second reference laboratory should be evaluated by amniocentesis and PCR testing for *Toxoplasma gondii.*

For male and nonpregnant~~non-pregnant~~ female patients with indeterminate or detected

Toxoplasma gondii IgM results, PCR may also be useful if a specimen can be collected from an affected body site.

This test should not be used for blood donor screening, associated re-entry protocols, or for screening human cell, tissues,~~Human Cell, Tissues~~ and c~~C~~ellular- and tissue-based products~~Tissue-Based Products~~ (HCT/P).

For additional information, refer to the CDC website: www.cdc.gov/parasites/toxoplasmosis/health_professionals/index.html.

The magnitude of the measured result is not indicative of the amount of antibody present.

Reference Interval:

7.9 AU/mL or less:	Not Detected.
8.0-9.9 AU/mL:	Indeterminate - Repeat testing in 10-14 days may be helpful.
10.0 AU/mL or greater:	Detected - Significant level of Toxoplasma gondii IgM antibody detected and may indicate a current or recent infection. However, low levels of IgM antibodies may occasionally persist for more than 12 months post-infection.

TEST CHANGE

Saccharomyces cerevisiae Antibodies, IgG & IgA

0050564, SC PAN

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube. ~~Standard Transport Tube.~~ (Min: 0.3 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, hemolyzed, or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay (ELISA)
Performed:	Mon, Wed, Fri ~~Sun-Sat~~
Reported:	~~1-~~2-4 days
Note:	This test may be a useful tool for distinguishing ulcerative colitis (UC) from Crohn disease (CD) in patients with suspected inflammatory bowel disease.
CPT Codes:	86671 x2
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Saccharomyces cerevisiae IgG antibodies are found in 60-70% of Crohn disease (CD) patients and 10-15% of ulcerative colitis (UC) patients. *Saccharomyces cerevisiae* IgA antibodies are found in about 35% of CD patients but less than 1% in UC patients. Detection of both *Saccharomyces* IgG and IgA antibodies in the same serum specimen is highly specific for CD.

Reference Interval:

Test Number	Components	Reference Interval		
	S. cerevisiae Antibody, IgG			
		20.0 Units or less	Negative	
		20.1-24.9 Units	Equivocal	
		25.0 Units or greater	Positive	
	S. cerevisiae Antibody, IgA			
		20.0 Units or less	Negative	
		20.1-24.9 Units	Equivocal	
		25.0 Units or greater	Positive	

TEST CHANGE

Gastric Parietal Cell Antibody, IgG

0050596, PCA

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube. ~~Standard Transport Tube.~~ (Min: 0.25 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Urine or plasma. Contaminated, heat-inactivated, grossly hemolyzed, or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay
Performed:	Sun, Tue, Thu ~~Mon, Wed-Sat~~
Reported:	1-3 days
Note:	Most patients with pernicious anemia have parietal cell antibodies. However, the fact that such antibodies are found with increased frequency in unaffected family members, as well as in patients with other autoimmune diseases, suggests these antibodies do not cause disease by themselves.
CPT Codes:	83516
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

In the context of vitamin B12 deficiency, the presence of gastric parietal cell antibodies (PCA) and/or intrinsic factor antibodies in association with macrocytic anemia is considered diagnostic for pernicious anemia (PA). However, the presence of gastric PCAs alone is not specific for PA. Gastric PCAs may occur with increased frequency in unaffected family members, a small percentage of healthy individuals, and patients with other autoimmune diseases, such as autoimmune thyroiditis.

Component	Interpretation
Parietal Cell Antibody, IgG	0.0-20.0 Units Negative 20.1-24.9 Units Equivocal 25.0 Units or greater Positive

Reference Interval:

Test Number	Components	Reference Interval
	Gastric Parietal Cell Antibody, IgG	24.9 Units or less

TEST CHANGE

Epstein-Barr Virus Antibody Panel I

0050600, EBV PAN

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transport 2 mL serum to an ARUP standard transport tube. (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (Avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay
Performed:	Sun-Sat
Reported:	1-2 days
Note:	
CPT Codes:	86665 x2; 86664; 86663
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Component	Interpretation
Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgG	17.9 U/mL or less: Not Detected 18.0-21.9 U/mL: Indeterminate. Repeat testing in 10-14 days may be helpful. 22.0 U/mL or greater: Detected

Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgM	35.9 U/mL or less: Not Detected 36.0-43.9 U/mL: Indeterminate. Repeat testing in 10-14 days may be helpful. 44.0 U/mL or greater: Detected
Epstein-Barr Virus Antibody to Nuclear Antigen, IgG	17.9 U/mL or less: Not Detected 18.0-21.9 U/mL: Indeterminate. Repeat testing in 10-14 days may be helpful. 22.0 U/mL or greater: Detected
Epstein-Barr Virus Antibody to Early D Antigen (EA-D), IgG	8.9 U/mL or less: Not Detected 9.0-10.9 U/mL: Indeterminate - Repeat testing in 10-14 days may be helpful. 11.0 U/mL or greater: Detected

Reference Interval:

Test Number	Components	Reference Interval
	EBV Antibody to Early (D) Antigen IgG	<=810.9 U/mL ~~or less~~
	EBV Antibody to Viral Capsid Antigen IgG	<=1721.9 U/mL ~~or less~~
	EBV Antibody to Viral Capsid Antigen IgM	<=3543.9 U/mL ~~or less~~
	EBV Antibody to Nuclear Antigen IgG	<=1721.9 U/mL ~~or less~~

TEST CHANGE

Epstein-Barr Virus Antibody Panel II

0050602, EBV PAN 2

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP standard transport tube. (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (Avoid repeated freeze/thaw cycles).
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay
Performed:	Sun-Sat
Reported:	1-2 days
Note:	
CPT Codes:	86665 x2
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Component	Interpretation
Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgG	17.9 U/mL or less: Not Detected 18.0-21.9 U/mL: Indeterminate. Repeat testing in 10-14 days may be helpful. 22.0 U/mL or greater: Detected

Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgM	35.9 U/mL or less: Not Detected 36.0-43.9 U/mL: Indeterminate. Repeat testing in 10-14 days may be helpful. 44.0 U/mL or greater: Detected	

Reference Interval:

Test Number	Components	Reference Interval
	EBV Antibody to Viral Capsid Antigen IgG	<=17~~21~~.9 U/mL ~~or less~~
	EBV Antibody to Viral Capsid Antigen IgM	<=35~~43~~.9 U/mL ~~or less~~

TEST CHANGE

Cytomegalovirus Antibodies, IgG and IgM

0050622, CMV PAN

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube~~Separator Tube~~ (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or urine. Contaminated, hemolyzed, icteric, or heat-inactivated specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat
Reported:	1-2 days
Note:	This test should not be used for blood donor screening, associated re-entry protocols, or for screening human cell, tissues,~~Human Cell, Tissues~~ and c~~C~~ellular- and tissue-based products~~Tissue-Based Products~~ (HCT/P).
CPT Codes:	86644; 86645
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Component	Interpretation
Cytomegalovirus Antibody, IgG	0.59 U/mL or less: Not Detected. 0.60-0.69 U/mL: Indeterminate.~~-~~

	Repeat testing in 10-14 days may be helpful. 0.70 U/mL or greater: Detected.	
Cytomegalovirus Antibody, IgM	29.9 AU/mL or less: Not Detected. 30.0-34.9 AU/mL: Indeterminate: Repeat testing in 10-14 days may be helpful. 35.0 AU/mL or greater: Detected: IgM antibody to CMV detected, which may indicate a current or recent infection. However, low levels of IgM antibodies may occasionally persist for more than 12 months post-infection.	

Reference Interval:

Test Number	Components	Reference Interval
	CMV Antibody IgGM	<=0.59 29.9 AU/mL or less

TEST CHANGE

Endomysial Antibody, IgA by IFA

0050736, EMAR TITER

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube or red tube.
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tube. ~~Standard Transport Tube.~~ (Min: 0.15 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma. Severely lipemic, contaminated, or hemolyzed specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid freeze/thaw cycles)
Methodology:	Semi-Quantitative Indirect Fluorescent Antibody
Performed:	Mon-Fri
Reported:	1-5 days
Note:	
CPT Codes:	86231
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
The endomysial antigen has been identified as the protein cross-linking enzyme known as tissue transglutaminase.	
Reference Interval:	
Less than 1:10	

TEST CHANGE

Toxoplasma gondii Antibody, IgG

0050770, TOXEIGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum Separator Tube (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."~~-~~
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (Avoid repeated freeze/thaw cycles)
Methodology:	~~Semi-quantitative~~ Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	86777
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

The best evidence for current infection is a significant change on two appropriately timed specimens, where both tests are done in the same laboratory at the same time.

The magnitude of the measured result is not indicative of the amount of antibody present.

This test should not be used for blood donor screening, associated re-entry protocols, or for screening human cell, tissues,~~Human Cell, Tissues~~ and c~~C~~ellular- and tissue-based products~~Tissue-Based Products~~ (HCT/P).

Reference Interval:

Effective March 3, 2014

7.1 IU/mL or less:	Not Detected.	
7.2-8.7 IU/mL:	Indeterminate - Repeat testing in 10-14 days may be helpful.	
8.8 IU/mL or greater:	Detected.	

TEST CHANGE

Rubella Antibody, IgG

0050771, RUBEIGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum Separator Tube (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tube. ~~Standard Transport Tube.~~ (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (Avoid repeated freeze/thaw cycles)
Methodology:	~~Semi-quantitative~~ Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	86762
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

The best evidence for current infection is a significant change on two appropriately timed specimens, where both tests are done in the same laboratory at the same time.

The magnitude of the measured result is not indicative of the amount of antibody present.

Reference Interval:

Less than 9 IU/mL:	Not Detected.
9-9.9 IU/mL:	Indeterminate - Repeat testing in 10-14 days may be helpful.
10 IU/mL or greater:	Detected.

TEST CHANGE

TORCH Antibodies, IgG

0050772, TORCH IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum Separator Tube (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 1 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Refer to individual components.
Remarks:	Mark specimens plainly as "acute" or "convalescent."
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	This test should not be used for blood donor screening, associated re-entry protocols, or for screening human cell, tissues.~~Human Cell, Tissues~~ and c~~C~~ellular- and tissue-based products~~Tissue-Based Products~~ (HCT/P).
CPT Codes:	86644; 86694; 86762; 86777
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Component	Interpretation
Cytomegalovirus Antibody, IgG	0.59 U/mL or less: Not Detected. 0.60-0.69 U/mL: Indeterminate.~~-~~ Repeat testing in

	10-14 days may be helpful. 0.70 U/mL or greater: Detected.	
Herpes Simplex Virus Type 1 and/or 2 Antibodies, IgG	0.89 IV or less: Not Detected. 0.90-1.09 IV: Indeterminate; Repeat testing in 10-14 days may be helpful. 1.10 IV or greater: Detected.	
Rubella Antibody, IgG	Less than 9 IU/mL: Not Detected. 9-9.9 IU/mL: Indeterminate; Repeat testing in 10-14 days may be helpful. 10 IU/mL or greater: Detected.	
Toxoplasma gondii Antibody, IgG	7.1 IU/mL or less: Not Detected. 7.2-8.7 IU/mL: Indeterminate; Repeat testing in 10-14 days may be helpful. 8.8 IU/mL or greater: Detected.	

Reference Interval:

TEST CHANGE

Treponema pallidum Antibody by TP-PA

0050777, MHA

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube or plasma separator tube.
Specimen Preparation:	Separate serum or plasma from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP standard transport tube. (Min: 0.4 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	CSF or other body fluids.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Qualitative Particle Agglutination
Performed:	Sun-Sat~~Mon-Fri~~
Reported:	1-4 days
Note:	TP-PA is a helpful diagnostic aid for the patient with a reactive reagin test, but presents with atypical signs of primary, secondary, or late syphilis. TP-PA compares favorably with the FTA test, but appears slightly less sensitive in cases of untreated early primary syphilis. In late syphilis, the agreement with FTA is 99%. VDRL is the preferred test for cerebrospinal fluid. Treponemal tests (TP-PA or FTA) are not recommended for CSF. FTAs on CSF may be tested, but TP-PA cannot be tested on CSF.
CPT Codes:	86780
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Reference Interval:	
Nonreactive	

TEST CHANGE

Diphtheria, Tetanus, and H. Influenzae b Antibodies, IgG

0050779, DTH

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube or red tube.
Specimen Preparation:	Transfer 1.5 mL serum to an ARUP standard transport tube~~Standard Transport Tube~~. (Min: 0.45 mL) Acute and convalescent specimens must be labeled as such. Clearly mark specimens as "Pre-Vaccine" or "Post-Vaccine."~~.~~ Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or other body fluids. Contaminated, hemolyzed, or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Quantitative Multiplex Bead Assay
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	86317 x3
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Responder status is determined according to the ratio of a one-month, post-vaccination sample to pre-vaccination concentration of IgG antibodies as follows:

Diphtheria and tetanus:
1. If the post-vaccination concentration is less than 1.0 IU/mL, the patient is considered a nonresponder.
2. If the post-vaccination concentration is greater than or equal to 1.0 IU/mL, a patient with a ratio of less than 1.5 is a nonresponder, and a ratio of 1.5 to less than 3.0 is a weak responder, and a ratio of 3.0 or greater is a good responder.
3. If the pre-vaccination concentration is greater than 1.0 IU/mL, it may be difficult to assess the

response based on a ratio alone. A post-vaccination concentration above 2.5 IU in this case is usually adequate.

Haemophilus influenza B:
1. If the post-vaccination concentration is < 3.0 ~~µg/mL~~, the patient is considered to be a nonresponder.
2. If the post-vaccination concentration is 3.0 ~~µg/mL~~, a patient with a ratio of 4 is a good responder, a ratio of 2-4 is weak responder, and a ratio of < 2 is considered a nonresponder.

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

Reference Interval:

Diphtheria and tetanus:
Antibody concentration of > 0.1 IU/mL is usually considered protective for diphtheria or tetanus.

Haemophilus influenzae type B:
< 1.0 µg/mL = Antibody concentration not protective.
> 1.0 µg/mL = Antibody to *H. influenzae* type B detected. Suggestive of protection.

TEST CHANGE

Extractable Nuclear Antigen Antibodies (SSA 52, SSA 60, and SSB)

0050791, SSA/SSB

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube or red tube.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tube. ~~Standard Transport Tube.~~ (Min: 0.3 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or other body fluids. Contaminated, hemolyzed, or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Multiplex Bead Assay
Performed:	Sun-Sat
Reported:	1-2 days
Note:	
CPT Codes:	86235 x3
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Component	Interpretation
SSA-52 (Ro52) (ENA) Antibody, IgG	29 AU/mL or Less Negative 30-40 AU/mL Equivocal 41 AU/mL or greater Positive
SSA-60 (Ro60) (ENA) Antibody, IgG	29 AU/mL or Less Negative 30-40 AU/mL Equivocal 41 AU/mL or greater Positive
SSB (La) (ENA) Antibody, IgG	29 AU/mL or less Negative 30-40 AU/mL Equivocal 41 AU/mL or

	greater Positive

Reference Interval:

Test Number	Components	Reference Interval
	SSA-52 (Ro52) (ENA) Antibody, IgG	40 AU/mL or less
	SSB (La) (ENA) Antibody, IgG	40 AU/mL or less
	SSA-60 (Ro60) (ENA) Antibody, IgG	40 AU/mL or less

TEST CHANGE

Phosphatidylserine Antibodies, IgG, IgM, and IgA

0050905, PHOS AB

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube.
Specimen Preparation:	Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, hemolyzed, or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay
Performed:	Mon~~Sun, Tue~~, Wed, Fri~~, Sat~~
Reported:	1-4 days
Note:	
CPT Codes:	86148 x3
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

IgG and/or IgM antibodies to phosphatidylserine (aPS) may be associated with a positive test for anti-cardiolipin autoantibodies (aCL) and risk for obstetric antiphospholipid syndrome (APS). Strong clinical correlation is recommended in the absence of lupus anticoagulant, IgG and/or IgM cardiolipin and/or beta2 glycoprotein antibodies.

Isolated presence of IgM or IgG antibodies to aPS may have questionable clinical significance for APS and/or SLE.

If results are positive, repeat testing with two or more specimens drawn at least 12 weeks apart to demonstrate persistence of antibodies.

Results should not be used alone for diagnosis and must be interpreted in light of APS-specific clinical manifestations and/or other criteria phospholipid antibody tests.

Reference Interval:

Test Number	Components	Reference Interval
	Phosphatidylserine Antibody IgG	Less than 16 GPS
	Phosphatidylserine Antibody IgM	Less than 22 MPS
	Phosphatidylserine Antibody IgA	Less than 20 APS

TEST CHANGE

Smooth Muscle Antibody, IgG Titer

0051244, *ASM TITER

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube or red tube.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tube. ~~Standard Transport Tube.~~ (Min: 0.15 mL)
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Contaminated, hemolyzed, or severly lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Semi-Quantitative Indirect Fluorescent Antibody
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	86256
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Component	Result	Interpretation
Smooth Muscle Antibody, IgG Titer	1:20 or less 1:20-1:80 1:160 or greater	Negative - No Antibody detected. Weak Positive - Suggest repeat testing in two to three weeks with fresh specimen. Positive - Suggestive of autoimmune hepatitis or chronic active hepatitis.

Reference Interval:

Test Number	Components	Reference Interval
	Smooth Muscle Ab, IgG Titer	Less than 1:20

TEST CHANGE

Galactosemia (GALT) 9 Mutations, Fetal

0051270, GALTDNA FE

Specimen Requirements:	
Patient Preparation:	
Collect:	Fetal: Cultured Amniocytes, Cultured CVS~~, or Direct Amniotic Fluid (direct)~~ AND Maternal Whole Blood Specimen: Lavender (EDTA), pink (K2EDTA), or yellow (ACD solution A or B).
Specimen Preparation:	Cultured Amniocytes or Cultured CVS: Transfer cultured amniocytes or cultured CVS to two T-25 flasks at 80 percent confluence. (Min: one T-25 flask at 80 percent confluence)~~).~~ Backup cultures must be retained at the client's institution until testing is complete. If ARUP receives a sample below the minimum confluence, Cytogenetics Grow and Send (ARUP test code 0040182) will be added on by ARUP, and additional charges will apply. If clients are unable to culture specimens, Cytogenetics Grow and Send should be added to the initial order. ~~Direct Amniotic Fluid: 10 mL~~ Maternal Whole Blood Specimen: 2 mL whole blood (Min: 1 mL).
Transport Temperature:	Cultured Amniocytes or Cultured CVS: CRITICAL ROOM TEMPERATURE. Must be received within 48 hours of collection due to viability of cells. ~~Direct Amniotic Fluid: Ship room temperature.~~ Maternal Whole Blood Specimen: Room temperature
Unacceptable Conditions:	
Remarks:	
Stability:	Cultured Amniocytes or Cultured CVS: Room temperature: 48 hours; Refrigerated: Unacceptable; Frozen: Unacceptable ~~Direct Amniotic Fluid: Room temperature: 48 hours; Refrigerated: 72 hours; Frozen: Unacceptable~~ Maternal Whole Blood Specimen: Room temperature: 7 days; Refrigerated: 1 month; Frozen: Unacceptable
Methodology:	Polymerase Chain Reaction (PCR)~~)/~~Single Nucleotide Extensions
Performed:	Sun-Sat
Reported:	5-7 days
Note:	This test is offered to individuals with a known familial mutation(s).

CPT Codes:	81401; 81265 Fetal Cell Contamination (FCC)
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Refer to report. ~~Background Information for Galactosemia (GALT) 9 Mutations:~~
~~Characteristics: Affected infants present at 3-14 days old with poor feeding, vomiting, diarrhea, jaundice, lethargy progressing to coma, and abdominal distension with hepatomegaly usually followed by progressive liver failure. Patients with galactosemia are also at increased risk for E. coli or other Gram negative neonatal sepsis. Diagnosis is made by measuring GALT enzyme activity in red blood cells.~~
~~Incidence: Approximately 1 in 30,000 to 60,000 for classic galactosemia in Caucasians; varies in other populations.~~
~~Inheritance: Autosomal recessive.~~
~~Penetrance: 100 percent for severe GALT mutations.~~
~~Cause: Mutations in the GALT gene.~~
~~Mutations Tested: Seven GALT gene mutations (Q188R, S135L, K285N, T138M, L195P, Y209C, and IVS2-2 A>G) and two variants (N314D and L218L).~~
~~Clinical Sensitivity: Approaches 80 percent in Caucasians but reduced in other ethnic groups.~~
~~Methodology: Polymerase chain reaction followed by single nucleotide extension (SNE) and capillary electrophoresis.~~
~~Analytical Sensitivity: 99 percent for mutations listed.~~
~~Limitations: GALT gene mutations, other than the 9 targeted, will not be detected. Diagnostic errors can occur due to rare sequence variations.~~

Reference Interval:

By report

TEST CHANGE

Prothrombin Antibody, IgG

0051302, PROTHROM G

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST) OR lt. blue (sodium citrate)
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum (Min: 0.3 mL) OR 0.5 mL citrate plasma (Min: 0.3 mL) to an ARUP standard transport tube.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, clots, fibrin, gross red blood cells, severely lipemic, severely hemolyzed, or severely icteric specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay (ELISA)
Performed:	Fri~~Mon~~
Reported:	1-8 days
Note:	
CPT Codes:	83516
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

IgG antibodies to prothrombin may be a risk factor for either venous or arterial thrombosis in antiphospholipid syndrome (APS). Strong clinical correlation is recommended in the absence of lupus anticoagulant, IgG and/or IgM cardiolipin and/or beta2 glycoprotein antibodies.

If results are positive, repeat testing with two or more specimens drawn at least 12 weeks apart to demonstrate persistence of antibodies.

Results should not be used alone for diagnosis and must be interpreted in light of APS-specific clinical manifestations and/or other criteria phospholipid antibody tests.

Reference Interval:

Effective 5/21/2018
Less than 20 Units

TEST CHANGE

Ashkenazi Jewish Diseases, 16 Genes

0051415, AJP

Specimen Requirements:	
Patient Preparation:	
Collect:	Whole blood: Lavender (EDTA), pink (K2EDTA), or yellow (ACD solution A or B). ~~Whole blood: Lavender (EDTA), pink (K 2 EDTA), or yellow (ACD solution A or B). Fetal specimens: Cultured amniocytes: Two T-25 flasks at 80 percent confluency. OR cultured CVS: Two T-25 flasks at 80 percent confluency. If the client is unable to culture, order ARUP test Cytogenetics Grow and Send (test code 0040182) in addition to this test and ARUP will culture upon receipt (culturing fees will apply). If you have any questions, contact ARUP's Genetics Processing at 800-522-2787 ext. 3301. AND maternal whole blood: lavender (K2 or K3EDTA), pink (K2EDTA), or yellow (ACD solution A or B).~~
Specimen Preparation:	Whole blood: Transport 3 mL whole blood. (Min: 1 mL)~~ Fetal Specimens: Cultured amniocytes OR cultured CVS: Transport two T-25 flasks at 80 percent confluency filled with culture media. Backup cultures must be retained at the client's institution until testing is complete. AND maternal whole blood: transport 2 mL whole blood (min: 1 mL).~~
Transport Temperature:	Whole blood: Refrigerated. ~~Whole blood: Refrigerated. Fetal specimens: Cultured amniocytes OR cultured CVS: CRITICAL ROOM TEMPERATURE. Must be received within 48 hours of shipment due to lability of cells AND maternal whole blood: room temperature. Also acceptable: refrigerated.~~
Unacceptable Conditions:	Plasma or serum. Specimens collected in sodium heparin or lithium heparin tubes. Frozen specimens in glass collection tubes.
Remarks:	
Stability:	Whole blood: Ambient: 72 hours; Refrigerated: 1 week; Frozen: unacceptable~~ Fetal specimens : Ambient: 48 hours; Refrigerated: Unacceptable; Frozen: Unacceptable AND Maternal whole blood: Ambient: 72 hours; Refrigerated: 1 week. Frozen: Unacceptable.~~
Methodology:	Polymerase Chain Reaction (PCR)/Fluorescence Monitoring

Performed:	Varies
Reported:	5-10 days
Note:	Cystic fibrosis (CF) carrier testing is NOT included as part of this panel. Please order Cystic Fibrosis (CFTR) Expanded Variant Panel (ARUP test code 2013661) to assess CF carrier status. ~~Any submitted fetal specimens will have Maternal Cell Contamination, Fetal Sample, added on by ARUP. Additional charges will apply.~~
CPT Codes:	81401, 81209, 81200, 81260, 81242, 81251, 81250, 81479, 81205, 81290, 81400, 81330, 81255
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Refer to report. ~~Refer to report~~

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

Reference Interval:

TEST CHANGE

Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgG and IgA

0051627, EBV PAN 3

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP standard transport tube. (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, icteric, or grossly hemolyzed specimens.
Remarks:	Label specimens plainly as "acute" or "convalescent."
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month (Avoid repeated freeze/thaw cycles).
Methodology:	Enzyme-Linked Immunosorbent Assay/Semi-Quantitative Chemiluminescent Immunoassay
Performed:	Tue
Reported:	1-8 days
Note:	
CPT Codes:	86665 x2
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Component	Interpretation
Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgG	17.9 U/mL or less: Not Detected 18.0-21.9 U/mL: Indeterminate. Repeat testing in 10-14 days may be helpful. 22.0 U/mL or greater:

	Detected
Epstein-Barr Virus Antibody to Viral Capsid Antigen, IgA	8 U or less: Not Detected 9-11 U: Indeterminate - Repeat testing in 10-14 days may be helpful. 12 U or greater: Detected

Reference Interval:

Test Number	Components	Reference Interval
	EBV Antibody to Viral Capsid Antigen IgG	<=1721.9 U/mL ~~or less~~
	EBV Antibody To Viral Capsid Antigen IgA	8 U or less

TEST CHANGE

Herpes Simplex Virus Type 1 and/or 2 Antibodies, IgG with Reflex to Type 1 and 2 Glycoprotein G-Specific Ab, IgG

0051708, HERPR PAN2

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube.
Specimen Preparation:	Transfer 1 mL serum to an ARUP standard transport tube~~Standard Transport Tube~~. (Min: 0.5 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of acute specimens. Mark specimens plainly as "acute" or "convalescent."
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or urine. Contaminated, heat-inactivated, hemolyzed, icteric, or severely lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay
Performed:	Sun-Sat
Reported:	1-2 days
Note:	If HSV 1 and/or 2 IgG is 1.10 IV or greater, then HSV 1 gG-Specific IgG and HSV 2 gG-Specific IgG will be added. Additional charges apply.
CPT Codes:	86694; if reflexed, add 86695; 86696
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

False positive results are possible. Consider additional testing for HSV-2, particularly if the result for HSV-2 is less than or equal to~~</=~~ 3.0 IV.

Component	Interpretation
Herpes Simplex Virus Type 1 and/or 2 Antibodies, IgG by Chemiluminescent Immunoassay	0.89 IV or less: Not Detected. 0.90-1.09 IV: Indeterminate.~~-~~ Repeat testing in 10-14 days may

	be helpful. 1.10 IV or greater: Detected.	

Reference Interval:

TEST CHANGE

Allergen, Insects and Venom, White-Faced Hornet IgG

0055405, WH F IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~.~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL) Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Test Number	Components	Reference Interval

Allergen, Insect, WhFaced Hornet Ven IgG	Less than 8.47 mcg/mL

Inserted Cells

Inserted Cells

TEST CHANGE

Allergen, Insects and Venom, Yellow Jacket IgG

0055410, YEL J IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Test Number	Components	Reference Interval

Allergen, Insect, YellowJacket Venom IgG	Less than 6.26 mcg/mL

Inserted Cells

Inserted Cells

ARUP LABORATORIES | A nonprofit enterprise of the University of Utah and its Department of Pathology

Effective Date: July 21, 2025

TEST CHANGE

Allergen, Insects and Venom, Paper Wasp IgG

0055415, PAP-W IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Test Number	Components	Reference Interval

Allergen, Insect, Paper Wasp Venom IgG	Less than 7.47 mcg/mL

Inserted Cells

Inserted Cells

TEST CHANGE

Allergen, Insects and Venom, Yellow Hornet IgG

0055420, YE F IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Test	Components	Reference Interval

Number		
	Allergen, Insect, Yellow Hornet IgG	Less than 6.87 mcg/mL

Less than 6.87 mcg/mL

ARUP LABORATORIES | A nonprofit enterprise of the University of Utah and its Department of Pathology

Effective Date: July 21, 2025

TEST CHANGE

Antimicrobial Susceptibility, AFB/Mycobacteria

0060217, MA AFB

Specimen Requirements:	
Patient Preparation:	
Collect:	Actively growing isolate in pure culture.
Specimen Preparation:	Transport sealed container with pure isolate~~culture~~ on solid or liquid media. Place each isolate~~specimen~~ in an individually sealed bag.
Transport Temperature:	Room temperature. Submit M. tuberculosis complex isolates. ~~If culture is suspected of being a microorganism identified on the IATA list as an infectious substance affecting humans, submit specimen~~ according to Infectious Substance, Category A~~,~~ shipping guidelines.
Unacceptable Conditions:	Mixed isolates~~cultures~~ or nonviable organisms. M. tuberculosis complex isolates~~Organisms~~ submitted on an agar plate.
Remarks:	
Stability:	Ambient: 2 weeks; Refrigerated: 2 weeks; Frozen: unacceptable~~2 weeks~~
Methodology:	Broth Macrodilution/Broth Microdilution
Performed:	Sun-Sat
Reported:	Varies
Note:	AFB susceptibility testing is billed at the panel level. Charges will vary based on organism identified. An additional handling fee will be billed for all organisms submitted that are not in pure culture as indicated in the specimen requirements. If species identification is not provided or if incorrect identification is provided, identification will be performed at ARUP. Additional charges apply. M. tuberculosis complex isolates mono-resistant to p~~P~~yrazinamide (PZA) will be further identified to species by PCR at an additional charge. An additional charge will be added for drug requests that are not tested at ARUP and require sendout.
CPT Codes:	CPT codes vary based on method
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Test Name	Methodology	Drugs Tested	CPT Code
Antimicrobial Susceptibility - AFB/Mycobacterium tuberculosis Primary Panel	MGIT960 Broth Macro dilution	The interpretation provided is based on results for the following drugs at the stated concentrations: Drugs tested: Ethambutol: 5.0 ug/mL; Isoniazid: 0.1 ug/mL (0.4 ug/mL if resistant to 0.1 ug/mL); Rifampin: 1.0 ug/mL. This procedure screens isolates of M. tuberculosis complex for drug resistance. The procedure does not use serial dilutions to provide quantitative MIC values. Single critical concentrations for each antimycobacterial agent used have been defined by the United States Public Health Service.	87188 x4
Antimicrobial Susceptibility - AFB/Mycobacterium tuberculosis Secondary Panel	Agar proportion and Broth dilution	Note: If M. tuberculosis complex isolate is resistant to rifampin or any two primary drugs, a secondary panel is available as a send-out test. The interpretation provided is based on testing for the following drugs at the stated concentrations: Drugs tested: Amikacin: 6 ug/mL; capreomycin: 10 ug/mL; cycloserine: 60 ug/mL; ethionamide: 10 ug/mL; kanamycin: 6 ug/mL; PAS: 8 ug/mL; streptomycin at a low level (2.0 ug/mL) and a high level (4.0 ug/mL). Levofloxacin and moxifloxacin are tested at 2, 4 and 8 ug/mL	87190 x6, 87188 x3
Antimicrobial Susceptibility - AFB/Mycobacteria	Broth Microdilution	See organism-specific panels below.	87186
Mycobacterium aviumintracellulare Complex	Broth Microdilution	Drugs tested: Amikacin, clarithromycin, linezolid, moxifloxacin. Clofazimine at request only Clarithromycin results predict azithromycin. Because MIC results do not predict clinical response and may be misleading, rifampin, rifabutin, and ethambutol MICs are not tested.	87186
Rapid Growing Mycobacteria	Broth Microdilution	Drugs tested: Amikacin, cefoxitin, ciprofloxacin, clarithromycin, clofazimine,	87186

Inserted Cells

Inserted Cells

			doxycycline, imipenem, linezolid, moxifloxacin, tigecycline, tobramycin (M. chelonae only), and trimethoprim/sulfamethoxazole (TMP/SXT). Extended 14-day incubation is performed on isolates initially susceptible to clarithromycin to detect Erm-dependent inducible macrolide resistance. Extended drugs at an additional charge: bedaquiline, omadacycline, and eravacycline	
	Miscellaneous Slowly Growing Non-tuberculosis Mycobacteria (NTM, non-fastidious species)	Broth Microdilution	Drugs tested: Amikacin, ciprofloxacin, clarithromycin, doxycycline, linezolid, moxifloxacin, rifabutin, rifampin, streptomycin and trimethoprim/sulfamethoxazole (TMP/SXT). Selective reporting by organism. CLSI recommends that isolates of M. kansasii be tested against rifampin and clarithromycin only. Rifampin-susceptible isolates are also susceptible to rifabutin. If the isolate is rifampin-resistant, the following secondary drugs will also be reported: Amikacin, ciprofloxacin, linezolid, moxifloxacin, rifabutin, streptomycin and trimethoprim-sulfamethoxazole. M. marinum isolates are tested against amikacin, ciprofloxacin, clarithromycin, doxycycline, moxifloxacin, rifabutin, rifampin, and trimethoprim-sulfamethoxazole. Slowly-growing NTM other than M. kansasii and M. marinum are tested against amikacin, ciprofloxacin, clarithromycin, linezolid, moxifloxacin, rifabutin, rifampin, streptomycin, and trimethoprim-sulfamethoxazole.	
	Miscellaneous Slowly Growing Non-tuberculosis Mycobacteria (NTM, fastidious species)		Susceptibility testing is not available for M. haemophilum, M. genavense, and M. ulcerans	

Reference Interval:

Available Separately	Test Name	Methodology	Reference Interval/Drugs Tested	CPT Code
0060347	Antimicrobial Susceptibility - AFB/Mycobacterium tuberculosis Primary Panel	MGIT960	The interpretation provided is based on results for the following drugs at the stated concentrations: Drugs tested: Ethambutol: 5.0 ug/mL; Isoniazid: 0.1 ug/mL (0.4 ug/mL if resistant to 0.1 ug/mL); Pyrazinamide: 100 ug/mL; Rifampin: 1.0 ug/mL. This procedure screens isolates of M. tuberculosis complex for drug resistance. The procedure does not use serial dilutions to provide quantitative MIC values. Single critical concentrations for each antimycobacterial agent used have been defined by the United States Public Health Service.	87188 x4
	Antimicrobial Susceptibility - AFB/Mycobacterium tuberculosis Secondary Panel	Agar proportion and Broth dilution	Effective February 21, 2012 Note: If M. tuberculosis isolate is resistant to rifampin or any two primary drugs, a secondary panel will be performed as a send-out test. The interpretation provided is based on testing for the following drugs at the stated concentrations: Drugs tested: Amikacin: 6 ug/mL; capreomycin: 10 ug/mL; cycloserine: 60 ug/mL; ethionamide: 10 ug/mL; kanamycin: 6 ug/mL; PAS: 8 ug/mL; streptomycin at a low level (2.0 ug/mL) and a high level (4.0 ug/mL). Levofloxacin and moxifloxacin are tested at 2, 4 and 8 ug/mL	87190 x6, 87188 x3
	Antimicrobial Susceptibility - AFB/Mycobacteria	Broth Microdilution	See organism-specific panels below.	87186
	Mycobacterium avium-intracellulare Complex	Broth Microdilution	Effective April/1/2022 Drugs tested: Amikacin, clarithromycin, linezolid, moxifloxacin. Clarithromycin results predict azithromycin. Because MIC results do not predict clinical response and may be misleading, rifampin, rifabutin, and ethambutol MICs are not tested.	87186
	Rapid Growing Mycobacteria	Broth Microdilution	Effective April 1, 2022 Drugs tested: Amikacin, cefoxitin, ciprofloxacin, clarithromycin, doxycycline, imipenem,	87186

Deleted Cells

Deleted Cells

			linezolid, moxifloxacin, tigecycline, tobramycin (M. chelonae only), and trimethoprim/sulfamethoxazole (TMP/SXT). Extended 14-day incubation is performed on isolates initially susceptible to clarithromycin to detect Erm(41)-dependent inducible macrolide resistance except Mycobacterium species with a nonfuctional Erm(41) gene.	
	Other Slowly-Growing Non-tuberculosis Mycobacteria (NTM)	Broth Microdilution	Effective April 1, 2022 Drugs tested: Amikacin, ciprofloxacin, clarithromycin, doxycycline, linezolid, moxifloxacin, rifabutin, rifampin, streptomycin and trimethoprim/sulfamethoxazole (TMP/SXT). Selective reporting by organism. CLSI recommends that isolates of M. kansasii be tested against rifampin and clarithromycin only. Rifampin-susceptible isolates are also susceptible to rifabutin. If the isolate is rifampin-resistant, the following secondary drugs will also be reported: Amikacin, ciprofloxacin, linezolid, moxifloxacin, rifabutin, streptomycin and trimethoprim-sulfamethoxazole. M. marinum isolates are tested against amikacin, ciprofloxacin, clarithromycin, doxycycline, moxifloxacin, rifabutin, rifampin, and trimethoprim-sulfamethoxazole. Slowly-growing NTM other than M. kansasii and M. marinum are tested against amikacin, ciprofloxacin, clarithromycin, linezolid, moxifloxacin, rifabutin, rifampin, streptomycin, and trimethoprim-sulfamethoxazole.	87186

TEST CHANGE

Bile Acids, Total

0070189, BILE AC

Specimen Requirements:	
Patient Preparation:	Patient should fast for 8 hours prior to collection.
Collect:	Serum separator tube or plasma separator tube. Also acceptable : Lavender (EDTA), green (lithium heparin)
Specimen Preparation:	Allow specimen to clot completely at room temperature before centrifugation. Transfer 1 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Body fluids. Hemolyzed specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 24~~8~~ hours; Refrigerated: 2 weeks; Frozen: 3 months
Methodology:	Quantitative Enzymatic Assay
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	82239
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Reference interval applies to fasting specimens.

Reference Interval:

0-10 μmol/L

TEST CHANGE

Vitamin A (Retinol), Serum or Plasma

0080525, VIT A

Specimen Requirements:	
Patient Preparation:	Patient should fast for 12 hours and abstain from alcohol for 24 hours prior to collection.
Collect:	Green (sodium or lithium heparin), plasma separator tube, or serum separator tube. Also acceptable: Lavender (EDTA) or pink (K2EDTA).
Specimen Preparation:	Separate serum or plasma within 1 hour of collection. Transfer 1 mL serum or plasma to an ARUP Standard Transport Tube immediately. (Min: 0.2 mL) Avoid hemolysis.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Whole blood or body fluids other than serum or plasma.
Remarks:	
Stability:	After separation from cells: Ambient: unacceptable~~3 hours~~; Refrigerated: 1 month; Frozen: 1 year
Methodology:	Quantitative High Performance Liquid Chromatography (HPLC)
Performed:	Sun-Sat
Reported:	1-4 days
Note:	Serum retinol is typically maintained until hepatic stores are almost depleted. Values greater than 0.30 mg/L represent adequate liver stores, whereas values less than 0.10 mg/L indicate deficiency. Samples that come in contact with plastic tubing or have been exposed to excessive light may show low results. Vitamin A toxicity occurs when retinol concentration exceeds the capacity of retinol binding protein (RBP). Individuals with compromised renal function can retain RBP and may, therefore, have moderate retinol elevations. Drugs which interfere with vitamin A analysis include probucol (Lorelco). This assay does not measure other vitamin A metabolites such as retinaldehyde and retinoic acid.
CPT Codes:	84590
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

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

Reference Interval:

Test Number	Components	Reference Interval
	Vitamin A (Retinol)	
		Age: 0-1 month 2 months-12 years 13-17 years 18 years and older Reference Interval: 0.18-0.50 mg/L 0.20-0.50 mg/L 0.26-0.70 mg/L 0.30-1.20 mg/L
	Vitamin A (Retinyl Palmitate)	0-150 years: 0-0.10 mg/L

TEST CHANGE

Allergen, Food, Almond IgG

0090284, ALMOND IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL) Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 15.21 mcg/mL

TEST CHANGE

Allergen, Food, Banana IgG

0090286, BANANA IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 46.11 mcg/mL

TEST CHANGE

Allergen, Food, Garlic IgG

0090287, GARLIC IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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Reference Interval:

Effective November 19, 2012

Less than 12.71 mcg/mL

TEST CHANGE

Allergen, Food, Gluten IgG

0090289, GLUTEN IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 47.41 mcg/mL

TEST CHANGE

Allergen, Food, Whey IgG

0090291, WHEY IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 88.61 mcg/mL

TEST CHANGE

Allergen, Fungi and Molds, Fusarium proliferatum/moniliforme IgG

0093454, FUS M IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 46.41 mcg/mL

TEST CHANGE

Allergen, Food, Mushroom IgG

0097299, MUSH IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 15.61 mcg/mL

TEST CHANGE

Allergen, Food, Coffee IgG

0097302, COFFEE IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum separator tube.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 13.51 mcg/mL

TEST CHANGE

Allergen, Fungi and Molds, Candida albicans IgG

0097304, CANDIDAIGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 84.01 mcg/mL

TEST CHANGE

Allergen, Fungi and Molds, Aureobasidium pullulans IgG

0097305, AUREO IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 17.51 mcg/mL

TEST CHANGE

Allergen, Food, Onion IgG

0097306, ONION IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 17.01 mcg/mL

TEST CHANGE

Allergen, Fungi and Molds, Rhizopus nigricans IgG

0097307, RHIZO IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 8.41 mcg/mL

TEST CHANGE

Allergen, Stemphylium herbarum/botryosum, IgG

0097308, STEMPHBIGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 115.01 mcg/mL

TEST CHANGE

Allergen, Fungi and Molds, Phoma betae IgG

0097309, PHOMAB IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 12.91 mcg/mL

TEST CHANGE

Allergen, Fungi and Molds, Penicillium chrysogenum/notatum IgG

0097310, PENI N IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 55.51 mcg/mL

TEST CHANGE

Allergen, Fungi and Molds, Helminthosporium halodes/Setomelanomma rostrata IgG

0097313, HELMINIGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 131.01 mcg/mL

TEST CHANGE

Allergen, Fungi and Molds, Cladosporium IgG

0097314, CLADO IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 86.11 mcg/mL

TEST CHANGE

Allergen, Food, Egg Yolk IgG

0097315, EGGYOLKIGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 19.61 mcg/mL

TEST CHANGE

Allergen, Fungi and Molds, Mucor racemosus IgG

0097316, MUCOR IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 9.77 mcg/mL

TEST CHANGE

Allergen, Food, Rice IgG

0097323, RICE IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 16.71 mcg/mL

TEST CHANGE

Allergen, Food, Wheat IgG

0097636, WHEAT IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective August 20, 2012

Less than 60.20 mcg/mL

TEST CHANGE

Allergen, Food, Potato (White) IgG

0097641, POTATO IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 1 week; Refrigerated: 1 month; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000mcg/1000mL.
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 6.09 mcg/mL

TEST CHANGE

Allergen, Food, Rye IgG

0097642, RYE IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 26.71 mcg/mL

TEST CHANGE

Allergen, Food, Soybean IgG

0097643, SOY IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~.~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~at~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective August 20, 2012

Less than 5.30 mcg/mL

TEST CHANGE

Allergen, Tomato IgG

0097644, TOMATO IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 7.20 mcg/mL

TEST CHANGE

Allergen, Food, Orange IgG

0097647, ORANGE IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	~~Collect:~~ Serum separator tube (SST)~~)~~.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 8.65 mcg/mL

TEST CHANGE

Allergen, Food, Peanut IgG

0097648, PEANUT IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective August 20, 2012

Less than 6.80 mcg/mL

TEST CHANGE

Allergen, Food, Pork IgG

0097649, PORK IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 7.92 mcg/mL

TEST CHANGE

Allergen, Food, Lettuce IgG

0097651, LETT IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 11.31 mcg/mL

TEST CHANGE

Allergen, Food, Malt IgG

0097652, MALT IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	~~Collect:~~ Serum separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 22.31 mcg/mL

TEST CHANGE

Allergen, Food, Casein (Cow's Milk) IgG

0097653, CASEIN IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective August 20, 2012

Less than 38.70 mcg/mL

TEST CHANGE

Allergen, Food, Oat IgG

0097654, OAT IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective August 20, 2012

Less than 13.30 mcg/mL

TEST CHANGE

Allergen, Food, Chicken IgG

0097656, CHICK IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 6.25 mcg/mL

TEST CHANGE

Allergen, Food, Chocolate IgG

0097657, CHOCO IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube. Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 20.41 mcg/mL

TEST CHANGE

Allergen, Food, Corn IgG

0097658, CORN IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective May 21, 2012

Less than 10.5 mcg/mL

TEST CHANGE

Allergen, Food, Egg White IgG

0097659, EGG IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective August 20, 2012

Less than 15.70 mcg/mL

TEST CHANGE

Allergen, Food, Baker's Yeast IgG

0097706, YEAST IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 11.41 mcg/mL

TEST CHANGE

Allergen, Food, Barley IgG

0097707, BARLEY IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 20.31 mcg/mL

TEST CHANGE

Allergen, Food, Beef IgG

0097708, BEEF IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Effective November 19, 2012

Less than 22.01 mcg/mL

TEST CHANGE

Allergen, Fungi and Molds, Alternaria tenuis IgG

0097773, ALTER IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 16.71 mcg/mL

TEST CHANGE

Keppra (Levetiracetam)

0098627, KEPPRA

Specimen Requirements:	
Patient Preparation:	Timing of specimen collection: Predose~~Pre-dose~~ (trough) draw at~~- At~~ steady state concentration.
Collect:	Plain red. Also acceptable: Lavender (EDTA), pink (K2EDTA), or green (sodium or lithium heparin).
Specimen Preparation:	Separate serum or plasma from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.3 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Serum or plasma separator tubes. Grossly hemolyzed specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 7 days; Refrigerated: 1 week; Frozen: 1 month
Methodology:	Quantitative Enzyme Immunoassay (EIA)
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	80177
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Pharmacokinetics of levetiracetam are affected by renal function. Adverse effects may include somnolence, weakness, headache and vomiting.

This levetiracetam (Keppra) immunoassay uses the ARK Diagnostics reagents, which has known cross-reactivity with the drug brivaracetam (Briviact) and may report inaccurate results. Patients transitioning from levetiracetam to brivaracetam or those who are using both medications should not monitor drug concentrations with the ARK Diagnostics assay. These patients should be monitored using a validated chromatographic methodology that distinguishes between drugs to determine drug concentrations.

Reference Interval:

Effective February 22, 2022

Therapeutic range: : 10-40 μg/mL
Toxic: Not well established

HOTLINE NOTE: There is a numeric map change associated with this test. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Chromium, Serum

0098830, CR S

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, and nonessential~~non-essential~~ over-the-counter medications (upon the advice of their physician).
Collect:	Royal blue (no additive~~Blue (No Additive~~).
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP Trace Element-Free Transport Tube (ARUP supply #43116) available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at ~~(~~800~~-)~~ 522-2787~~.~~ (Min: 0.5 mL). Do not use utensils (i.e., syringes, needles, or pipettes) in the collection or transfer of the sample, pour directly into transport tube.~~)~~
Transport Temperature:	Room temperature. Also acceptable: Refrigerated or frozen.
Unacceptable Conditions:	Plasma. Royal b~~B~~lue (EDTA) or separator tubes. Specimens that are not separated from the clot within 2 hours. Specimens transported in tubes other than specified.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Indefinitely
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	82495
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Elevated results may be due to skin or collection-related contamination, including the use of a noncertified metal-free collection/transport tube. If contamination concerns exist due to elevated levels of serum chromium, confirmation with a second specimen collected in a certified metal-free

tube is recommended.

Serum chromium levels can be significantly higher in patients with metal-on-metal total hip replacement implants than in control patients without metal implants. Serum chromium levels may be increased in asymptomatic patients with metal-on-metal prosthetics and should be considered in the context of the overall clinical scenario. Whole blood is the specimen type recommended by the U.S. Food and Drug Administration for assessing the risks of metal-on-metal hip implants in symptomatic patients.

Symptoms associated with chromium toxicity vary based on route of exposure and dose, and may include dermatitis, impairment of pulmonary function, gastroenteritis, hepatic necrosis, bleeding, and acute tubular necrosis.

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

Reference Interval:

Less than or equal to 5.0 µg/L

ARUP LABORATORIES | *A nonprofit enterprise of the University of Utah and its Department of Pathology*

Effective Date: July 21, 2025

TEST CHANGE

Arsenic, Whole Blood

0099045, ARS B

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patient should be encouraged to discontinue nutritional supplements, vitamins, minerals, and non-essential over-the-counter medications (upon the advice of their physician) and avoid shellfish and seafood for 48 to 72 hours.
Collect:	Royal blue (K2EDTA) or royal blue (NaHep).
Specimen Preparation:	Transport 3 or 6 mL whole blood in the original collection tube. (Min: 0.5 mL)
Transport Temperature:	Room temperature. Also acceptable: Refrigerated.
Unacceptable Conditions:	Specimens collected in tubes other than royal blue (K2EDTA) or royal blue (NaHep). Specimens transported in containers other than royal blue (K2EDTA) or royal blue (NaHep) tube or trace element-free transport tube. Clotted specimens.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	82175
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

~~Elevated results may be due to skin or collection-related contamination, including the use of a noncertified metal-free collection/transport tube. If contamination concerns exist due to elevated levels of blood arsenic, confirmation with a second specimen collected in a certified metal-free tube is recommended.~~

Potentially toxic ranges for blood arsenic: Greater than or equal to 600 ug~~μg~~/L.

Blood arsenic is for the detection of recent exposure poisoning only. Blood arsenic levels in healthy subjects vary considerably with exposure to arsenic in the diet and the environment. A 24-hour urine arsenic is useful for the detection of chronic exposure.

Elevated results may be due to skin- or collection-related contamination, including the use of tubes that are not certified to be trace element free. If an elevated result is suspected to be due to contamination, confirmation with a second specimen collected in a certified trace element-free tube is recommended.

Methodology: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS).

Reference Interval:

Test Number	Components	Reference Interval
Arsenic, Whole Blood	Less than or equal to 12.0 μg/L	

Inserted Cells

Inserted Cells

TEST CHANGE

Cobalt, Whole Blood

0099231, COBALT B

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, and non-essential over-the-counter medications (upon the advice of their physician).
Collect:	Royal blue (K2EDTA) or royal blue (NaHep).
Specimen Preparation:	Transport 3 or 6 mL whole blood in the original collection tube. (Min: 0.5 mL)
Transport Temperature:	Room temperature. Also acceptable: Refrigerated.
Unacceptable Conditions:	Specimens collected in tubes other than royal blue (K2EDTA) or royal blue (NaHep). Clotted specimens.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	83018
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

~~Elevated results may be due to skin or collection-related contamination, including the use of a noncertified metal-free collection/transport tube. If contamination concerns exist due to elevated levels of blood cobalt, confirmation with a second specimen collected in a certified metal-free tube is recommended.~~

Blood cobalt levels can be used in the assessment of occupational exposure or toxic ingestion. Symptoms associated with cobalt toxicity vary based on route of exposure and may include cardiomyopathy, allergic dermatitis, pulmonary fibrosis, cough and dyspnea. Blood is the preferred

specimen type for evaluating metal ion release from metal-on-metal joint arthroplasty.

Elevated results may be due to skin- or collection-related contamination, including the use of tubes that are not certified to be trace element free. If an elevated result is suspected to be due to contamination, confirmation with a second specimen collected in a certified trace element-free tube is recommended.

Methodology: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS).

Reference Interval:

Less than or equal to ~~0.5~~ 3.9 µg/L

TEST CHANGE

Ribosomal P Protein Antibody

0099249, RIBPP

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube or red tube.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tube. ~~Standard Transport Tube.~~ (Min: 0.2 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or other body fluids. Bacterially contaminated or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Multiplex Bead Assay
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	83516
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Autoantibodies reacting with cytoplasmic ribosomes are highly specific for systemic lupus erythematosus. Ribosomal-P antibodies are found in approximately 12% of patients with systemic lupus erythematosus (SLE) and in 90% of patients with lupus psychosis; titers often increase more than fivefold during and before active phases of psychosis.

Component	Interpretation
Ribosomal P Protein Antibody	29 AU/mL or less Negative 30-40 AU/mL Equivocal 41 AU/mL or greater Positive

Reference Interval:

Test Number	Components	Reference Interval
	Ribosome P Antibody, IgG	0-40 AU/mL

TEST CHANGE

Aluminum, Serum

0099266, AL S

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patient should be encouraged to discontinue nutritional supplements, vitamins, minerals, and nonessential~~non-essential~~ over-the-counter medications (upon the advice of their physician).
Collect:	Royal Blue (No Additive).
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum to an ARUP Trace Element-Free Transport Tube (ARUP supply #43116) available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at ~~(~~800~~-)~~ 522-2787~~.~~ (Min: 0.5 mL). Do not use utensils (i.e., syringes, needles, or pipettes) in the collection or transfer of the sample, pour directly into transport tube.~~)~~
Transport Temperature:	Room temperature. Also acceptable: Refrigerated or frozen.
Unacceptable Conditions:	Plasma. Specimens that are not separated from the red cells or clot within 2 hours. Specimens collected in containers other than specified. Specimens transported in containers other than specified.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Indefinitely (If the specimen is drawn and stored in the appropriate container, the trace element values do not change with time.)
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry
Performed:	Tue, Thu, Sat
Reported:	1-4 days
Note:	
CPT Codes:	82108
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Serum aluminum greater than 50.0 μg/L is consistent with overload and may correlate with toxicity.

Elevated results may be due to skin or collection-related contamination, including the use of a noncertified metal-free collection/transport tube. If contamination concerns exist due to elevated levels of serum aluminum, confirmation with a second specimen collected in a certified metal-free tube is recommended.

Reference Interval:

0.0-15.0 μg/L

TEST CHANGE

Manganese, Whole Blood

0099272, MANG WB

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patient should be encouraged to discontinue nutritional supplements, vitamins, minerals, and non-essential over-the-counter medications (upon the advice of their physician).
Collect:	Royal blue (K2EDTA) or royal blue (NaHep).
Specimen Preparation:	Transport 3 or 6 mL whole blood in the original collection tube. (Min: 0.5 mL)
Transport Temperature:	Room temperature. Also acceptable: Refrigerated.
Unacceptable Conditions:	Specimens collected in tubes other than royal blue (K2EDTA) or royal blue (NaHep). Specimens transported in containers other than a royal blue (K2EDTA) or royal blue (NaHep) tube or trace element-free transport tube. Clotted specimens.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	83785
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Elevated results may be due to skin- or collection-related contamination, including the use of tubes that are not certified to be trace element ~~a noncertified metal-~~free. ~~collection/transport tube.~~ If an elevated result is suspected to be due to contamination ~~concerns exist due to elevated levels of blood manganese~~, confirmation with a second specimen collected in a certified trace element~~metal~~-free tube is recommended.

Methodology: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS).

Reference Interval:

4.2-16.5 µg/L

TEST CHANGE

Mercury, Whole Blood

0099305, HG B

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patient should be encouraged to discontinue nutritional supplements, vitamins, minerals, and non-essential over-the-counter medications (upon the advice of their physician), and avoid shellfish and seafood for 48 to 72 hours.
Collect:	Royal blue (K2EDTA) or royal blue (NaHep).
Specimen Preparation:	Transport 3 or 6 mL whole blood in the original collection tube. (Min: 0.5 mL)
Transport Temperature:	Room temperature. Also acceptable: Refrigerated.
Unacceptable Conditions:	Specimens collected in tubes other than royal blue (K2EDTA) or royal blue (NaHep). Specimens transported in containers other than royal blue (K2EDTA) or royal blue (NaHep) tube or trace element-free transport tube. Clotted specimens.
Remarks:	
Stability:	Ambient: 1 week; Refrigerated: 1 week; Frozen: Unacceptable
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Performed:	Sun-Sat
Reported:	1-3 days
Note:	Mercury is volatile; concentration may decrease over time.
CPT Codes:	83825
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

~~Elevated results may be due to skin or collection-related contamination, including the use of a noncertified metal-free collection/transport tube. If contamination concerns exist due to elevated levels of blood mercury, confirmation with a second specimen collected in a certified metal-free tube is recommended.~~

Blood mercury levels predominantly reflect recent exposure and are most useful in the diagnosis of acute poisoning as blood mercury concentrations rise sharply and fall quickly over several days after ingestion. Blood concentrations in unexposed individuals rarely exceed 20 ug~~µg~~/L. The provided reference interval relates to inorganic mercury concentrations. Dietary and nonoccupational~~non-occupational~~ exposure to organic mercury forms may contribute to an elevated total mercury result. Clinical presentation after toxic exposure to organic mercury may include dysarthria, ataxia, and constricted vision fields with mercury blood concentrations from 20 to 50 ug~~µg~~/L.

Elevated results may be due to skin- or collection-related contamination, including the use of tubes that are not certified to be trace element free. If an elevated result is suspected to be due to contamination, confirmation with a second specimen collected in a certified trace element-free tube is recommended.

Methodology: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS).

Reference Interval:

Less than or equal to 10.0 µg/L

TEST CHANGE

Nickel, Serum

0099452, NICKEL

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, and nonessential~~non-essential~~ over-the-counter medications (upon the advice of their physician).
Collect:	Royal blue (no additive~~Blue (No Additive~~).
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 2 mL serum ~~within 2 hours of collection~~ to an ARUP Trace Element-Free Transport Tube (ARUP supply #43116) available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at ~~(~~800~~-~~) ~~-~~522-2787~~.~~ (Min: 0.5 mL). Do not use utensils (i.e., syringes, needles, or pipettes) in the collection or transfer of the sample, pour directly into transport tube.~~)~~
Transport Temperature:	Room temperature. Also acceptable: Refrigerated or frozen.
Unacceptable Conditions:	Plasma. Specimens that are not separated from clot, within 2 hours. Separator tubes or royal blue~~Royal Blue~~ (EDTA). Specimens transported in tubes other than specified. Hemolyzed specimens.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Indefinitely
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	83885
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Elevated results may be due to skin or collection-related contamination, including the use of a noncertified metal-free collection/transport tube. If contamination concerns exist due to elevated levels of serum nickel, confirmation with a second specimen collected in a certified metal-free tube is recommended.

Serum nickel testing is intended to detect potentially toxic exposure.

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

Reference Interval:

Less than or equal to 10.0 μg/L

TEST CHANGE

Heavy Metals Panel 3, Whole Blood

0099470, HY MET B

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, non-essential over-the-counter medications (upon the advice of their physician), and avoid shellfish and seafood for 48 to 72 hours.
Collect:	Royal blue (K2EDTA) or Royal blue (NaHep).
Specimen Preparation:	Transport 3 or 6 mL whole blood in the original collection tube. (Min: 0.5 mL)
Transport Temperature:	Room temperature. Also acceptable: Refrigerated.
Unacceptable Conditions:	Specimens collected in tubes other than Royal blue (K2EDTA) or Royal blue (NaHep). Specimens transported in containers other than Royal blue (K2EDTA) or Royal blue (NaHep) or Trace Element-Free Transport Tube. Clotted specimens.
Remarks:	
Stability:	Ambient: 1 week; Refrigerated: 1 week; Frozen: Unacceptable
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Performed:	Sun-Sat
Reported:	1-4 days
Note:	Mercury is volatile; concentration may decrease over time. If the specimen is drawn and stored in the appropriate container, the arsenic and lead values do not change with time.
CPT Codes:	82175; 83655; 83825
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Reference Interval:	

Test Number	Components	Reference Interval
	Lead, Whole Blood (Venous)	Less than or equal to 3.4 µg/L
	Lead, Whole Blood (Venous)	
		Concentration: 3.5-19.9 ug/dL — Comment: Children under the age of 6 years are the most vulnerable to the harmful effects of lead exposure. Environmental investigation and exposure history to identify potential sources of lead. Biological and nutritional monitoring are recommended. Follow-up blood lead monitoring is recommended. Concentration: 20-44.9 ug/dL — Comment: Lead hazard reduction and prompt medical evaluation are recommended. Contact a Pediatric Environmental Health Specialty Unit or poison control center for guidance. Concentration: Greater than 44.9 ug/dL — Comment: Critical. Immediate medical evaluation, including detailed neurological exam is recommended. Consider chelation therapy when symptoms of lead toxicity are present. Contact a Pediatric Environmental Health Specialty Unit or poison control center for assistance.
	Lead, Whole Blood (Venous)	

		Concentration	Comment	
		5-19.9 ug/dL	Medical removal is recommended for pregnant women or those who are trying or may become pregnant. Adverse health effects are possible. Reduced lead exposure and increased blood lead monitoring are recommended.	
		20-69.9 ug/dL	Adverse health effects are indicated. Medical removal from lead exposure is required by OSHA if blood lead level exceeds 50 ug/dL. Prompt medical evaluation is recommended.	
		Greater than 69.9 ug/dL	Critical. Immediate medical evaluation is recommended. Consider chelation therapy when symptoms of lead toxicity are present.	
	~~Lead, Blood (Venous)~~			
		~~Age~~	~~Reference Interval (ug/dL)~~	
		~~0-5 years~~	~~Less than or equal to 3.4~~	
		~~6 years or above~~	~~Less than or equal to 4.9~~	
	Arsenic, Whole Blood	Less than or equal to 12 .0 µg/L		
	Mercury, Whole Blood	Less than or equal to 10.0 µg/L		

TEST CHANGE

Bismuth, Whole Blood

0099478, BS B

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, and non-essential over-the-counter medications (upon the advice of their physician).
Collect:	Royal blue (K2EDTA) or royal blue (NaHep).
Specimen Preparation:	Transport 3 or 6 mL whole blood in the original collection tube. (Min: 0.5 mL)
Transport Temperature:	Room temperature. Also acceptable: Refrigerated.
Unacceptable Conditions:	Specimens collected in tubes other than royal blue (K2EDTA) or royal blue (NaHep). Specimens transported in containers other than a royal blue (K2EDTA) or royal blue (NaHep) tube or trace element-free transport tube. Clotted specimens.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP=MS)
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	83018
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Elevated results may be due to skin- or collection-related contamination, including the use of tubes that are not certified to be trace element ~~a noncertified metal-~~free. ~~collection/transport tube.~~ If an elevated result is suspected to be due to contamination ~~concerns exist due to elevated levels of blood bismuth~~, confirmation with a second specimen collected in a certified trace element~~metal~~-free tube is recommended.

Methodology: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS).

Reference Interval:

Less than or equal to 5.0 μg/L

TEST CHANGE

Jo-1 Antibody, IgG

0099592, ANTI-JO

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube or red tube~~tubes~~.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.2 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or other body fluids.
Remarks:	
Stability:	After separation from the cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Multiplex Bead Assay
Performed:	Sun-Sat
Reported:	1-3 days
Note:	Presence of Jo-1 antibody is found in patients with pure polymyositis, pure dermatomyositis, or myositis associated with another rheumatic disease or with interstitial lung disease.
CPT Codes:	86235
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Presence of Jo-1 (antihistidyl transfer RNA [t-RNA] synthetase) antibody is associated with polymyositis and may also be seen in patients with dermatomyositis. Jo-1 antibody is associated with pulmonary involvement (interstitial lung disease), Raynaud phenomenon, arthritis, and mechanic's hands (implicated in antisynthetase syndrome).

Component	Interpretation
Jo-1 Antibody, IgG	29 AU/mL or less Negative 30-40 AU/mL Equivocal 41 AU/mL or greater Positive

Reference Interval:

Test Number	Components	Reference Interval
	Jo-1 (Histidyl-tRNA Synthetase) Ab, IgG	40 AU/mL or less

TEST CHANGE

Thallium, Whole Blood

0099610, THALB

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, and nonessential~~non-essential~~ over-the-counter medications (upon the advice of their physician).
Collect:	Royal blue (K2EDTA) or r~~R~~oyal blue (NaHep).
Specimen Preparation:	Transport 6 mL whole blood in the original collection tube. (Min: 0.5 mL)
Transport Temperature:	Room temperature. Also acceptable: Refrigerated.
Unacceptable Conditions:	Specimens collected in tubes other than r~~R~~oyal blue (K2EDTA) or r~~R~~oyal blue (NaHep). Specimens transported in containers other than a r~~R~~oyal blue (K2EDTA) or r~~R~~oyal blue (NaHep) tube or trace element-free transport tube.~~Trace Element-Free Transport Tube.~~ Heparin anticoagulant. Clotted specimens.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	83018
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

~~Elevated results may be due to skin or collection-related contamination, including the use of a noncertified metal-free collection/transport tube. If contamination concerns exist due to elevated levels of blood thallium, confirmation with a second specimen collected in a certified metal-free tube is recommended.~~

Blood thallium levels reflect recent exposure as thallium has a biological half-life of approximately 2 to 4 days. Blood levels greater than 100 ug~~µg~~/L are considered toxic and greater than 300 ug~~µg~~/L indicate severe ingestion. Reported symptoms after~~After~~ severe thallium poisonings~~, reported symptoms~~ have varying times of onset and include gastroenteritis, multiorgan~~multi-organ~~ failure and neurologic injury. Peripheral neuropathy and alopecia are well-documented effects of acute and chronic exposure. Human health effects from low level thallium exposure are unknown.

Elevated results may be due to skin- or collection-related contamination, including the use of tubes that are not certified to be trace element free. If an elevated result is suspected to be due to contamination, confirmation with a second specimen collected in a certified trace element-free tube is recommended.

Methodology: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS). ~~level thallium exposure are unknown.~~

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

Reference Interval:

Less than or equal to 2.0 µg/L

TEST CHANGE

Cadmium, Whole Blood

0099675, CADMIUM B

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, non-essential over-the-counter medications (upon the advice of their physician).
Collect:	Royal blue (K2EDTA) or royal blue (NaHep).
Specimen Preparation:	Transport 3 or 6 mL whole blood in the original collection tube. (Min: 0.5 mL)
Transport Temperature:	Room temperature. Also acceptable: Refrigerated.
Unacceptable Conditions:	Specimens collected in tubes other than royal blue (K2EDTA) or royal blue (NaHep). Specimens transported in containers other than royal blue (K2EDTA) or royal blue (NaHep) tube or trace element-free transport tube. Clotted specimens.
Remarks:	
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	82300
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

~~Elevated results may be due to skin or collection-related contamination, including the use of a noncertified metal-free collection/transport tube. If contamination concerns exist due to elevated levels of blood cadmium, confirmation with a second specimen collected in a certified metal-free tube is recommended.~~

Blood cadmium levels can be used to monitor acute toxicity and, in combination with cadmium

urine and B-2 microglobulin, is the preferred method for monitoring occupational exposure. Symptoms associated with cadmium toxicity vary based upon route of exposure and may include tubular proteinuria, fever, headache, dyspnea, chest pain, conjunctivitis, rhinitis, sore throat, and cough. Ingestion of cadmium in high concentration may cause vomiting, diarrhea, salivation, cramps, and abdominal pain.

Elevated results may be due to skin- or collection-related contamination, including the use of tubes that are not certified to be trace element free. If an elevated result is suspected to be due to contamination, confirmation with a second specimen collected in a certified trace element-free tube is recommended.

Methodology: Inductively Coupled Plasma-Mass Spectrometry (ICP-MS).

Reference Interval:

Less than or equal to 5.0 µg/L

TEST CHANGE

Hirsutism Evaluation Panel

2001763, HIRSUTISM

Specimen Requirements:	
Patient Preparation:	Collect between 6-10 a.m.
Collect:	Serum separator tube, or serum from plain red.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 2.5 mL serum or plasma to an ARUP Standard Transport Tube. (Min: 1.5 mL)
Transport Temperature:	Frozen.
Unacceptable Conditions:	Hemolyzed specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 2 hours; Refrigerated: 48 hours; Frozen: 2 months
Methodology:	Quantitative Chemiluminescent Immunoassay (CLIA)/Electrochemiluminescent Immunoassay (ECLIA)/Liquid Chromatography-Tandem Mass Spectrometry
Performed:	Sun-Sat
Reported:	1-5 days
Note:	
CPT Codes:	82157; 82627; 84403; 84270
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

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

Reference Interval:

Test Number	Components	Reference Interval
	DHEAS	
		Age / Male (ug/dL) / Female (ug/dL) 0-6 days / 108-607 / 108-607 7-30 days / 32-431 / 32-431 1-5 months / 3-124 / 3-124 6-35 months / 0-33 / 0-29 3-6 years / 0-44 / 0-47 7-9 years / 5-115 / 5-94 10-14 years / 22-332 / 22-255 15-19 years / 88-483 / 63-373 20-24 years / 211-492 / 148-407 25-34 years / 160-449 / 99-340 35-44 years / 89-427 / 61-337 45-54 years / 44-331 / 35-256 55-64 years / 52-295 / 19-205 65-74 years / 34-249 / 9-246 75 years and older / 16-123 / 12-154 Tanner Stage I / 7-209 / 7-126 Tanner Stage II / 28-260 / 13-241 Tanner Stage III / 39-390 / 32-446 Tanner Stage IV & V / 81-488 / 65-371
	Testosterone by Mass Spec	

		Age	Male (ng/dL)	Female (ng/dL)
		Premature (26-28 weeks)	59-125	5-16
		Premature (31-35 weeks)	37-198	5-22
		Newborn	75-400	20-64
		1-5 months	14-363	Less than 20
		6-24 months	Less than 37	Less than 9
		2-3 years	Less than 15	Less than 20
		4-5 years	Less than 19	Less than 30
		6-7 years	Less than 13	Less than 7
		8-9 years	2-8	1-11
		10-11 years	2-165	3-32
		12-13 years	3-619	6-50
		14-15 years	31-733	6-52
		16-17 years	158-826	9-58
		18-39 years	300-1080	9-55
		40-59 years	300-890	9-55
		60 years and older	300-720	5-32
		Premenopausal (18 years and older)	Not Applicable	9-55
		Postmenopausal	Not Applicable	5-32
		Tanner Stage I	2-15	2-17
		Tanner Stage II	3-303	5-40
		Tanner Stage III	10-851	10-63
		Tanner Stage IV-V	162-847	11-62
	Testosterone, Free by Mass Spec			

		Age	Male (pg/mL)	Female (pg/mL)
		1-6 years	Less than 0.6	Less than 0.6
		7-9 years	0.1-0.9	0.6-1.8
		10-11	0.1-6.3	0.1-3.5
		12-13	0.5-98.0	0.9-6.8
		14-15	3-138.0	1.2-7.5
		16-17	38.0-173.0	1.2-9.9
		18 years and older	47-244	Not Applicable
		18-30	Not Applicable	0.8-7.4
		31-40	Not Applicable	1.3-9.2
		41-51	Not Applicable	1.1-5.8
		Postmenopausal	Not Applicable	0.6-3.8
		Tanner Stage I	Less than or equal to 3.7	Less than 2.2
		Tanner Stage II	0.3-21	0.4-4.5
		Tanner Stage III	1.0-98.0	1.3-7.5
		Tanner Stage IV	35.0-169.0	1.1-15.5
		Tanner Stage V	41.0-239.0	0.8-9.2
	Sex Hormone Binding Globulin			
		Age	Male (nmol/L)	Female (nmol/L)
		1-30 days	13-85	14-60
		31-364 days	70-250	60-215
		1-3 years	50-180	60-190
		4-6 years	45-175	55-170
		7-9 years	28-190	35-170
		10-12 years	23-160	17-155
		13-15 years	13-140	11-120
		16-17 years	10-60	19-145
		18-49 years	17-56	25-122
		50 years and older	19-76	17-125
		Tanner Stage I	26-186	30-173
		Tanner Stage II	22-169	16-127
		Tanner Stage III	13-104	12-98
		Tanner Stage IV	11-60	14-151
		Tanner Stage V	11-71	23-165
	Androstenedione by TMS			

Age	Male (ng/mL)	Female (ng/mL)
Premature Infants (26-28 weeks Day 4)	0.92-2.82	0.92-2.82
Premature Infants (31-35 weeks Day 4)	0.80-4.46	0.80-4.46
Full Term Infants (1-7 days)	0.20-2.90	0.20-2.90
8-30 days	0.18-0.80	0.18-0.80
1-5 months	0.06-0.68	0.06-0.68
6-24 months	0.03-0.15	Less than 0.15
2-3 years	Less than 0.11	Less than 0.16
4-5 years	0.02-0.17	0.02-0.21
6-7 years	0.01-0.29	0.02-0.28
8-9 years	0.03-0.30	0.04-0.42
10-11 years	0.07-0.39	0.09-1.23
12-13 years	0.10-0.64	0.24-1.73
14-15 years	0.18-0.94	0.39-2.00
16-17 years	0.30-1.13	0.35-2.12
18-39 years	0.33-1.34	0.26-2.14
40 years and older	0.23-0.89	0.13-0.82
Premenopausal	Not Applicable	0.26-2.14
Postmenopausal	Not Applicable	0.13-0.82
Tanner Stage I	0.04-0.32	0.05-0.51
Tanner Stage II	0.08-0.48	0.15-1.37
Tanner Stage III	0.14-0.87	0.37-2.24
Tanner Stage IV-V	0.27-1.07	0.35-2.05

TEST CHANGE

Congenital Adrenal Hyperplasia Panel, 11-Beta Hydroxylase Deficiency

2002282, CAH 11-B HYDROX

Specimen Requirements:	
Patient Preparation:	Collect between 6-10 a.m.
Collect:	Serum separator tube or green (sodium or lithium heparin). Also acceptable: Pink (K2EDTA) or serum from plain red.~~)~~.
Specimen Preparation:	Separate serum or plasma from cells ASAP or within 2 hours of collection. Transfer 1.2 mL serum or plasma to an ARUP Standard Transport Tube. (Min: 0.7 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	
Remarks:	
Stability:	Ambient: 24 hours; Refrigerated: 1 week; Frozen: 6 months
Methodology:	Quantitative High Performance Liquid Chromatography-Tandem Mass Spectrometry
Performed:	Sun-Sat
Reported:	1-8 days
Note:	
CPT Codes:	82157; 83498; 84403; 82634; 82626
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Free or bioavailable testosterone measurements may provide supportive information.

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

Reference Interval:

Test Number	Components	Reference Interval		
	Testosterone by Mass Spec			
		Age	Male (ng/dL)	Female (ng/dL)
		Premature (26-28 weeks)	59-125	5-16
		Premature (31-35 weeks)	37-198	5-22
		Newborn	75-400	20-64
		1-5 months	14-363	Less than 20
		6-24 months	Less than 37	Less than 9
		2-3 years	Less than 15	Less than 20
		4-5 years	Less than 19	Less than 30
		6-7 years	Less than 13	Less than 7
		8-9 years	2-8	1-11
		10-11 years	2-165	3-32
		12-13 years	3-619	6-50
		14-15 years	31-733	6-52
		16-17 years	158-826	9-58
		18-39 years	300-1080	9-55
		40-59 years	300-890	9-55
		60 years and older	300-720	5-32
		Premenopausal (18 years and older)	Not Applicable	9-55
		Postmenopausal	Not Applicable	5-32
		Tanner Stage I	2-15	2-17
		Tanner Stage II	3-303	5-40
		Tanner Stage III	10-851	10-63
		Tanner Stage IV-V	162-847	11-62
	11-Deoxycortisol, HPLC-MS/MS			

		Age	Male (ng/dL)	Female (ng/dL)
		Premature (26-28 weeks)	110-1376	110-1376
		Premature (29-36 weeks)	70-455	70-455
		Full Term (1-5 months)	10-200	10-200
		6-11 months	10-276	10-276
		1-3 years	7-202	7-247
		4-6 years	8-235	8-291
		7-9 years	Less than or equal to 120	Less than or equal to 94
		10-12 years	Less than or equal to 92	Less than or equal to 123
		13-15 years	Less than or equal to 95	Less than or equal to 107
		16-17 years	Less than or equal to 106	Less than or equal to 47
		18 years and older	Less than 50	Less than 33
		Tanner Stage I	Less than or equal to 105	Less than or equal to 94
		Tanner Stage II	Less than or equal to 108	Less than or equal to 136
		Tanner Stage III	Less than or equal to 111	Less than or equal to 99
		Tanner Stage IV & V	Less than or equal to 83	Less than or equal to 50
		After metyrapone stimulation	Greater than 8000	Greater than 8000
	17-Hydroxyprogesterone, HPLC-MS/MS			

		Age	Male (ng/dL)	Female (ng/dL)
		Premature (26-28 weeks)	124-841	124-841
		Premature (29-35 weeks)	26-568	26-568
		Full term Day 3	7-77	7-77
		4 days-30 days	Less than 200	7-106
		1 month-2 months	Less than 200	13-106
		3 months-5 months	3-90	13-106
		6 months-1 year	Less than or equal to 148	Less than or equal to 148
		2-3 years	Less than or equal to 228	Less than or equal to 256
		4-6 years	Less than or equal to 208	Less than or equal to 299
		7-9 years	Less than or equal to 63	Less than or equal to 71
		10-12 years	Less than or equal to 79	Less than or equal to 129
		13-15 years	9-140	9-208
		16-17 years	24-192	Less than or equal to 178
		18 years and older	Less than 139	Less than 207
		Follicular	Not Applicable	15-70
		Luteal	Not Applicable	35-290
		Tanner Stage I	Less than or equal to 62	Less than or equal to 74
		Tanner Stage II	Less than or equal to 104	Less than or equal to 164
		Tanner Stage III	Less than or equal to 151	13-209
		Tanner Stage IV-V	20-173	7-170
	Androstenedione by TMS			

		Age	Male (ng/mL)	Female (ng/mL)
		Premature Infants (26-28 weeks Day 4)	0.92-2.82	0.92-2.82
		Premature Infants (31-35 weeks Day 4)	0.80-4.46	0.80-4.46
		Full Term Infants (1-7 days)	0.20-2.90	0.20-2.90
		8-30 days	0.18-0.80	0.18-0.80
		1-5 months	0.06-0.68	0.06-0.68
		6-24 months	0.03-0.15	Less than 0.15
		2-3 years	Less than 0.11	Less than 0.16
		4-5 years	0.02-0.17	0.02-0.21
		6-7 years	0.01-0.29	0.02-0.28
		8-9 years	0.03-0.30	0.04-0.42
		10-11 years	0.07-0.39	0.09-1.23
		12-13 years	0.10-0.64	0.24-1.73
		14-15 years	0.18-0.94	0.39-2.00
		16-17 years	0.30-1.13	0.35-2.12
		18-39 years	0.33-1.34	0.26-2.14
		40 years and older	0.23-0.89	0.13-0.82
		Premenopausal	Not Applicable	0.26-2.14
		Postmenopausal	Not Applicable	0.13-0.82
		Tanner Stage I	0.04-0.32	0.05-0.51
		Tanner Stage II	0.08-0.48	0.15-1.37
		Tanner Stage III	0.14-0.87	0.37-2.24
		Tanner Stage IV-V	0.27-1.07	0.35-2.05
	Dehydroepiandrosterone by TMS			

Age	Male (ng/mL)	Female (ng/mL)
Premature	Less than 40	Less than 40
0-1 days	Less than 11	Less than 11
2-6 days	Less than 8.7	Less than 8.7
7 days-1 month	Less than 5.8	Less than 5.8
1-5 months	Less than 2.9	Less than 2.9
6-24 months	Less than 2.5	Less than 1.99
2-3 years	Less than 0.63	Less than 0.85
4-5 years	Less than 0.95	Less than 1.03
6-7 years	0.06-1.93	Less than 1.79
8-9 years	0.10-2.08	0.14-2.35
10-11 years	0.32-3.08	0.43-3.78
12-13 years	0.57-4.10	0.89-6.21
14-15 years	0.93-6.04	1.22-7.01
16-17 years	1.17-6.52	1.42-9.00
18-39 years	1.33-7.78	1.33-7.78
40 years and older	0.63-4.70	0.63-4.70
Postmenopausal	Not Applicable	0.60-5.73
Tanner Stage I	0.11-2.37	0.14-2.76
Tanner Stage II	0.37-3.66	0.83-4.87
Tanner Stage III	0.75-5.24	1.08-7.56
Tanner Stage IV-V	1.22-6.73	1.24-7.88

TEST CHANGE

Dexamethasone, Serum or Plasma by LC-MS/MS

2003248, DEXA TMS

Specimen Requirements:	
Patient Preparation:	Specimen should be collected between 8-10 a.m.
Collect:	Serum separator tube, serum from plain red, lavender (EDTA), pink (K2EDTA), or green (sodium or lithium heparin).
Specimen Preparation:	Separate serum or plasma from cells ASAP or within 2 hours of collection. Transfer 1 mL serum or plasma to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	
Remarks:	
Stability:	After separation from cells: Ambient: 24 hours~~Unacceptable~~; Refrigerated: 1 week; Frozen: 6 months
Methodology:	Quantitative Liquid Chromatography-Tandem Mass Spectrometry
Performed:	Wed, Sat
Reported:	2-5 days
Note:	
CPT Codes:	80299
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

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

Reference Interval:

Adults baseline: Less than 50 ng/dL
8:00 AM draw following 1 mg dexamethasone between 11:00 pm and 12:00 am the previous evening: 140 - 295 ng/dL
8:00 AM draw following 8 mg dexamethasone (4 x 2 mg doses) between 11:00 pm and 12:00 am the previous evening: 1600 - 2850 ng/dL

TEST CHANGE

N-methyl-D-Aspartate Receptor (NMDAR) Antibody, IgG by CBA-IFA, Serum With Reflex to Titer

2004221, NMDA IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube or red tube.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tube. (Min: 0.15 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	CSF or plasma. Contaminated, hemolyzed, or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Cell-Based Indirect Fluorescent Antibody
Performed:	Sun-Sat
Reported:	1-3 days
Note:	If NMDA antibody IgG is positive, then an NMDA antibody IgG titer is reported. Additional charges apply.
CPT Codes:	86255; if reflexed, add 86256
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

NMDA receptor antibody is found in a subset of patients with autoimmune limbic encephalitis and may occur with or without associated tumor. Decreasing antibody levels may be associated with therapeutic response. In addition, positive results have been reported in patients with nonautoimmune phenotypes. A negative test result does not rule out a diagnosis of autoimmune limbic encephalitis. Results should be interpreted in correlation with the patient's clinical history and other laboratory findings. Serum testing should be paired with CSF testing for improved diagnostic sensitivity.

This indirect fluorescent antibody assay utilizes full-length GluN1 transfected cell lines for the detection and semiquantification of NMDA receptor IgG antibody.

Reference Interval:

Less than 1:10

TEST CHANGE

Bilirubin, CSF

2005248, BILCSF

Specimen Requirements:	
Patient Preparation:	
Collect:	CSF. Collect at least 12 hours after suspected hemorrhage. Use the last (ideally the fourth) specimen post lumbar puncture. AND serum separator tube.
Specimen Preparation:	CSF: Transport to local lab quickly and avoid pneumatic tube transport if possible. Protect from light during collection, storage, and shipment. Centrifuge for 5 minutes ASAP or within 1 hour of collection. Transfer 2 mL CSF to an ARUP amber transport tube. (Min: 1 mL) Do not freeze. Serum: Protect from light during collection, storage and shipment. Allow specimen to clot completely at room temperature. Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP amber transport tube. (Min: 0.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Specimens not protected from light. Frozen CSF.
Remarks:	
Stability:	CSF: Ambient: 4 hours; Refrigerated: 1 week; Frozen: Unacceptable Serum: Ambient: 24 hours; Refrigerated: 1 week; Frozen: 6 months
Methodology:	Quantitative Spectrophotometry
Performed:	Sun-Sat
Reported:	Within 24 hours
Note:	
CPT Codes:	84311 x2; 82247
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Reference Interval:	

Test Number	Components	Reference Interval
	Net Absorbance, Bilirubin, CSF	0.007 AU or less
	Net Absorbance, Oxyhemoglobin, CSF	0.020 AU or less
	Serum Bilirubin	Refer to Report

HOTLINE NOTE: There is a numeric map change associated with this test. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Chromatin Antibody, IgG

2005287, CHROMATIN

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.3 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Urine or plasma. Contaminated, heat-inactivated, severely hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay
Performed:	Sun, Tue~~Mon~~, Wed, Thu, Fri
Reported:	1-4 days
Note:	
CPT Codes:	83516
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

The presence of anti-chromatin antibodies may be useful in the diagnosis of systemic lupus erythematosus (SLE) or drug-induced lupus (DIL) and have been reported to be predictive of lupus nephritis, especially when antibody levels are high.

Component	Interpretation
Chromatin Antibody, IgG	19 Units or less Negative 20-60 Units Moderate Positive 61 Units Strong Positive

Reference Interval:

Test Number	Components	Reference Interval

	Chromatin Antibody, IgG	19 Units or less

TEST CHANGE

Streptococcus pneumoniae Antibodies, IgG (23 Serotypes)

2005779, PNEUMO 23

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube or red tube. Postimmunization specimen should be drawn 30 days after immunization and, if shipped separately, must be received within 60 days of preimmunization specimen.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1.5 mL serum to an ARUP standard transport tube. (Min: 0.25 mL) MARK SPECIMENS CLEARLY AS "PRE" OR "POST" SO SPECIMENS WILL BE SAVED AND TESTED SIMULTANEOUSLY
Transport Temperature:	Refrigerated. "Pre" and "post" pneumococcal vaccine specimens can be submitted separately or together for testing.
Unacceptable Conditions:	Plasma or other body fluids. Contaminated, hemolyzed, or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 60 days (avoid repeated freeze/thaw cycles).
Methodology:	Quantitative Multiplex Chemiluminescent Immunoassay
Performed:	Tue, Fri
Reported:	1-5 days
Note:	
CPT Codes:	86581
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

A pre- and postvaccination comparison is required to adequately assess the humoral immune response to the pure polysaccharide Pneumovax 23 (PNX) and/or the protein conjugated Prevnar 7 (P7), Prevnar 13 (P13), Prevnar 20 (P20), and Vaxneuvance (V15) Streptococcus pneumoniae vaccines. Prevaccination samples should be collected prior to vaccine administration. Postvaccination samples should be obtained at least 4 weeks after immunization. Testing of postvaccination samples alone will provide only general immune status of the individual to various pneumococcal serotypes.

In the case of pure polysaccharide vaccine, indication of immune system competence is further delineated as an adequate response to at least 50 percent of the serotypes in the vaccine challenge for those 2-5 years of age and to at least 70 percent of the serotypes in the vaccine challenge for those 6-65 years of age. Individual immune response may vary based on age, past exposure, immunocompetence, and pneumococcal serotype.

Responder Status Antibody Ratio

Nonresponder . . . . . .Less than twofold increase and postvaccination concentration less than 1.3 ug/mL

Good responder . . . . . .At least a twofold increase and/or a postvaccination concentration greater than or equal to 1.3 ug/mL

A response to 50-70 percent or more of the serotypes in the vaccine challenge is considered a normal humoral response. (Daly, 2014) Antibody concentration greater than 1.0-1.3 ug/mL is generally considered long-term protection. (Daly, 2015)

References:

1. Daly TM, Pickering JW, Zhang X, et al. Multilaboratory assessment of threshold versus fold-change algorithms for minimizing analytical variability in multiplexed pneumococcal IgG measurements. Clin Vaccine Immunol. 2014;21(7):982-988.

2. Daly TM, Hill HR. Use and clinical interpretation of pneumococcal antibody measurements in the evaluation of humoral immune function. Clin Vaccine Immunol. 2015;22(2):148-152.

Reference Interval:

TEST CHANGE

Adenovirus, Quantitative PCR

2007192, ADENO QNT

Specimen Requirements:	
Patient Preparation:	
Collect:	Lavender (EDTA), pink (K2EDTA), or serum separator tube
Specimen Preparation:	Do not freeze whole blood specimens. Transport 1 mL whole blood, serum or plasma in a sterile container. (Min: 0.5 mL).
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Frozen whole blood. Heparinized specimens.
Remarks:	Specimen source required.
Stability:	Ambient: 24 hours; Refrigerated: 5 days; Frozen: 1 year
Methodology:	Quantitative Real-Time Polymerase Chain Reaction
Performed:	Sun-Sat
Reported:	1-4 days
Note:	The limit of quantification for this DNA assay is 2.3~~.0~~ log copies/mL (200~~1,000~~ copies/mL). If the assay DID NOT DETECT the virus, the test result will be reported as "< 2.3~~.0~~ log copies/mL (<200 ~~1,000~~ copies/mL)." If the assay 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 Codes:	87799
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

The quantitative range of this assay is 2.3-6.3~~.0- 7.0~~ log copies/mL (200-2~~1,000-10~~,000,000 copies/mL).

A negative result (less than 2.3~~.0~~ log copies/mL or less than 200~~1,000~~ copies/mL) does not rule out the presence of PCR inhibitors in the patient specimen or a~~A~~denovirus DNA concentrations below the level of detection of the assay. 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.

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Reference Interval:

Not detected

TEST CHANGE

Allergen, Food, Peanut Components IgE

2007211, PEANUT COM

Specimen Requirements:	
Patient Preparation:	Multiple patient encounters should be avoided
Collect:	Serum separator tube (SST). Multiple specimen tubes should be avoided. Include all available specimen.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1.0~~.6~~ mL serum plus 0.1 mL for each additional allergen ordered to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.5~~4~~ mL plus 0.04 mL for each additional allergen ordered). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun-Sat
Reported:	1-3 days
Note:	Test methodology uses solid-phase immunoassays against the whole peanut allergen (f13) and 6 antigenic epitopes (Ara h1, Ara h2, Ara h3, Ara h6, Ara h8, and Ara h9) and measures IgE antibody concentrations in patient serum or plasma. The binding of a specific IgE to an immobilized allergen component is detected by the addition of a secondary fluorescence-labeled anti-human IgE antibody.
CPT Codes:	86003; 86008 x6
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Allergen results of 0.10-0.34 kU/L for whole peanut 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.

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

Reference Interval:

Test Number	Components	Reference Interval
	Allergen, Food, Peanut IgE	Less than or equal to 0.34 kU/L
	Allergen, Food, Severe Peanut Ara h 1	Less than or equal to 0.09 kU/L
	Allergen, Food, Severe Peanut Ara h 2	Less than or equal to 0.09 kU/L
	Allergen, Food, Severe Peanut Ara h 3	Less than or equal to 0.09 kU/L
	Allergen, Food, Severe Peanut Ara h 9	Less than or equal to 0.09 kU/L
	Allergen, Food, Mild Peanut Ara h 8	Less than or equal to 0.09 kU/L
	Allergen, Food, Severe Peanut Ara h 6	Less than or equal to 0.09 kU/L

TEST CHANGE

Allergens, Food, Extended Panel IgG

2007213, G FOOD PAN

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~/allergen)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001 x19
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Test Number	Component	Reference Interval
0097636	Allergen, Food, Wheat IgG	Less than 60.20 mcg/mL
0097641	Allergen, Food, Potato White IgG	Less than 6.09 mcg/mL
0097642	Allergen, Food, Rye IgG	Less than 26.71 mcg/mL
0097643	Allergen, Food, Soybean IgG	Less than 5.30 mcg/mL
0097644	Allergen, Food, Tomato IgG	Less than 7.20 mcg/mL
0097647	Allergen, Food, Orange IgG	Less than 8.65 mcg/mL
0097648	Allergen, Food, Peanut IgG	Less than 6.80 mcg/mL
0097649	Allergen, Food, Pork IgG	Less than 7.92 mcg/mL
0097651	Allergen, Food, Lettuce IgG	Less than 11.31 mcg/mL
0097652	Allergen, Food, Malt IgG	Less than 22.31 mcg/mL
0097653	Allergen, Food, Casein (Cow's Milk) IgG	Less than 38.70 mcg/mL.
0097654	Allergen, Food, Oat IgG	Less than 13.30 mcg/mL
0097656	Allergen, Food, Chicken IgG	Less than 6.25 mcg/mL
0097657	Allergen, Food, Chocolate IgG	Less than 20.41 mcg/mL
0097658	Allergen, Food, Corn IgG	Less than 10.50 mcg/mL
0097659	Allergen, Food, Egg White IgG	Less than 15.70 mcg/mL
0097706	Allergen, Food, Baker's Yeast IgG	Less than 11.41 mcg/mL
0097707	Allergen, Food, Barley IgG	Less than 20.31 mcg/mL
0097708	Allergen, Food, Beef IgG	Less than 22.01 mcg/mL

TEST CHANGE

Allergens, Food, Meat Panel IgG

2007214, IGG MEATS

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001 x3
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Test Number	Component	Reference Interval
0097649	Allergen, Food, Pork IgG	Less than 7.92 mcg/mL
0097656	Allergen, Food, Chicken IgG	Less than 6.25 mcg/mL
0097708	Allergen, Food, Beef IgG	Less than 22.01 mcg/mL

TEST CHANGE

Allergens, Food, Common Panel IgG

2007215, G FOOD COM

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001 x18
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Test Number	Component	Reference Interval
0090284	Allergen, Food, Almond IgG	Less than 15.21 mcg/mL
0090286	Allergen, Food, Banana IgG	Less than 46.11 mcg/mL
0097653	Allergen, Food, Casein (Cow's Milk) IgG	Less than 38.70 mcg/mL
0097656	Allergen, Food, Chicken IgG	Less than 6.25 mcg/mL
0097658	Allergen, Food, Corn IgG	Less than 10.50 mcg/mL
0097659	Allergen, Food, Egg White IgG	Less than 15.70 mcg/mL
0090287	Allergen, Food, Garlic IgG	Less than 12.71 mcg/mL
0090289	Allergen, Food, Gluten IgG	Less than 47.41 mcg/mL
0097654	Allergen, Food, Oat IgG	Less than 13.30 mcg/mL
0097647	Allergen, Food, Orange IgG	Less than 8.65 mcg/mL
0097648	Allergen, Food, Peanut IgG	Less than 6.80 mcg/mL
0097641	Allergen, Food, Potato White IgG	Less than 6.09 mcg/mL
0097323	Allergen, Food, Rice IgG	Less than 16.71 mcg/mL
0097643	Allergen, Food, Soybean IgG	Less than 5.30 mcg/mL
0097644	Allergen, Food, Tomato IgG	Less than 7.20 mcg/mL
0097636	Allergen, Food, Wheat IgG	Less than 60.20 mcg/mL
0097291	Allergen, Food, Whey IgG	Less than 88.61 mcg/mL
0097706	Allergen, Food, Baker's Yeast IgG	Less than 11.41 mcg/mL

TEST CHANGE

Allergens, Food, IgG Panel

2007216, IGG FOOD

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	The units of measure mcg/mL and mgA/L are interchangeable. 1 mg/L = 1000 mcg/1000 mL
CPT Codes:	86001 x11
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Test Number	Components	Reference Interval
0090289	Allergen, Food, Gluten IgG	Less than 47.41 mcg/mL
0097636	Allergen, Food, Wheat IgG	Less than 60.20 mcg/mL
0097658	Allergen, Food, Corn IgG	Less than 10.50 mcg/mL
0097659	Allergen, Food, Egg White IgG	Less than 15.70 mcg/mL
0097315	Allergen, Food, Egg Yolk IgG	Less than 19.61 mcg/mL
0097706	Allergen, Food, Baker's Yeast IgG	Less than 11.41 mcg/mL
0097657	Allergen, Food, Chocolate IgG	Less than 20.41 mcg/mL
0097648	Allergen, Food, Peanut IgG	Less than 6.80 mcg/mL
0097654	Allergen, Food, Oat IgG	Less than 13.30 mcg/mL
0097323	Allergen, Food, Rice IgG	Less than 16.71 mcg/mL
0097643	Allergen, Food, Soybean IgG	Less than 5.30 mcg/mL

TEST CHANGE

Echinococcus Antibody, IgG

2007220, ECHINO IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST) or plain red.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tube. (Min: 0.15 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of acute specimens. Mark specimens plainly as acute or convalescent.
Transport Temperature:	Preferred transport temp: Refrigerated. Also acceptable: Frozen
Unacceptable Conditions:	Contaminated, heat-inactivated, grossly hemolyzed, or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay (ELISA)
Performed:	Tue~~Mon, Thu~~
Reported:	1-8~~5~~ days
Note:	
CPT Codes:	86682
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Patients with collagen vascular diseases, hepatic cirrhosis, schistosomiasis, and other parasitic infections can produce false-positive results. There is a strong cross-reaction between echinococcosis- and cysticercosis-positive sera.

Seroconversion between acute and convalescent sera is considered strong evidence of recent infection. The best evidence for infection is a significant change on two appropriately timed specimens where both tests are done in the same laboratory at the same time.

Component	Interpretation
Echinococcus Antibody IgG	0-8 U.....Negative: No significant level of Echinococcus IgG antibodies detected. 9-11 U.....Equivocal: Recommend repeat testing in 2-4 weeks with fresh sample. 12 U or greater.....Positive: IgG antibodies to Echinococcus detected, indicating current or past infection.

Reference Interval:

Test Number	Components	Reference Interval
	Echinococcus Antibody IgG	8 U or less

TEST CHANGE

Iodine, Serum

2007463, IODINESER

Specimen Requirements:	
Patient Preparation:	Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, nonessential over-the-counter medications for 48 hours (upon the advice of their physician). In addition, the administration of iodine-based contrast media and drugs containing iodine may yield elevated results. During venipuncture, do not use disinfectants (such as Betadine) that contain iodine.
Collect:	Royal blue (no additive).
Specimen Preparation:	Separate ~~serum~~ from cells ASAP or within 2 hours of collection. Transfe~~por~~t 2 mL serum to~~in~~ an ARUP Trace Element-Free Transport Tube (ARUP supply #43116) available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at ~~(~~800~~-~~) ~~522-2787.~~ (Min: 0.5 mL). Do not use utensils (i.e., syringes, needles, or pipettes) in the collection or transfer of the sample, pour directly into transport tube.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Specimens not received in trace element-free~~Trace Element Free~~ transport tubes. Separator tubes and specimens that are not separated from the clot within 2 hours. Serum collected within 48 hours after administration of a gadolinium (Gd) or iodine (I) containing contrast media (may occur with MRI studies). Plasma.
Remarks:	
Stability:	Ambient: 30 days; Refrigerated: 30 days; Frozen: 30 days
Methodology:	Quantitative Inductively Coupled Plasma-Mass Spectrometry
Performed:	Tue, Thu, Sat
Reported:	1-5 days
Note:	
CPT Codes:	83018
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Values greater than 250 µg/L may indicate iodine overload.

Elevated results may be due to skin or collection-related contamination, including the use of a noncertified metal-free collection/transport tube. If contamination concerns exist due to elevated levels of serum iodine, confirmation with a second specimen collected in a certified metal-free tube is recommended.

Reference Interval:

40-92 µg/L

TEST CHANGE

Anti-C1q Antibody, IgG

2007601, ANTI-C1Q

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube. ~~Standard Transport Tube.~~ (Min: 0.15 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Urine or plasma. Contaminated, heat-inactivated, severely hemolyzed or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay
Performed:	Wed~~Mon~~
Reported:	1-15 days
Note:	
CPT Codes:	83516
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

The presence of the anti-C1q IgG antibody may be associated with increased risk of lupus nephritis or with systemic lupus erythematosus (SLE) global activity. Anti-C1q antibodies are not specific for SLE; strong clinical correlation with disease is recommended.

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

Component	Interpretation
Anti-C1q Antibody, IgG	19 Units or less Negative 20-39 Equivocal 40 Units or greater Positive

Reference Interval:

Test Number	Components	Reference Interval
	Anti-C1q Antibody, IgG	19 Units or less

TEST CHANGE

Phosphatidylserine and Prothrombin Antibody, IgG

2009447, APS/PT G

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST) OR lt. blue (sodium citrate)
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum (Min: 0.3 mL) OR 0.5 mL citrate plasma (Min: 0.3 mL) to an ARUP standard transport tube.
Transport Temperature:	Refrigerated. Also acceptable: Frozen.
Unacceptable Conditions:	Contaminated, heat-inactivated, clots, fibrin, gross red blood cells, severely lipemic, severely hemolyzed, or severely icteric specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay (ELISA)
Performed:	Wed~~Thu~~
Reported:	1-8 days
Note:	
CPT Codes:	83516
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Elevated and persistent aPS/PT IgG antibody (with or without lupus anticoagulant activity) may serve as a risk marker of thrombotic events in patients with certain autoimmune diseases, including antiphospholipid syndrome (APS) and systemic lupus erythematosus (SLE).

Reference Interval:

0-30 Units

TEST CHANGE

Phosphatidylserine and Prothrombin Antibodies, IgG and IgM

2009451, APS/PT PAN

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST) OR lt. blue (sodium citrate)
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum (Min: 0.3 mL) OR 0.5 mL citrate plasma (Min: 0.3 mL) to an ARUP standard transport tube.
Transport Temperature:	Refrigerated. Also acceptable: Frozen.
Unacceptable Conditions:	Contaminated, heat-inactivated, clots, fibrin, gross red blood cells, severely lipemic, severely hemolyzed, or severely icteric specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay (ELISA)
Performed:	Wed~~Thu~~
Reported:	1-8 days
Note:	
CPT Codes:	83516 x2
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

The presence of elevated and persistent aPS/PT IgG and IgM antibodies (with or without lupus anticoagulant activity) may serve as a risk marker of thrombotic events in patients with certain autoimmune diseases, including antiphospholipid syndrome (APS) and systemic lupus erythematosus (SLE). Strong clinical correlation is recommended for isolated IgM aPS/PT antibody.

Reference Interval:

Test Number	Components	Reference Interval
	Phosphatidylserine and Prothrombin IgG	0-30 Units
	Phosphatidylserine and Prothrombin IgM	0-30 Units

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Effective Date: July 21, 2025

TEST CHANGE

Carbapenem-Resistant Organism Culture

2011418, MC CRO

Specimen Requirements:	
Patient Preparation:	
Collect:	Rectal swab, respiratory, skin or wound. Before submitting specimen(s), call ~~(~~800~~-)~~ 242-2787~~,~~ ext. 2248, to notify the Bacteriology Laboratory of the number of specimens being shipped and the date of shipment.
Specimen Preparation:	Transport swab in Eswab transport media (ARUP Supply #45877). Available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at 800-522-2787. Respiratory specimens are acceptable in sterile transport containers or Eswabs. ~~(800) 522-2787.~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	
Remarks:	
Stability:	Eswab: Ambient: 48 hours; Refrigerated: 48 hours; Frozen: Unacceptable Respiratory specimen in a sterile container: Ambient: 2 hours; Refrigerated: 24 hours; Frozen: Unacceptable
Methodology:	Culture
Performed:	Sun-Sat
Reported:	1-7 days
Note:	Identification and susceptibility tests are billed separately from culture.
CPT Codes:	87081; Identification CPT codes may vary based on method
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.
Interpretive Data:	

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

Reference Interval:

Deleted Cells

Culture negative for carbapenem-resistant organisms.

TEST CHANGE

Allergen, Food, Avocado IgG

2011723, AVOCADOIGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	N/A
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 9.14 mcg/mL

TEST CHANGE

Allergen, Food, Broccoli IgG

2011725, BROCC IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 9.33 mcg/mL

TEST CHANGE

Allergen, Food, Cashew IgG

2011727, CASHEW IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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Reference Interval:

Less than 7.19 mcg/mL

TEST CHANGE

Allergen, Food, Cheese Mold IgG

2011729, CHSMLD IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Green (sodium heparin), lavender~~Sodium Heparin), Lavender~~ (K2EDTA), l~~L~~avender (K3EDTA), p~~P~~ink (K2EDTA) plain red or s~~S~~erum separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum or ~~plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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Reference Interval:

Less than 85.57 mcg/mL

TEST CHANGE

Allergen, Food, Clam IgG

2011731, CLAM IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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Reference Interval:

Less than 12.81 mcg/mL

TEST CHANGE

Allergen, Food, Coconut IgG

2011733, COCONUTIGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 6.30 mcg/mL

TEST CHANGE

Allergen, Food, Crab IgG

2011735, CRAB IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 9.13 mcg/mL

TEST CHANGE

Allergen, Food, Lobster IgG

2011737, LOBSTERIGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL) . Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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Reference Interval:

Less than 7.29 mcg/mL

TEST CHANGE

Allergen, Food, Oyster IgG

2011739, OYSTER IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 13.42 mcg/mL

TEST CHANGE

Allergen, Food, Pineapple IgG

2011741, PNAPPL IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 12.48 mcg/mL

TEST CHANGE

Allergen, Food, Scallop IgG

2011743, SCALLOPIGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 10.99 mcg/mL

TEST CHANGE

Allergen, Food, Shrimp IgG

2011745, SHRIMP IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 10.41 mcg/mL

TEST CHANGE

Allergen, Food, Strawberry IgG

2011747, STRWBRYIGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 12.11 mcg/mL

TEST CHANGE

Allergen, Food, Tuna IgG

2011749, TUNA IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serumSerum separator tube (SST)).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum or plasma to an ARUP standard transport tube.Standard Transport Tube. (Min: 0.252 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 3.76 mcg/mL

TEST CHANGE

Allergen, Food, Turkey IgG

2011751, TURKEY IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 6.15 mcg/mL

TEST CHANGE

Allergen, Food, Walnut IgG

2011753, WALNUT IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 6.84 mcg/mL

ARUP LABORATORIES | *A nonprofit enterprise of the University of Utah and its Department of Pathology*

Effective Date: July 21, 2025

TEST CHANGE

Chikungunya Antibody, IgG

2011808, CHIKG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serumseparator tube (SST). Also acceptable: Plain redSerum or plasma (heparin, citrate, or EDTA).)
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tubeStandard Transport Tube. (Min: 0.15 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens. Mark specimens plainly as "acute or convalescent."
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, hemolyzed, or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay
Performed:	Wed
Reported:	1-8 days
Note:	
CPT Codes:	86790
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

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

Reference Interval:

0.79 Index or less	Negative: No significant level of Chikungunya IgG antibody detected.

Deleted Cells

0.80-1.09 Index	Equivocal: Questionable presence of Chikungunya IgG antibody detected. Repeat testing in 10-14 days may be helpful.
1.10 Index or greater	Positive: Chikungunya IgG antibody detected; suggests current or past infection.

ARUP LABORATORIES | *A nonprofit enterprise of the University of Utah and its Department of Pathology*

Effective Date: July 21, 2025

TEST CHANGE

Chikungunya Antibody, IgM

2011810, CHIKM

Specimen Requirements:	
Patient Preparation:	
Collect:	Serumseparator tube (SST). Also acceptable: Plain redSerum or plasma (heparin, citrate, or EDTA).)
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tubeStandard Transport Tube. (Min: 0.15 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens. Mark specimens plainly as "acute or convalescent."
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, hemolyzed, or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay
Performed:	Wed
Reported:	1-8 days
Note:	
CPT Codes:	86790
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

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

Reference Interval:

0.79 Index or less	Negative: No significant level of Chikungunya IgM antibody detected.

Deleted Cells

0.80-1.09 Index	Equivocal: Questionable presence of Chikungunya IgM antibody detected. Repeat testing in 10-14 days may be helpful.
1.10 Index or greater	Positive: Chikungunya IgM antibody detected.

ARUP LABORATORIES | *A nonprofit enterprise of the University of Utah and its Department of Pathology*

Effective Date: July 21, 2025

TEST CHANGE

Chikungunya Antibodies, IgG and IgM

2011812, CHIKPAN

Specimen Requirements:	
Patient Preparation:	
Collect:	Serumseparator tube (SST). Also acceptable: Plain redSerum or plasma (heparin, citrate, or EDTDA).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP standard transport tubeStandard Transport Tube. (Min: 0.15 mL) Parallel testing is preferred and convalescent specimens must be received within 30 days from receipt of the acute specimens. Mark specimens plainly as "acute or convalescent."
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Contaminated, heat-inactivated, hemolyzed, or severely lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay
Performed:	Wed
Reported:	1-8 days
Note:	
CPT Codes:	86790 x2
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

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

Reference Interval:

Deleted Cells

Test Code	Component	Reference Interval	
2011808	Chikungunya Antibody, IgG	0.79 Index or less	Negative: No significant level of Chikungunya IgG antibody detected.
		0.80-1.09 Index	Equivocal: Questionable presence of Chikungunya IgG antibody detected. Repeat testing in 10-14 days may be helpful.
		1.10 Index or greater	Positive: Chikungunya IgG antibody detected; suggests current or past infection.
2011810	Chikungunya Antibody, IgM	0.79 Index or less	Negative: No significant level of Chikungunya IgM antibody detected.
		0.80-1.09 Index	Equivocal: Questionable presence of Chikungunya IgM antibody detected. Repeat testing in 10-14 days may be helpful.
		1.10 Index or greater	Positive: Chikungunya IgM antibody detected.

TEST CHANGE

Allergen, Food, Olives IgG

2011815, OLIVES IGG

Specimen Requirements:	
Patient Preparation:	N/A
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.25~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	N/A
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 21.61 mcg/mL

TEST CHANGE

Allergen, Food, Cheddar Cheese IgG

2011817, CHEDCHEESE

Specimen Requirements:	
Patient Preparation:	N/A
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	N/A
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 46.23 mcg/mL

TEST CHANGE

Allergen, Food, Whole Egg, IgG

2011819, WHOLE EGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum ~~or plasma~~ to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.252~~2~~ mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86001
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

Values less than 2.00 mcg/mL represent absent or undetectable levels of allergen-specific IgG antibody.

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

Reference Interval:

Less than 30.21 mcg/mL

TEST CHANGE

Dihydropyrimidine Dehydrogenase (DPYD)

2012166, DPYD

Specimen Requirements:	
Patient Preparation:	
Collect:	Lavender (EDTA), pink (K2EDTA), or yellow (ACD solution A or B).
Specimen Preparation:	Transport 3 mL whole blood. (Min: 1 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or serum. Heparinized specimens. Frozen specimens in glass collection tubes.
Remarks:	
Stability:	Ambient: 72 hours; Refrigerated: 1 week; Frozen: 1 month.
Methodology:	Polymerase Chain Reaction (PCR)/Fluorescence Monitoring
Performed:	Varies
Reported:	5-10 days
Note:	
CPT Codes:	81232
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Reference Interval:	

HOTLINE NOTE: There is a component change associated with this test. One or more components have been added or removed. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Maternal Serum Screen, Alpha Fetoprotein, hCG, Estriol, and Inhibin A (Quad)

3000143, MS QUAD

Specimen Requirements:	
Patient Preparation:	Specimen must be drawn between 14 weeks, 0 days and 24 weeks, 6 days gestation. The recommended time for maternal serum screening is 16 to 18 weeks gestation.
Collect:	Serum Separator Tube (SST) or Plain Red.
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 3 mL serum to an ARUP Standard Transport Tube. (Min: 1 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma. Hemolyzed specimens.
Remarks:	Submit with Order: Patient's date of birth, current weight, due date, dating method (US, LMP), number of fetuses present, patient's race, if the patient was diabetic at the time of conception, if there is a known family history of neural tube defects, if the patient has had a previous pregnancy with a trisomy, if the patient is currently smoking, if the patient is taking valproic acid or carbamazepine (Tegretol), if this is a repeat sample, and the age of the egg donor if in vitro fertilization.
Stability:	After separation from cells: Ambient: 72 hours; Refrigerated: 2 weeks; Frozen: 1 year (Avoid repeated freeze/thaw cycles.)
Methodology:	Quantitative Chemiluminescent Immunoassay
Performed:	Sun-Sat
Reported:	2-3 days
Note:	This test is used to screen for fetal risk of Down syndrome (trisomy 21), trisomy 18, and Open Neural Tube Defect (ONTD, spina bifida).
CPT Codes:	81511
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Refer to report.

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

Reference Interval:

By report

HOTLINE NOTE: There is a component change associated with this test. One or more components have been added or removed. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Maternal Serum Screen, Alpha Fetoprotein

3000144, MS AFP

Specimen Requirements:	
Patient Preparation:	Specimen must be drawn between 14 weeks, 0 days and 24 weeks, 6 days gestation.
Collect:	Serum Separator Tube (SST) or Plain Red.
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP Standard Transport Tube. (Min: 0.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma. Hemolyzed specimens.
Remarks:	Submit with Order: Patient's date of birth, current weight, due date, dating method (US, LMP), number of fetuses present, patient's race, if the patient was diabetic at the time of conception, if there is a known family history of neural tube defects, if the patient is currently smoking, if the patient is taking valproic acid or carbamazepine (Tegretol), if this is a repeat sample, and the age of the egg donor if an in vitro fertilization.
Stability:	After separation from cells: Ambient: 72 hours; Refrigerated: 2 weeks; Frozen: 1 year (Avoid repeated freeze/thaw cycles.)
Methodology:	Quantitative Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat
Reported:	2-3 days
Note:	This test is used to screen for fetal risk of Open Neural Tube Defect (i.e., spina bifida).
CPT Codes:	82105
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Refer to report.

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

Reference Interval:

By report

HOTLINE NOTE: There is a component change associated with this test. One or more components have been added or removed. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Maternal Serum Screen, First Trimester, hCG, PAPP-A, NT

3000145, MS FTS

Specimen Requirements:	
Patient Preparation:	Specimen must be drawn between 11 weeks, 0 days and 13 weeks, 6 days gestation. (Crown-rump length (CRL) must be between 43-83.9 mm at time of specimen collection.)
Collect:	Serum separator tube (SST) or plain red.
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 3 mL serum to an ARUP standard transport tube. (Min: 1 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma. Hemolyzed specimens.
Remarks:	Submit with Order: Patient's date of birth, current weight, number of fetuses present, patient's race, if the patient has had a previous pregnancy with a trisomy, if the patient is currently smoking, if this is a repeat sample, and the age of the egg donor if in vitro fertilization. In addition to the above: the date of ultrasound, the CRL measurement, the nuchal translucency (NT) measurement ,and the name and certification number of the sonographer is required. NT must be measured when the CRL is between 38-83.9 mm. The NT measurement must also be performed by an ultrasonographer that is certified by the Fetal Medicine Foundation (FMF). To avoid possible test delays for an ultrasonographer that is new to our database, please contact a genetic counselor at 800-242-2787 extension 2141 prior to sending specimen. If an NT is unobtainable, order Maternal Serum Screening, Integrated (ARUP test codes 3000147 (collect in first trimester) and 3000149 (collect in second trimester), which can be interpreted without an NT value.
Stability:	After separation from cells: Ambient: 72 hours; Refrigerated: 2 weeks; Frozen: 1 year (Avoid repeated freeze/thaw cycles.)
Methodology:	Quantitative Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat
Reported:	2-4 days

Note:	This test does not screen for open neural tube defect (ONTD). This test is used to screen for fetal risk of Down syndrome (trisomy 21) and trisomy 18.
CPT Codes:	81508
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Reference Interval:	
By report	

HOTLINE NOTE: There is a component change associated with this test. One or more components have been added or removed. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Maternal Screening, Sequential, Specimen #1, hCG, PAPP-A, NT

3000146, MS SEQ1

Specimen Requirements:	
Patient Preparation:	Specimen must be drawn between 11 weeks, 0 days and 13 weeks, 6 days gestation. (Crown-rump length (CRL) must be between 43-83.9 mm at time of specimen collection.)
Collect:	Serum separator tube (SST) or plain red.
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 3 mL serum to an ARUP standard transport tube. (Min: 1 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma. Hemolyzed specimens.
Remarks:	Submit with Order: Patient's date of birth, current weight, number of fetuses present, patient's race, if the patient was diabetic at the time of conception, if there is a known family history of neural tube defects, if the patient has had a previous pregnancy with a trisomy, if the patient is currently smoking, if the patient is taking valproic acid or carbamazepine (Tegretol), if this is a repeat sample, and the age of the egg donor if in vitro fertilization. In addition to the above: the date of ultrasound, the CRL measurement, the nuchal translucency (NT) measurement, and the name and certification number of the sonographer is required. NT must be measured when the CRL is between 38-83.9 mm. The NT measurement must also be performed by an ultrasonographer that is certified by the Fetal Medicine Foundation (FMF). To avoid possible test delays for an ultrasonographer that is new to our database, please contact a genetic counselor at 800-242-2787 ext.~~extension~~ 2141 prior to sending specimen. If an NT is unobtainable, order Maternal Serum Screening, Integrated (ARUP test codes 3000147 (collect in first trimester) and 3000149 (collect in second trimester))~~),~~ which can be interpreted without an NT value.
Stability:	After separation from cells: Ambient: 72 hours; Refrigerated: 2 weeks; Frozen: 1 year (Avoid repeated freeze/thaw cycles.)
Methodology:	Quantitative Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat

Reported:	2-4 days
Note:	The first specimen of a sequential maternal serum screening is used to measure PAPP-A and hCG. This test is used to screen for fetal risk of Down syndrome (trisomy 21) and trisomy 18. Final interpretative report, which also includes fetal risk for open neural tube defect (ONTD), will be available when the second specimen test results are complete.
CPT Codes:	81508
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Reference Interval:	
By report	

HOTLINE NOTE: There is a component change associated with this test. One or more components have been added or removed. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Maternal Serum Screening, Integrated, Specimen #1, PAPP-A, NT

3000147, MS INT1

Specimen Requirements:	
Patient Preparation:	Specimen must be drawn between 10 weeks, 0 days and 13 weeks, 6 days gestation. (If gestational age is based on crown-rump length (CRL), the specimen must be collected when the CRL is between 32.4-83.9 mm.)
Collect:	Serum separator tube (SST) or plain ped.
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube. (Min: 0.3 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma. Hemolyzed specimens.
Remarks:	Submit with Order: Patient's date of birth, current weight, number of fetuses present, patient's race, if the patient was diabetic at the time of conception, if there is a known family history of neural tube defects, if the patient has had a previous pregnancy with a trisomy, if the patient is currently smoking, if the patient is taking valproic acid or carbamazepine (Tegretol), if this is a repeat sample, and the age of the egg donor if in vitro fertilization. In addition to the above, if a NT measurement is performed: the date of ultrasound, the CRL measurement, the nuchal translucency (NT) measurement, and the name and certification number of the sonographer is required. NT must be measured when the CRL is between 38-83.9 mm. or If no NT measurement is performed a due date or CRL measurement with the date of ultrasound is required. The NT measurement must also be performed by an ultrasonographer that is certified by the Fetal Medicine Foundation (FMF). To avoid possible test delays for an ultrasonographer that is new to our database, please contact a genetic counselor at 800-242-2787 ext. ~~extension~~ 2141 prior to sending specimen.
Stability:	After separation from cells: Ambient: 72 hours; Refrigerated: 2 weeks; Frozen: 1 year (Avoid repeated freeze/thaw cycles.)
Methodology:	Quantitative Chemiluminescent Immunoassay (CLIA)
Performed:	Sun-Sat

Reported:	2-4 days
Note:	The first specimen of an integrated maternal serum screening is used to measure PAPP-A. Final interpretative report will be available when the second specimen test results are complete.
CPT Codes:	84163
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Reference Interval:	
By report	

HOTLINE NOTE: There is a component change associated with this test. One or more components have been added or removed. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Aspergillus fumigatus Antibody IgG

3000876, ASPERF IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~).~~
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube. (Min: 0.25 mL). Refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen. ~~2 mL)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Postmortem samples
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun
Reported:	1-8 days
Note:	
CPT Codes:	86317
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

A positivity cutoff of 40 µg/mL was established based on a comparison study to precipitin assay results. Note that elevated specific IgG concentrations to Aspergillus fumigatus are not disease specific and could be found in healthy individuals. Results must be interpreted in the context of patient's clinical, laboratory, and radiologic findings, and in concordance with current practice guidelines.

Reference Interval:

Test Number	Components	Reference Interval
	Aspergillus fumigatus Ab IgG	Less than or equal to 40.0 µg/mL

TEST CHANGE

Hereditary Hemolytic Anemia Cascade

3000894, HHACASCADE

Specimen Requirements:	
Patient Preparation:	
Collect:	3 whole blood Lavender (K2EDTA) or Pink (K2EDTA) specimens and 3-5 peripheral blood smears.
Specimen Preparation:	Transfer specimens using ARUP kit (ARUP supply # 54388) available online through eSupply using ARUP Connect or contact ARUP Client Services at (800) 522-2787.
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	
Remarks:	Submit with Order: Patient history form, including information from a recent CBC, is required for interpretation.
Stability:	Ambient: Unacceptable; Refrigerated: 1 week; Frozen: Unacceptable
Methodology:	High Performance Liquid Chromatography (HPLC)/Electrophoresis/RBC Solubility/Polymerase Chain Reaction/Fluorescence Resonance Energy Transfer/Sequencing/Spectrophotometry/Visual Identification/Quantitative Enzymatic Assay/Quantitative Flow Cytometry/Cytochemical Stain/Multiplex Ligation-Dependent Probe Amplification/Massively Parallel Sequencing
Performed:	Sun-Sat
Reported:	Varies
Note:	The Hereditary Hemolytic Anemia Cascade begins with initial standard tests to detect possible causes of hemolytic anemia. If the results of the initial tests are suggestive of an abnormal or unstable hemoglobin, RBC membrane instability, or an enzyme or protein deficiency; or if the CBC data is suggestive of a hemoglobinopathy, appropriate testing will be performed at an additional charge. Depending on findings, one or more reflex tests may be required in order to provide a clinical interpretation. Tests added may include electrophoresis, solubility testing, mutational analysis, and/or sequencing. Quantitation of hemoglobin by HPLC or electrophoresis is most definitive in individuals one year and older. If quantitation of

	hemoglobin was performed before age one, repeat testing is recommended. Abnormal hemoglobin variants may require additional testing, which increases TAT up to 21 days.
CPT Codes:	84220; 88184; 82955; 83021. Reflex components billed separately. Additional CPT codes may apply: 85555; 85060; ~~85007;~~ 83068; 81269; 81259; 81363; 81364; 81249; 81404; 81405; 85660; 83020; 81479.
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.
Interpretive Data:	

Reference Interval:

Test Number	Components	Reference Interval

TEST CHANGE

CYP3A4 and CYP3A5

3001518, 3A4/3A5

Specimen Requirements:	
Patient Preparation:	
Collect:	Lavender (EDTA), pink (K2EDTA), or yellow (ACD solution A or B).
Specimen Preparation:	Transport 3 mL whole blood. (Min: 1 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or serum. Specimens collected in sodium heparin or lithium heparin. Frozen specimens in glass collection tubes.
Remarks:	
Stability:	Ambient: 72 hours; Refrigerated: 1 week; Frozen: 1 month
Methodology:	Polymerase Chain Reaction (PCR)/Fluorescence Monitoring
Performed:	Varies
Reported:	5-10 days
Note:	
CPT Codes:	81230; 81231
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report	
Counseling and informed consent are recommended for genetic testing. Consent forms are available online.	
Reference Interval:	
By report	

HOTLINE NOTE: There is a component change associated with this test. One or more components have been added or removed. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Cytochrome P450 Genotyping Panel

3001524, CYP PANEL

Specimen Requirements:	
Patient Preparation:	
Collect:	Lavender (K2EDTA), pink (K2EDTA), or yellow (ACD solution A or B).
Specimen Preparation:	Transport 3 mL whole blood. (Min: 1 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or serum. Specimens collected in sodium heparin or lithium heparin. Frozen specimens in glass collection tubes.
Remarks:	
Stability:	Ambient: 72 hours; Refrigerated: 1 week; Frozen: 1 month
Methodology:	Polymerase Chain Reaction (PCR)/Fluorescence Monitoring/Sequencing
Performed:	Varies
Reported:	5-10 days
Note:	If long-range PCR/duplication testing is performed, additional charges will apply. Approximately less than 5% of samples require 2D6 copy number determination.
CPT Codes:	81225; 81226; 81227; 81230; 81231; 81479; if reflexed, add 81479
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Couseling and informed consent are recommended for genetic testing. Consent forms are available online.	
Reference Interval:	
By report	

HOTLINE NOTE: There is a component change associated with this test. One or more components

have been added or removed. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Troponin T (cTnT) 5th Generation

3001831, CTNT

Specimen Requirements:	
Patient Preparation:	
Collect:	Plasma separator tube (PST) or green (lithium heparin)
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL plasma to an ARUP standard transport tube. (Min: 0.5 mL)
Transport Temperature:	CRITICAL FROZEN. Separate specimens must be submitted when multiple tests are ordered.
Unacceptable Conditions:	Specimens collected in lavender or pink (K2EDTA), lavender (K3EDTA), potassium oxalate, sodium fluoride, or sodium citrate. Grossly hemolyzed specimens.
Remarks:	
Stability:	Ambient: Unacceptable; Refrigerated: 24 hours; Frozen: 1 year
Methodology:	Electrochemiluminescent Immunoassay (ECLIA)
Performed:	Sun-Sat ~~Mon, Wed, Fri~~
Reported:	Within 24 hours ~~1-4 days~~
Note:	
CPT Codes:	84484
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Reference Interval:

Female	Less than or equal to 10 ng/L
Male	Less than or equal to 15 ng/L

TEST CHANGE

Anti-gp210 Antibody, IgG

3002477, GP210 AB

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube~~Separator Tube~~ (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.1 mL)
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Nonserum~~Non-serum~~, heat-inactivated, contaminated, grossly icteric, severely lipemic, grossly hemolyzed specimens, or inclusion of fibrin clot.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay
Performed:	Thu~~Wed~~
Reported:	1-8 days
Note:	
CPT Codes:	83516
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

GP210 IgG antibodies can be detected in patients with primary biliary cholangitis (PBC) and may be of diagnostic relevance in a subset of patients with PBC who are negative for anti-mitochondrial antibodies (AMA). These antibodies have a relatively low sensitivity with excellent specificity for PBC. A negative result does not rule out PBC.

Component	Interpretation
Anti-gp210 Antibody, IgG	20.1 Units or less Negative 20.1-24.9 Units Equivocal 25.0 Units or greater Positive

Reference Interval:

Test Number	Components	Reference Interval
	Anti-gp210 Antibody, IgG	24.9 Units or less

TEST CHANGE

Anti-sp100 Antibody, IgG

3002478, SP100 AB

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube~~Separator Tube~~ (SST).
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.1 mL)
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Non-Serum, heat-inactivated, contaminated, grossly icteric, severely lipemic, grossly hemolyzed specimens, or inclusion of fibrin clot.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay
Performed:	Thu~~Wed~~
Reported:	1-8 days
Note:	
CPT Codes:	83516
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

SP100 IgG antibodies can be detected in patients with primary biliary cholangitis (PBC) and may be of diagnostic relevance in a subset of patients with PBC who are negative for anti-mitochondrial antibodies (AMA). These antibodies have a relatively low sensitivity with excellent specificity for PBC. A negative result does not rule out PBC.

Component	Interpretation
Anti-sp100 Antibody, IgG	20.1 Units or less Negative 20.1-24.9 Units Equivocal 25.0 Units or greater Positive

Reference Interval:

Test Number	Components	Reference Interval
	Anti-sp100 Antibody, IgG	24.9 Units or less

TEST CHANGE

Anti-sp100 and anti-gp210 Antibodies, IgG

3002482, SP100GP210

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube~~Separator Tube~~ (SST).
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 1.0 mL serum to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.3 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Nonserum~~Non-serum~~, heat-inactivated, contaminated, grossly icteric, severely lipemic, grossly hemolyzed specimens, or inclusion of fibrin clot.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay
Performed:	Thu~~Wed~~
Reported:	1-8 days
Note:	
CPT Codes:	83516 x2
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Refer to report

Component	Interpretation
Anti-sp100 Antibody, IgG	20.0 Units or less Negative 20.1-24.9 Units Equivocal 25.0 Units or greater Positive
Anti-gp210 Antibody, IgG	20.0 Units or less Negative 20.1-24.9 Units Equivocal 25.0 Units or greater

	Positive

Reference Interval:

Test Number	Components	Reference Interval
	Anti-gp210 Antibody, IgG	24.9 Units or less
	Anti-sp100 Antibody, IgG	24.9 Units or less

TEST CHANGE

Phosphatidylethanol (PEth), Whole Blood, Quantitative

3002598, PETH

Specimen Requirements:	
Patient Preparation:	
Collect:	Lavender (K2 or K3EDTA), pink (K2EDTA), dark green (lithium heparin), or gray (potassium oxalate).
Specimen Preparation:	Transport 1 mL whole blood. (Min: 0.5 mL)
Transport Temperature:	Refrigerated. Also acceptable: Frozen.
Unacceptable Conditions:	Gel separator tubes, plain red, light blue (citrate), or yellow (SPS or ACD solution).
Remarks:	
Stability:	Ambient: 32 hours; Refrigerated: 2 weeks; Frozen: 1 month (-20 Degrees C)
Methodology:	Quantitative Liquid Chromatography-Tandem Mass Spectrometry
Performed:	Sun-Sat
Reported:	1-4 days
Note:	
CPT Codes:	80321 (Alt code: G0480)
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Phosphatidylethanol (PEth) is a group of phospholipids formed in the presence of ethanol, phospholipase D, and phosphatidylcholine. PEth is known to be a direct alcohol biomarker. The predominant PEth homologues are PEth 16:0/18:1 (POPEth) and PEth 16:0/18:2 (PLPEth), which account for 37-46% and 26-28% of the total PEth homologues, respectively. PEth is incorporated into the phospholipid membrane of red blood cells and has a general half-life of 4-10 days and a window of detection of 2-4 weeks. However, the window of detection is longer in individuals who chronically or excessively consume alcohol. Serial monitoring of PEth may be helpful in monitoring alcohol abstinence over time. PEth results should be interpreted in the context of the patient's clinical and behavioral history. Patients with advanced liver disease may have falsely elevated PEth concentrations (Nguyen VL, et al, Alcoholism: Clinical and Experimental Research, 2018).

Reference Interval:

Effective September 8, 2020

By Report

TEST CHANGE

Non-Invasive Prenatal Aneuploidy Screen by cell-free DNA Sequencing

3003043, NIPT NGSAN

Specimen Requirements:	
Patient Preparation:	Specimen must be collected at 10 weeks gestation or greater. Testing will be canceled for specimens collected at less than 10 weeks of gestation. Number of fetuses must be provided. Testing will be canceled if number of fetuses is not provided.
Collect:	Black-and-tan top or tan top cell-free DNA BCT (Streck) tube (ARUP Supply #56435).~~)~~ Available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at 800-522-2787.
Specimen Preparation:	Transport 10 mL maternal whole blood (Min: 7 mL)
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Ambient and frozen specimens.
Remarks:	Patient History and Consent forms for the ;n~~N~~on-invasive prenatal aneuploidy screening test (NIPT) are available on the ARUP Web site or by contacting Client Services at 800-522-2787.
Stability:	Ambient: Unacceptable; Refrigerated: 10 days; Frozen: Unacceptable.
Methodology:	Massively Parallel Sequencing
Performed:	Varies
Reported:	5-7 days
Note:	Results will not be reported without a gestational age greater than or equal to 10 weeks. Testing will not be performed without number of fetuses provided. ARUP only performs testing on singleton pregnancies. Multiple gestation samples will be sent to Sequenom Laboratories to perform the MaterniT21 PLUS Core (chr21,18,13) test.
CPT Codes:	81420
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Refer to report.

Reference Interval:

N/A

TEST CHANGE

Inflammatory Bowel Disease Differentiation Panel

3003748, IBD-PAN

Specimen Requirements:	
Patient Preparation:	N/A
Collect:	Serum separator tube~~Separator Tube~~ (SST).
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 1.5 mL serum to an ARUP standard transport tube. (Min: 0.6 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, hemolyzed, or severely lipemic specimens.
Remarks:	N/A
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 30 days (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Indirect Fluorescent Antibody (IFA)/Semi-Quantitative Enzyme Immunoassay (EIA)
Performed:	Mon, Wed, Fri ~~Sun-Sat~~
Reported:	1-4 days
Note:	This test may be a useful tool for distinguishing ulcerative colitis (UC) from Crohn disease (CD) in patients with suspected inflammatory bowel disease. ANCA IFA is simultaneously tested on ethanol- and formalin-fixed slides to allow differentiation of C- and P-ANCA patterns.
CPT Codes:	86036; 86671 x2
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Reference Interval:	

Test Number	Components	Reference Interval		
	S. cerevisiae Antibody, IgG			
		20.0 Units or less	Negative	
		20.1-24.9 Units	Equivocal	
		25.0 Units or greater	Positive	
	S. cerevisiae Antibody, IgA			
		20.0 Units or less	Negative	
		20.1-24.9 Units	Equivocal	
		25.0 Units or greater	Positive	
	ANCA IFA Titer	Less than 1:20		
	ANCA IFA Pattern	None Detected		

TEST CHANGE

Allergen, Food, Alpha-Gal (galactose-alpha-1,3-galatose) Panel

3003924, ALPHAGALPN

Specimen Requirements:	
Patient Preparation:	Multiple patient encounters should be avoided
Collect:	Plain red serum~~Serum~~ separator tube (SST).~~.~~ Multiple specimen tubes should be avoided.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 1.0~~.25~~ mL serum plus 0.1 mL for each additional allergen ordered to an ARUP standard transport tube.~~Standard Transport Tube.~~ (Min: 0.4~~25~~ mL plus 0.04 mL for each additional allergen ordered). For multiple allergen orders refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.~~)~~
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	86008; 86003 x3
New York DOH Approval Status:	This test is New York DOH approved.

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.

Reference Interval:

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

TEST CHANGE

Carbamylated Protein (CarP) Antibody, IgG

3003992, CARP IGG

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube.
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 0.5 mL serum to an ARUP standard transport tube. ~~Standard Transport Tube.~~ (Min: 0.3 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, hemolyzed, icteric, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month (avoid repeated freeze/thaw cycles)
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay
Performed:	Mon, Wed, Fri ~~Sun, Tue, Thu~~
Reported:	1-4 days
Note:	
CPT Codes:	83516
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Anti-carbamylated protein (anti-CarP) IgG antibodies are present in about 34-53 percent of patients with RA, have specificities of greater than 90 percent and can occur in RA patients seronegative for both rheumatoid factor and anti-CCP. These autoantibodies may be present in the preclinical phase of disease, are associated with future RA development, and may predict radiographic joint destruction. Patients with weak positive results should be monitored and testing repeated.

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

Reference Interval:

0-19 Units

TEST CHANGE

Cytochrome P450 Genotyping Panel, with GeneDose Access

3004255, CYP GD

Specimen Requirements:	
Patient Preparation:	
Collect:	Lavender (K2EDTA), pink (K2EDTA), or yellow (ACD solution A or B).
Specimen Preparation:	Transport 3 mL whole blood. (Min: 1 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or serum. Specimens collected in sodium heparin or lithium heparin. Frozen specimens in glass collection tubes.
Remarks:	
Stability:	Ambient: 72 hours; Refrigerated: 1 week; Frozen: 1 month
Methodology:	Polymerase Chain Reaction/Fluorescence Monitoring/Sequencing
Performed:	Varies
Reported:	5-10 days
Note:	If long-range PCR/duplication testing is performed, additional charges will apply. Approximately less than 5% of samples require 2D6 copy number determination.
CPT Codes:	81225; 81226; 81227; 81230; 81231; 81479; if reflexed, add 81479
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Couseling and informed consent are recommended for genetic testing. Consent forms are available online.	
Reference Interval:	
By report	

HOTLINE NOTE: There is a component change associated with this test. One or more components

have been added or removed. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Cytogenomic Molecular Inversion Probe Array FFPE Tissue - Products of Conception

3004273, CMAPFFPE

Specimen Requirements:	
Patient Preparation:	
Collect:	Fetal autopsy or products of conception.
Specimen Preparation:	FFPE Fetal tissue: Transport ten slides, each with 5 microm unstained sections or four 20 microm scrolls or tissue block. OR FFPE villi: Transport one H&E stained slide and ten slides, each with 5 microm unstained sections or tissue block. New York State Clients: Transport 1 FFPE block or 10 slides (10 microm each).
Transport Temperature:	Room temperature. Also acceptable: Refrigerated. Ship in cooled container during summer months.
Unacceptable Conditions:	Specimens fixed or processed in alternative fixatives or heavy metal fixatives (B-4 or B-5).
Remarks:	If multiple specimens (blocks or slides) are sent to ARUP, they must be accompanied by one of the following: an order comment indicating that the ARUP pathologist should choose the specimen most appropriate for testing (e.g., "Choose best block"), or individual orders for each sample submitted. A Pathologist Block Selection Fee (ARUP test code 3002076) will be added to orders that utilize the first option. If multiple specimens are sent to ARUP without a request for pathologist block/slide selection or individual orders, they will be held until clarification is provided.
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
Methodology:	Molecular Inversion Probe Array
Performed:	Sun-Sat
Reported:	14-21 days
Note:	If sending placenta instead of fetal tissue, at least 80% villi for products of conception specimens. This test must be ordered using Cytogenetic test request form #43098 or through your ARUP interface. Please submit the Patient History for Prenatal Cytogenetics form with the electronic packing list

(http://ltd.aruplab.com/Tests/Pdf/65).

CPT Codes:	81229
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

For detection of copy number alterations and loss of heterozygosity in FFPE specimens. Refer to report.

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

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

Reference Interval:

HOTLINE NOTE: There is a component change associated with this test. One or more components have been added or removed. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Cytogenomic Molecular Inversion Probe Array FFPE Tissue - Oncology

3004275, FFPEARRAY

Specimen Requirements:	
Patient Preparation:	
Collect:	Tumor tissue
Specimen Preparation:	Formalin fix (10 percent neutral buffered formalin) and paraffin embed tissue. Protect from excessive heat. Transport 10 slides, each with 5-micron unstained sections or four 20-micron scrolls or tissue block. Tissue block will be returned after testing. Transport tissue in a tissue transport kit (ARUP supply #47808) available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at (800) 522-2787.
Transport Temperature:	Room temperature. Also acceptable: Refrigerated. Ship in cooled container during summer months.
Unacceptable Conditions:	Specimens fixed or processed in alternative fixatives or heavy metal fixatives (B-4 or B-5).
Remarks:	If multiple specimens (blocks or slides) are sent to ARUP, they must be accompanied by one of the following: an order comment indicating that the ARUP pathologist should choose the specimen most appropriate for testing (e.g., "Choose best block"), or individual orders for each sample submitted. A Pathologist Block Selection Fee (ARUP test code 3002076) will be added to orders that utilize the first option. If multiple specimens are sent to ARUP without a request for pathologist block/slide selection or individual orders, they will be held until clarification is provided.
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
Methodology:	Molecular Inversion Probe Array
Performed:	Sun-Sat
Reported:	14-21 days
Note:	Samples must contain a region with at least 50 percent tumor.
CPT Codes:	81277

New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

For detection of copy number alterations and loss of heterozygosity in FFPE specimens.
Refer to report.

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

Reference Interval:

HOTLINE NOTE: There is a component change associated with this test. One or more components have been added or removed. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Pharmacogenetics Panel: Psychotropics

3004471, PGX PSYCH

Specimen Requirements:	
Patient Preparation:	
Collect:	Whole Blood: Lavender (EDTA), pink (K2EDTA), or yellow (ACD solution A or B).
Specimen Preparation:	Transport 3 mL whole blood. (Min: 1 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or serum. Specimens collected in sodium heparin or lithium heparin. Frozen specimens in glass collection tubes.
Remarks:	
Stability:	Ambient: 72 hours; Refrigerated: 1 week; Frozen: 1 month
Methodology:	Polymerase Chain Reaction (PCR)/Fluorescence Monitoring/Sequencing
Performed:	Varies
Reported:	5-10 days
Note:	If long-range PCR/duplication testing is performed, additional charges apply. Approximately less than 5% of samples require 2D6 copy number determination.
CPT Codes:	81225; 81226; 81227; 81230; 81231; 81291; 81479; if reflexed, add 81479
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report	
Counseling and informed consent are recommended for genetic testing. Consent forms are available online.	
Reference Interval:	
By report	

HOTLINE NOTE: There is a component change associated with this test. One or more components

have been added or removed. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

Drug Profile, Expanded Targeted Panel by LC-MS/MS, Serum/Plasma

3004833, COMPDRUGSP

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red (no additives, serum gel or SST tubes are not acceptable), gray top (NaF/oxalate), lavender (K2 or K3EDTA) or pink (K2EDTA).
Specimen Preparation:	Separate serum or plasma from cells ASAP or within 2 hours of collection. Transfer 4 mL of serum or plasma into an ARUP standard transport tube. (Min: 2 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Gel separator tubes or light blue (sodium citrate). Specimens exposed to repeated freeze/thaw cycles. Postmortem specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 24 hours; Refrigerated: 2 weeks; Frozen: 2 months.
Methodology:	Qualitative Liquid Chromatography-Tandem Mass Spectrometry
Performed:	Mon, Fri
Reported:	1-9~~8~~ days
Note:	If a drug class is reported as present, the test will report the specific drug present from the drug class. (Classes include ARUP test codes 3005045, 3005046, 3005047, 3005048, 3005049, 3005050, 3005051, 3005052, 3005053, 3005054, 3005055, 3005056, 3005057, 3005058, or 3005059.)
CPT Codes:	80323; 80326; 80329; 80334; 80337; 80338; 80341; 80344; 80346; 80348; 80353; 80354; 80356; 80357; 80358; 80359; 80360; 80361; 80363; 80365; 80366; 80368; 80370; 80371; 80372; 80373; 80377; 83992 (Alt code: G0483)
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

The qualitative drug panel can detect 127 drugs and drug metabolites by LC-MS/MS. The absence of expected drug(s) and/or drug metabolite(s) may indicate noncompliance, inappropriate timing of specimen collection relative to drug administration, poor drug absorption, or limitations of testing. The concentration at which the test can detect a drug or metabolite varies within a drug class. The concentration value must be greater than or equal to the cutoff to be reported as positive. Interpretive questions should be directed to the laboratory.

This assay is for medical purposes only; not valid for forensic use.

For a complete list of drugs and drug metabolites detected, refer to the Additional Technical Information.

Reference Interval:

By report

TEST CHANGE

Drug Profile, Expanded Targeted Panel by LC-MS/MS, Urine

3005060, COMPDRUGUR

Specimen Requirements:	
Patient Preparation:	
Collect:	Random urine with no additives.
Specimen Preparation:	Transport 4 mL urine. (Min: 2 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Specimens exposed to repeated freeze/thaw cycles.
Remarks:	
Stability:	Ambient: 1 day; Refrigerated: 2 weeks; Frozen: 2 months
Methodology:	Qualitative Liquid Chromatography-Tandem Mass Spectrometry
Performed:	Mon, Fri
Reported:	1-9~~8~~ days
Note:	If a drug class is reported as present, the test will report the specific drug present from the drug class at no additional charge. (Classes include ARUP test codes 3005225, 3005226, 3005227, 3005228, 3005229, 3005230, 3005231, 3005232, 3005233, 3005234, 3005235, 3005236, 3005237, 3005238, or 3005239.)
CPT Codes:	80323; 80325; 80329; 80334; 80337; 80338; 80341; 80344; 80347; 80348; 80353; 80354; 80355; 80356; 80357; 80359; 80360; 80361; 80363; 80365; 80366; 80368; 80370; 80371; 80372; 80373; 80377; 83992 (Alt code: G0483)
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

The qualitative drug panel can detect 127 drugs and drug metabolites by LC-MS/MS. The absence of expected drug(s) and/or drug metabolite(s) may indicate noncompliance, inappropriate timing of specimen collection relative to drug administration, poor drug absorption, diluted/adulterated urine, or limitations of testing. The concentration at which the test can detect a drug or metabolite varies within a drug class. The concentration value must be greater than or equal to the cutoff to be reported as positive. Interpretive questions should be directed to the laboratory.

This assay is for medical purposes only; not valid for forensic use.

For a complete list of drugs and drug metabolites detected, refer to Additional Technical Information.

Reference Interval:

By Report

TEST CHANGE

Toxocara Antibodies, IgG by ELISA

3006066, TOXOCARA G

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST) or plain red.
Specimen Preparation:	Transfer 1 mL serum to an ARUP standard transport tube. (Min: 0.5 mL)
Transport Temperature:	Preferred transport temp: Refrigerated. Also acceptable: Frozen
Unacceptable Conditions:	Contaminated, heat-inactivated, grossly hemolyzed, or lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month
Methodology:	Semi-Quantitative~~Semiquantitative~~ Enzyme-Linked Immunosorbent Assay (ELISA)
Performed:	Thu~~Wed, Sat~~
Reported:	1-8~~7~~ days
Note:	N/A
CPT Codes:	86682
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Component	Interpretation
Toxocara Antibodies, IgG by ELISA	< 9 U Negative: No significant level of Toxocara IgG antibodies detected. 9-11 U Equivocal: Recommend repeat testing in 2-4 weeks. >11 U Positive: IgG antibodies to Toxocara detected, indicating current

	or past infection. False-positive results due to infections with other helminths are possible.	

Reference Interval:

Test Number	Components	Reference Interval
	Toxocara Antibodies, IgG by ELISA	8 U or less

TEST CHANGE

Pharmacogenetics Panel: Psychotropics, with GeneDose Access

3006366, PGXPSYC GD

Specimen Requirements:	
Patient Preparation:	
Collect:	Lavender (K2EDTA), pink (K2EDTA), or yellow (ACD solution A or B).
Specimen Preparation:	Transport 3 mL whole blood. (Min: 1 mL)
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Plasma or serum. Specimens collected in sodium heparin or lithium heparin. Frozen specimens in glass collection tubes.
Remarks:	
Stability:	Ambient: 72 hours; Refrigerated: 1 week; Frozen: 1 month
Methodology:	Polymerase Chain Reaction (PCR)/Fluorescence Monitoring/Sequencing
Performed:	Varies
Reported:	5-10 days
Note:	If long-range PCR/duplication testing is performed, additional charges apply. Approximately less than 5% of samples require 2D6 copy number determination.
CPT Codes:	81225; 81226; 81227; 81230; 81231; 81291; 81479; if reflexed, add 81479
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Counseling and informed consent are recommended for genetic testing. Consent forms are available online.	
Reference Interval:	

HOTLINE NOTE: There is a component change associated with this test. One or more components have been added or removed. Refer to the Hotline Test Mix for interface build information.

TEST CHANGE

HPV Primary Screen by PCR With Reflex to Cytology

3016636, HPV PRMRY

Specimen Requirements:	
Patient Preparation:	
Collect:	Cervical or endocervical specimen with brush or spatula from ThinPrep kit collection kit. (ARUP supply #41785 ThinPrep (Vial and Broom) or #51369 ThinPrep (Vial, Brush, and Spatula)) available online through eSupply using ARUP Connect(TM) or~~Connector~~ contact ARUP Client Services at 800-522-2787.
Specimen Preparation:	Place collection device in corresponding ThinPrep media vial.
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Bloody or dark brown specimens. Specimens in any media other than indicated above.
Remarks:	
Stability:	Ambient: 6 months; Refrigerated: 6 months; Frozen: Unacceptable
Methodology:	Qualitative Polymerase Chain Reaction (PCR)
Performed:	Tue-Sat
Reported:	1-5 days ~~Within 24 hours~~
Note:	If HPV assay is positive, then ThinPrep PAP Test (Standalone) (3018968) will be added. Additional charges apply. ~~For cervical sources, a negative high-risk HPV result does not exclude the possibility of future cytologic abnormalities, underlying CIN2-3, or cancer.~~
CPT Codes:	8762446; if reflexed~~,~~ add 88175 (88142 if manual);~~:~~ if reviewed by pathologist~~,~~ add 88141
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

This test amplifies DNA of HPV16, HPV18, and 12 other high-risk HPV types (31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, and 68) associated with cervical cancer and its precursor lesions. Sensitivity may

be affected by specimen collection methods, stage of infection, and the presence of interfering substances. Specimens positive for high-risk HPV types are reflexed to cytology. Patients positive for high-risk HPV 16 or HPV 18 should be managed according to current ASCCP guidelines (2019). ~~Results should be interpreted in conjunction with other available laboratory and clinical data. A negative high-risk HPV result does not exclude the presence of other high-risk HPV types, the possibility of future cytologic abnormalities, underlying CIN2-3, or cancer.~~

~~HPV testing should not be used for screening or management of atypical squamous cells of undetermined significance (ASCUS) in women under age 21.~~

Reference Interval:

Negative

TEST CHANGE

Anti-Phospholipase A2 Receptor (PLA2R) Antibody, IgG by ELISA

3016767, ANTI-PLA2R

Specimen Requirements:	
Patient Preparation:	Separate serum from cells ASAP or within 2 hours of collection.
Collect:	Serum separator tube.
Specimen Preparation:	Transfer 1 mL serum to an ARUP standard transport tube. (Min: 0.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Contaminated, heat-inactivated, grossly hemolyzed, grossly icteric, or grossly lipemic specimens.
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 2 weeks
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay (ELISA)
Performed:	Wed, Fri~~Mon, Thu~~
Reported:	1-7 days
Note:	
CPT Codes:	83516
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

A positive anti-phospholipase A2 receptor (PLA2R) antibody result by ELISA or IFA in conjunction with clinical symptoms and other laboratory findings is suggestive of primary membranous nephropathy (pMN). Absence of circulating anti-PLA2R receptor autoantibodies does not rule out a diagnosis of pMN. Anti-PLA2R antibody titers, due to its high predictive value, can be useful for assessing disease severity and monitoring clinical remission. In patients with pMN undergoing treatment, low antibody titers are associated with disease remission and high titers indicate loss of kidney function and need for an aggressive therapeutic approach.

Component	Interpretive Data
Anti-Phospholipase A2 Receptor, IgG	Negative: Less than 14 RU/mL Borderline: 14-19 RU/mL Positive: Greater than or

	equal to 20 RU/mL

Reference Interval:

Test Number	Components	Reference Interval
	Anti-Phospholipase A2 Receptor, IgG	< 14 RU/mL

TEST CHANGE

Thrombotic Risk Reflex Panel

3017156, THROMRISK

Specimen Requirements:	
Patient Preparation:	Fasting preferred. Refer to Specimen Handling at aruplab.com for hemostasis/thrombosis specimen handling guidelines.
Collect:	Four light blue (sodium citrate) AND two lavender (EDTA) AND two serum separator tubes (SSTs). Also acceptable in place of one of the serum separator tubes (SSTs): green (~~sodium or~~ lithium heparin) or EDTA (K2 or K3).
Specimen Preparation:	One serum separator tube (SST), green (~~sodium or~~ lithium heparin)~~.~~) or EDTA (K2 or K3) must be centrifuged and serum or plasma separated within 1 hour of collection. Transfer 1 mL centrifuged serum or plasma to ARUP standard transport tube and label centrifuged tube for homocysteine testing. (Min: 0.5 mL) AND Transfer 2 mL serum into 2 ARUP standard transport tubes, label as serum. (Min: 0.5 mL/tube) AND Transfer 7.5 mL platelet poor plasma prepared from the sodium citrate tubes to 5 ARUP standard transport tubes, label as sodium citrate. (Min: 1 mL/tube) AND Transfer 3 mL lavender whole blood to 2 ARUP standard transport tubes. (Min: 1 mL/tube)
Transport Temperature:	Light blue (sodium citrate): CRITICAL FROZEN. Separate specimens must be submitted when multiple tests are ordered. Lavender whole blood and serum, green (~~sodium or~~ lithium heparin)~~.~~) or EDTA (K2 or K3): Frozen.
Unacceptable Conditions:	Specimens collected in any tube type not listed above.
Remarks:	
Stability:	Light blue (sodium citrate): Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 2 weeks Lavender whole blood: Ambient: 7 days; Refrigerated: 1 week; Frozen: 1 month Serum: Ambient: 2 hours; Refrigerated: 1 week; Frozen: 2 weeks Green (~~sodium or~~ lithium heparin) or EDTA (K2 or K3): Ambient: 4 days; Refrigerated: 1 month; Frozen: 10 months
Methodology:	Electromagnetic Mechanical Clot Detection/Chromogenic Assay/Quantitative Enzymatic Assay/Semi-Quantitative Enzyme-Linked Immunosorbent Assay (ELISA)/Polymerase Chain Reaction (PCR)/Fluorescence Monitoring/Microlatex Particle-Mediated Immunoassay
Performed:	Varies

Reported:	2-7 days
Note:	Testing will include Antithrombin, Enzymatic (Activity) (0030010); Protein S Free, Antigen (0098894); Protein C, Functional (0030113); Beta-2 Glycoprotein 1 Antibodies, IgG and IgM (0050321); Cardiolipin Antibodies, IgG and IgM (0099344); Lupus Anticoagulant Reflex Panel (3017009); Prothrombin (F2) c.*97G>A (G20210A) Pathogenic Variant (0056060); APC Resistance Profile with Reflex to Factor V Leiden (0030192); and Homocysteine, Total (0099869). If APC resistance is low, or if a valid result cannot be obtained for the APC portion of the profile, then Factor V Leiden by PCR will be added. Additional charges apply. For the Lupus Anticoagulant Reflex Panel (3017009) portion of the panel, if PTT-LA Ratio and dRVVT Screen Ratio are normal, then no further clot-based testing is performed. If either the PTT-LA Ratio or dRVVT Screen Ratio are elevated, then Anti-Xa Qualitative Interpretation is added. If PTT-LA Ratio is elevated, then Thrombin Time is also added. If Anti-Xa Qualitative Interpretation is Present and Thrombin Time is greater than 30 seconds, then Hepzyme treatment is added. If PTT-LA Ratio is normal and Anti-Xa Qualitative Interpretation is Present, or Thrombin Time is greater than 30 seconds, and Anti-Xa Qualitative Interpretation is Not Present, or Thrombin Time is less than 30 seconds, and Anti-Xa Qualitative Interpretation is Present, then DOAC-Stop treatment is added. If either Hepzyme or DOAC-Stop treatment is added, then Neutralized PTT-LA Ratio and/or Neutralized dRVVT Screen Ratio are added. If dRVVT Screen Ratio is elevated in the absence of Hepzyme or DOAC-Stop, or if Neutralized dRVVT Screen Ratio is elevated, then dRVVT 1:1 Mix Ratio and dRVVT Confirmation Ratio are added. If PTT-LA Ratio is elevated in the absence of Hepzyme or DOAC-Stop treatment, or if Neutralized PTT-LA Ratio is elevated, then Hexagonal Phospholipid Confirmation is added. Additional charges apply. False elevations of plasma or serum homocysteine may occur if the plasma or serum is not promptly separated from the cells at the time of collection.
CPT Codes:	81240; 83090; 85300; 85303; 85306; 85307; 85610; 85613; 85730; 86147x2; 86146x2; if reflexed, additional CPT codes may apply: 81241; 85520; 85525; 85598; 85613; 85670; 85730.
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data: Refer to individual components.	

Reference Interval:

Refer to individual components.

TEST CHANGE

Herpes Simplex Virus Type 1 and/or 2 Antibodies, IgG (CSF) With Reflex to Type 1 and 2 Glycoprotein G-Specific Ab, IgG

3017747, HERPR CSF

Specimen Requirements:	
Patient Preparation:	
Collect:	CSF
Specimen Preparation:	Transfer 1 mL CSF to an ARUP standard transport tube. (Min: 0.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Specimen types other than CSF. Contaminated, heat-inactivated, icteric, or hemolyzed specimens.
Remarks:	
Stability:	Ambient: 8 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Semi-Quantitative Chemiluminescent Immunoassay (CLIA) / Semi-Quantitative Enzyme-Linked Immunosorbent Assay (ELISA)
Performed:	Sun-Sat
Reported:	1-2 days
Note:	If HSV 1/2 IgG, CSF is greater than or equal to 1.10 IV , then HSV 1 gG-specific IgG, CSF and HSV 2 gG-specific IgG, CSF will be added. Additional charges apply.
CPT Codes:	86694; if reflexed, add 86695; 86696
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

False positive results are possible. Consider additional testing for HSV-2, particularly if the result for HSV-2 is less than or equal to</= 3.0 IV.

Herpes Simplex Virus Type 1 and/or 2 Antibodies, IgG, CSF	0.89 IV or less: Negative. No significant level of detectable HSV IgG antibody. 0.90-1.09 IV: Equivocal.

	Questionable presence of IgG antibodies. Repeat testing in 10-14 days may be helpful. 1.10 IV or greater: Positive. IgG antibody to HSV detected which may indicate a current or past HSV infection.	

Reference Interval:

0.89 IV or less

TEST CHANGE

SC5b-9

3017902, SC5B-9

Specimen Requirements:	
Patient Preparation:	
Collect:	Pink (K2EDTA), t~~T~~an (K2EDTA), r~~R~~oyal blue (K2EDTA), or l~~L~~avender (EDTA).
Specimen Preparation:	Separate plasma within 2 hours (1 hour is preferable) by centrifugation. ~~~2700 rpm (1300 100 g) for 10 minutes.~~ Transfer plasma (minimum 0.5 mL) to an ARUP standard transport tube and freeze immediately.
Transport Temperature:	CRITICAL FROZEN. Separate specimens must be submitted when multiple tests are ordered.
Unacceptable Conditions:	Nonfrozen specimens. Specimens exposed to repeated freeze/thaw cycles. Grossly hemolyzed, lipemic, and icteric specimens. Serum samples. Heparinized and lithium samples.
Remarks:	
Stability:	Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 30 days
Methodology:	Quantitative Enzyme-Linked Immunosorbent Assay (ELISA)
Performed:	Sun, Wed
Reported:	2-12 days
Note:	
CPT Codes:	86160
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Elevated soluble C5b-9 (SC5b-9) levels indicate recent or ongoing activation of the complement system, while normal or reduced levels suggest no excessive activation. High SC5b-9 concentrations are associated with transplant-associated thrombotic microangiopathy (TA-TMA), a complication of hematopoietic stem cell transplants. Increased SC5b-9 may also occur in various conditions involving primary or secondary complement activation, such as immune-complex disease, infection, atypical hemolytic uremic syndrome, and C3 glomerulopathies. Due to a low specificity for SC5b-9 testing, results should be interpreted in combination with other clinical and laboratory evidence of disease activity. Plasma SC5b-9 levels may be used to monitor the efficacy of complement inhibitor drugs, as elevated levels suggest insufficient complement blockage to

effectively prevent the formation of the terminal attack complex.

Reference Interval:

Test Number	Components	Reference Interval
	C5b9 Soluble Terminal Complement Complex	Less than or equal to 260 ng/mL

TEST CHANGE

Allergen, Food, Tree Nuts With Reflex to Components, IgE

3018799, TNUT PAN R

Specimen Requirements:	
Patient Preparation:	Multiple patient encounters should be avoided.
Collect:	Plain red or serum~~Serum~~ separator tube (SST)~~.~~
Specimen Preparation:	Separate serum from cells ASAP or within 2 hours of collection. Transfer 2.0~~1.5~~ mL serum to an ARUP standard transport tube. (Min: 1.5 mL plus 0.04 mL for each additional allergen ordered ~~mL~~). For multiple allergen orders refer to "Allergen Specimen Collection Instructions" at www.aruplab.com/testing/resources/specimen.
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Postmortem samples
Remarks:	
Stability:	After separation from cells: Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month
Methodology:	Quantitative ImmunoCAP Fluorescent Enzyme Immunoassay
Performed:	Sun-Sat
Reported:	1-3 days
Note:	This assay will initially test brazil nut, cashew, pistachio, hazelnut, walnut, pecan, almond. If the brazil nut whole allergen result is greater than or equal to 0.1 kU/L, the brazil nut component Ber e 1 will be ordered. If the cashew whole allergen result is greater than or equal to 0.1 kU/L, the cashew component Ana o 3 will be ordered. If the hazelnut whole allergen result is greater than or equal to 0.1 kU/L, the hazelnut components Cor a 1, Cor a 8, Cor a 9, Cor a 14 will be ordered. If the walnut whole allergen result is greater than or equal to 0.1 kU/L, the walnut components Jug r 1 and Jug r 3 will be ordered. Additional charges apply.
CPT Codes:	86003 x7; if reflexed, add 86008 per component
New York DOH Approval Status:	This test is New York DOH approved.
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.

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

Reference Interval:

Test Number	Components	Reference Interval
	Allergen, Food, Almond IgE	Less than or equal to 0.34 kU/L
	Allergen, Food, Brazil Nut IgE	Less than or equal to 0.34 kU/L
	Allergen, Food, Cashew IgE	Less than or equal to 0.34 kU/L
	Allergen, Food, Pecan IgE	Less than or equal to 0.34 kU/L
	Allergen, Food, Hazelnut IgE	Less than or equal to 0.34 kU/L
	Allergen, Food, Pistachio IgE	Less than or equal to 0.34 kU/L
	Allergen, Food, Walnut (Juglans spp) IgE	Less than or equal to 0.34 kU/L

TEST CHANGE

Dermatomyositis and Polymyositis Panel

3018866, COMBI PAN2

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer ~~3 to~~ 4 mL to ARUP standard transport tube. (Min: 3~~1.5~~ mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, hyperlipemic, icteric, heat-treated, or contaminated specimens
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month
Methodology:	Qualitative Immunoprecipitation / Semi-Quantitative Multiplex Bead Assay / Qualitative Immunoblot / Semi-Quantitative Indirect Fluorescent Antibody (IFA) / Qualitative Particle-Based Multianalyte Technology (PMAT)
Performed:	Sun-Sat
Reported:	7-18 days
Note:	Antibodies: PL-7, PL12, EJ, OJ, SRP, Jo-1, Mi-2, P155/140, SAE1, MDA5, NXP2, TIF1-gamma, ANA, Ha, Ks, Zo
CPT Codes:	83516 x11; 84182 x3; 86235; 86039
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Refer to report.

Component	Interpretation
Jo-1 Antibody, IgG	29 AU/mL or less: Negative 30-40 AU/mL: Equivocal 41 AU/mL or greater: Positive

Reference Interval:

Test Number	Components	Reference Interval
	Zo (phenylalanyl-tRNA synthetase) Ab	Negative
	Ks (asparaginyl-tRNA synthetase) Ab	Negative
	Ha (tyrosyl-tRNA synthetase) Ab	Negative
	TIF-1 gamma (155 kDa) Ab	Negative
	NXP2 (Nuclear matrix protein-2) Ab	Negative
	MDA5 (CADM-140) Ab	Negative
	SAE1 (SUMO activating enzyme) Ab	Negative
	Antinuclear Antibody (ANA), HEp-2, IgG	Less than 1:80
	OJ (isoleucyl-tRNA synthetase) Antibody	Negative
	SRP (Signal Recognition Particle) Ab	Negative
	EJ (glycyl-tRNA synthetase) Antibody	Negative
	P155/140 Antibody	Negative
	PL-12 (alanyl-tRNA synthetase) Antibody	Negative
	PL-7 (threonyl-tRNA synthetase) Antibody	Negative
	Mi-2 (nuclear helicase protein) Antibody	Negative
	Jo-1 (Histidyl-tRNA Synthetase) Ab, IgG	40 AU/mL or less

TEST CHANGE

Extended Myositis Panel

3018867, MYOS EXT2

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST), red top tube
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer ~~3 to~~ 4 mL to ARUP standard transport tube. (Min: 3~~1.5~~ mL)
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Hemolyzed, hyperlipemic, icteric, heat-treated, or contaminated specimens.
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month
Methodology:	Semi-Quantitative Enzyme-Linked Immunosorbent Assay (ELISA) / Qualitative Immunoprecipitation / Semi-Quantitative Multiplex Bead Assay / Qualitative Immunoblot / Semi-Quantitative Indirect Fluorescent Antibody (IFA) / Qualitative Particle-Based Multianalyte Technology (PMAT)
Performed:	Sun-Sat
Reported:	7-18 days
Note:	Antibodies: Mi-2, PL-7, PL12, P155/140, EJ, Ku, OJ, PM/Scl, SRP, Smith/RNP, Ro52, Ro60, Jo-1, U3 Fib, SAE1, NXP2, MDA5, TIF1-gamma, ANA, Ha, Ks, Zo If HMGCR antibody, IgG is positive, additional testing to follow.
CPT Codes:	83516 x13; 84182 x3; 86039; 86235 x6; if reflexed, add 83516
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Refer to report.

Component	Interpretation
SSA-52 (Ro52) (ENA) Antibody, IgG	29 AU/mL or less: Negative 30-40 AU/mL: Equivocal 41 AU/mL or greater: Positive
SSA-60 (Ro60) (ENA) Antibody, IgG	29 AU/mL or less: Negative 30-40 AU/mL: Equivocal 41 AU/mL or greater: Positive
Smith/RNP (ENA) Antibody, IgG	19 Units or less: Negative 20-39 Units: Weak Positive 40-80 Units: Moderate Positive 81 Units or greater: Strong Positive
Jo-1 Antibody, IgG	29 AU/mL or less: Negative 30-40 AU/mL: Equivocal 41 AU/mL or greater: Positive

Reference Interval:

Test Number	Components	Reference Interval
	HMGCR Antibody Screen	Negative
	Zo (phenylalanyl-tRNA synthetase) Ab	Negative
	Ks (asparaginyl-tRNA synthetase) Ab	Negative
	Ha (tyrosyl-tRNA synthetase) Ab	Negative
	TIF-1 gamma (155 kDa) Ab	Negative
	NXP2 (Nuclear matrix protein-2) Ab	Negative
	MDA5 (CADM-140) Ab	Negative
	SAE1 (SUMO activating enzyme) Ab	Negative
	Antinuclear Antibody (ANA), HEp-2, IgG	Less than 1:80
	Fibrillarin (U3 RNP) Ab, IgG	Negative
	SSA-60 (Ro60) (ENA) Antibody, IgG	40 AU/mL or less
	OJ (isoleucyl-tRNA synthetase) Antibody	Negative
	SRP (Signal Recognition Particle) Ab	Negative
	Ku Antibody	Negative
	EJ (glycyl-tRNA synthetase) Antibody	Negative
	P155/140 Antibody	Negative
	PL-12 (alanyl-tRNA synthetase) Antibody	Negative
	PL-7 (threonyl-tRNA synthetase) Antibody	Negative
	Mi-2 (nuclear helicase protein) Antibody	Negative
	PM/Scl 100 Antibody, IgG	Negative
	Jo-1 (Histidyl-tRNA Synthetase) Ab, IgG	40 AU/mL or less
	SSA-52 (Ro52) (ENA) Antibody, IgG	40 AU/mL or less
	Smith/RNP (ENA) Ab, IgG	19 Units or less

TEST CHANGE

Polymyositis Panel

3018868, POLY MYO2

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST)
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer 4~~two 1~~ mL ~~serum aliquots~~ to an ARUP standard transport tube~~s~~. (Min: 3~~0.5~~ mL~~/aliquot~~)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, hyperlipemic, icteric, heat-treated, or contaminated specimens
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 month
Methodology:	Qualitative Immunoprecipitation / Semi-Quantitative Multiplex Bead Assay / Semi-Quantitative Indirect Fluorescent Antibody (IFA) / Qualitative Immunoblot
Performed:	Mon, Tue, Thu, Fri
Reported:	7-18 days
Note:	Antibodies: PL-7, PL12, EJ, OJ, SRP, Jo-1, ANA, Ha, Ks, Zo
CPT Codes:	83516 x5; 86235; 84182 x3; 86039
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Refer to report.

Component	Interpretation
Jo-1 Antibody, IgG	29 AU/mL or less: Negative 30-40 AU/mL: Equivocal 41 AU/mL or greater: Positive

Reference Interval:

Test Number	Components	Reference Interval
	Zo (phenylalanyl-tRNA synthetase) Ab	Negative
	Ks (asparaginyl-tRNA synthetase) Ab	Negative
	Ha (tyrosyl-tRNA synthetase) Ab	Negative
	Antinuclear Antibody (ANA), HEp-2, IgG	Less than 1:80
	OJ (isoleucyl-tRNA synthetase) Antibody	Negative
	SRP (Signal Recognition Particle) Ab	Negative
	EJ (glycyl-tRNA synthetase) Antibody	Negative
	PL-12 (alanyl-tRNA synthetase) Antibody	Negative
	PL-7 (threonyl-tRNA synthetase) Antibody	Negative
	Jo-1 (Histidyl-tRNA Synthetase) Ab, IgG	40 AU/mL or less

TEST CHANGE

Interstitial Lung Disease Autoantibody Panel

3018869, ILD PANEL2

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST).
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer ~~3 to~~ 4.5 mL to ARUP standard transport tube. (Min: 3~~1~~.5 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Hemolyzed, hyperlipemic, icteric, heat-treated, or contaminated specimens.
Remarks:	
Stability:	Ambient: 24 hours; Refrigerated: 1 weeks; Frozen: 1 month
Methodology:	Qualitative Immunoprecipitation / Semi-Quantitative Multiplex Bead Assay / Qualitative Immunoblot / Semi-Quantitative Enzyme-Linked Immunosorbent Assay (ELISA) / Quantitative Immunoturbidimetry / Semi-Quantitative Indirect Fluorescent Antibody (IFA) / Qualitative Particle-Based Multianalyte Technology (PMAT)
Performed:	Sun-Sat
Reported:	7-18 days
Note:	Antibodies: Ro52, Ro60, Jo-1, PL-7, PL12, EJ, Ku, SRP, OJ, PM/Scl-100, MDA5, CCP, Scl-70, RA, ANA, NXP-2, RNA Polymerase III, Ha, Ks, Zo
CPT Codes:	86235 x5; 83516 x9; 84182 x3; 86431; 86200; 86039
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

SSA-52 (Ro52) (ENA) Antibody, IgG	29 AU/mL or Less: Negative 30-40 AU/mL: Equivocal 41 AU/mL or greater: Positive
SSA-60 (Ro60) (ENA) Antibody, IgG	29 AU/mL or Less: Negative 30-40 AU/mL: Equivocal 41 AU/mL or greater: Positive
Scleroderma (Scl-70) (ENA) Antibody, IgG	29 AU/mL or Less: Negative 30-40 AU/mL: Equivocal 41 AU/mL or greater: Positive
Jo-1 Antibody, IgG	29 AU/mL or Less: Negative 30-40 AU/mL: Equivocal 41 AU/mL or greater: Positive
Cyclic Citrullinated Peptide (CCP) Ab, IgG/A	19 Units or less: Negative 20-39 Units: Weak positive 40-59 Units: Moderate positive 60 Units or Greater: Strong positive
RNA Polymerase III Antibody, IgG	19 Units or less: Negative 20-39 Units: Weak positive 40-80 Units: Moderate positive 81 Units or Greater: Strong positive

Reference Interval:

Test Number	Components	Reference Interval
	Zo (phenylalanyl-tRNA synthetase) Ab	Negative
	Ks (asparaginyl-tRNA synthetase) Ab	Negative
	Ha (tyrosyl-tRNA synthetase) Ab	Negative
	Cyclic Citrullinated Peptide Ab, IgG/A	19 Units or less
	NXP2 (Nuclear matrix protein-2) Ab	Negative
	MDA5 (CADM-140) Ab	Negative
	Antinuclear Antibody (ANA), HEp-2, IgG	Less than 1:80
	SSA-60 (Ro60) (ENA) Antibody, IgG	40 AU/mL or less
	OJ (isoleucyl-tRNA synthetase) Antibody	Negative
	SRP (Signal Recognition Particle) Ab	Negative
	Ku Antibody	Negative
	EJ (glycyl-tRNA synthetase) Antibody	Negative
	PL-12 (alanyl-tRNA synthetase) Antibody	Negative
	PL-7 (threonyl-tRNA synthetase) Antibody	Negative
	PM/Scl 100 Antibody, IgG	Negative
	RNA Polymerase III Antibody, IgG	19 Units or less
	Jo-1 (Histidyl-tRNA Synthetase) Ab, IgG	40 AU/mL or less
	SSA-52 (Ro52) (ENA) Antibody, IgG	40 AU/mL or less
	Scleroderma (Scl-70) (ENA) Antibody, IgG	40 AU/mL or less
	Rheumatoid Factor	0-14 IU/mL

TEST CHANGE

Dermatomyositis Autoantibody Panel

3018870, DERM PAN2

Specimen Requirements:	
Patient Preparation:	
Collect:	Serum separator tube (SST)
Specimen Preparation:	Separate from cells ASAP or within 2 hours of collection. Transfer ~~3 to~~ 4 mL to ARUP standard transport tube. (Min: 3~~1.5~~ mL)
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Hemolyzed, hyperlipemic, icteric, heat-treated, or contaminated specimens
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year
Methodology:	Qualitative Immunoprecipitation / Qualitative Immunoblot / Semi-Quantitative Indirect Fluorescent Antibody (IFA) / Qualitative Particle-Based Multianalyte Technology (PMAT)
Performed:	Sun-Sat
Reported:	7-18 days
Note:	Antibodies: Mi-2, P155/140, SAE1, MDA5, NXP2, TIF1-gamma, ANA
CPT Codes:	83516 x6; 86039
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Reference Interval:	

Test Number	Components	Reference Interval
	TIF-1 gamma (155 kDa) Ab	Negative
	NXP2 (Nuclear matrix protein-2) Ab	Negative
	MDA5 (CADM-140) Ab	Negative
	SAE1 (SUMO activating enzyme) Ab	Negative
	Antinuclear Antibody (ANA), HEp-2, IgG	Less than 1:80
	P155/140 Antibody	Negative
	Mi-2 (nuclear helicase protein) Antibody	Negative

NEW TEST

Click for Pricing

ThinPrep PAP Test (Standalone)

3018968, TP REQUEST

Specimen Requirements:	
Patient Preparation:	
Collect:	Cervical specimen in a ThinPrep Pap Test Collection Vial, PK/25 (ARUP Supply #51325). Cytology collection devices available: Rover Combi Brush - PK/25 (ARUP Supply #64001) , Broom - PK/100 (ARUP Supply #22218) , Combi Brush/Spatula - PK/25 (ARUP Supply #51326) , Endocervical Brush - Each (ARUP Supply #11440). Available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at 800-522-2787. For specific instructions refer to Specimen Collection and Handling.
Specimen Preparation:	Transport cervical specimen in the original collection kit.
Transport Temperature:	Room temperature.
Unacceptable Conditions:	Specimens not collected in a ThinPrep Pap Test collection vial. Specimens submitted in an expired collection vial.
Remarks:	
Stability:	Ambient: 3 weeks; Refrigerated: 3 weeks; Frozen: Unacceptable
Methodology:	Qualitative Microscopy / Qualitative Computer Assisted Analysis
Performed:	Mon-Fri
Reported:	3-7 days
Note:	The ThinPrep 2000/5000 Systems are for use in screening for the presence of atypical cells, cervical cancer, or precursor lesions (LSIL, HSIL) as well as other cytologic categories as defined by the Bethesda System for Reporting Cervical Cytology, and is intended as a replacement for the conventional method of Pap smears. The Pap test is a screening test for cervical cancer and its precursors with an inherent false-negative rate. Store collection vials without cytologic samples at room temperature (15to 30). Do not use solution beyond expiration date marked on the vial.
CPT Codes:	88175 (88142 if manual); If reviewed by pathologist add 88141

New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.
Interpretive Data:	
Refer to report.	
Reference Interval:	

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

NEW TEST

Click for Pricing

ThinPrep PAP Test With Reflex to HPV if ASCUS

3018971, TA REQUEST

Specimen Requirements:	
Patient Preparation:	
Collect:	Cervical specimen in a ThinPrep Pap Test Collection Vial, PK/25 (ARUP Supply #51325). Cytology collection devices available: Rover Combi Brush - PK/25 (ARUP Supply #64001) , Broom - PK/100 (ARUP Supply #22218) , Combi Brush/Spatula - PK/25 (ARUP Supply #51326) , Endocervical Brush - Each (ARUP Supply #11440). Available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at 800-522-2787. For specific instructions refer to Specimen Collection and Handling.
Specimen Preparation:	Transport cervical specimen in the original collection kit.
Transport Temperature:	Ambient
Unacceptable Conditions:	Specimens not collected in a ThinPrep Pap Test collection vial. Specimens submitted in an expired collection vial.
Remarks:	
Stability:	Ambient: 3 weeks; Refrigerated: 3 weeks; Frozen: Unacceptable
Methodology:	Qualitative Microscopy / Qualitative Computer Assisted Analysis
Performed:	Mon-Fri
Reported:	3-7 days
Note:	If the ThinPrep Pap test is interpreted as atypical squamous of undetermined significance (ASCUS), then Human Papillomavirus (HPV), High Risk Screen by Transcription-Mediated Amplification (TMA), with Reflex to Genotypes 16 and 18/45 (ARUP test code 3016945) will be performed and reported under a separate accession. Additional charges apply. The Pap test is a screening test for cervical cancer and its precursors with an inherent false-negative rate. Store collection vials without cytologic samples at room temperature (15to 30). Do not use solution beyond expiration date marked on the vial.

CPT Codes:	88175 (88142 if manual); If reviewed by pathologist add 88141; if reflexed, add 87624 HPV
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.
Interpretive Data: Refer to report.	
Reference Interval:	

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

NEW TEST

Click for Pricing

ThinPrep PAP Test With Co-Test HPV

3018973, TM REQUEST

Specimen Requirements:	
Patient Preparation:	
Collect:	Cervical specimen in a ThinPrep Pap Test Collection Vial, PK/25 (ARUP Supply #51325). Cytology collection devices available: Rover Combi Brush - PK/25 (ARUP Supply #64001) , Broom - PK/100 (ARUP Supply #22218) , Combi Brush/Spatula - PK/25 (ARUP Supply #51326) , Endocervical Brush - Each (ARUP Supply #11440). Available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at 800-522-2787. For specific instructions refer to Specimen Collection and Handling.
Specimen Preparation:	Transport cervical specimen in the original collection kit.
Transport Temperature:	Ambient
Unacceptable Conditions:	Specimens not collected in a ThinPrep Pap Test collection vial or specimens submitted in an expired collection vial.
Remarks:	
Stability:	Ambient: 3 weeks; Refrigerated: 3 weeks; Frozen: Unacceptable
Methodology:	Qualitative Microscopy / Qualitative Computer Assisted Analysis
Performed:	Mon-Fri
Reported:	3-7 days
Note:	In addition to the ThinPrep Pap test, Human Papillomavirus (HPV), High Risk Screen by Transcription-Mediated Amplification (TMA), With Reflex to Genotypes 16 and 18/45 (ARUP test code 3016945) will be performed and reported under a separate accession. Additional charges apply. The Pap test is a screening test for cervical cancer and its precursors with an inherent false-negative rate. Store collection vials without cytologic samples at room temperature (15to 30). Do not use solution beyond expiration date marked on the vial.
CPT Codes:	88175 (88142 if manual); If reviewed by pathologist add 88141;

	87624 HPV
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.
Interpretive Data: Refer to report.	
Reference Interval:	

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

NEW TEST

Click for Pricing

Hemochromatosis (HFE) 3 Variants

3019007, HFEPCR

Specimen Requirements:	
Patient Preparation:	
Collect:	Lavender (EDTA), pink (K2EDTA), or yellow (ACD solution A or B).
Specimen Preparation:	Transport 3 mL whole blood. (Min: 1 mL)
Transport Temperature:	Refrigerated
Unacceptable Conditions:	Frozen specimens in glass collection tubes.
Remarks:	
Stability:	Ambient: 72 hours; Refrigerated: 1 week; Frozen: 1 month
Methodology:	Polymerase Chain Reaction (PCR) / Fluorescence Monitoring
Performed:	Sun-Sat
Reported:	2-7 days
Note:	This test is not recommended for asymptomatic patients under 18 years of age.
CPT Codes:	81256
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Reference Interval:	

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

NEW TEST – Available Now

Click for Pricing

Measles Virus by Qualitative NAAT

3019269, MEASLESPCR

Specimen Requirements:	
Patient Preparation:	
Collect:	Preferred: Respiratory swab (nasal, nasopharyngeal, oropharyngeal, and throat) Also Acceptable: Urine in Aptima Urine Collection Kit.
Specimen Preparation:	Swab: Place swab in viral transport media (ARUP Supply #12884). Available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at 800-522-2787. Urine: Transfer 2 mL urine within 24 hours to an Aptima Urine Specimen Transport Tube (ARUP supply #28908 PK/50 or 54556 PK/10). Liquid level must be between fill lines on tube.
Transport Temperature:	Frozen
Unacceptable Conditions:	Swabs not in viral transport media.
Remarks:	
Stability:	Ambient: 3 days; Refrigerated: 7 days; Frozen: 30 days
Methodology:	Qualitative Nucleic Acid Amplification Test (NAAT)
Performed:	Sun-Sat
Reported:	1-3 days
Note:	
CPT Codes:	87798 x2
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.

Interpretive Data:

A negative result does not rule out the presence of PCR inhibitors in the patient specimen or assay-specific nucleic acid in
concentrations below the level of detection by this assay.

Reference Interval:

Test Number	Components	Reference Interval
	Measles Virus, NAAT	Not Detected
	Measles Virus Vaccine Strain, NAAT	Not Detected

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

NEW TEST

Click for Pricing

Medium Chain Acyl-CoA Dehydrogenase (ACADM) 2 Variants

3019336, MCAD_PCR

Specimen Requirements:	
Patient Preparation:	
Collect:	Lavender (EDTA), pink (K2EDTA), or yellow (ACD solution A or B).
Specimen Preparation:	Transport 3 mL whole blood. (Min: 1 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Frozen specimens in glass collection tubes.
Remarks:	
Stability:	Ambient: 72 hours; Refrigerated: 1 week; Frozen: 1 month
Methodology:	Polymerase Chain Reaction (PCR) / Fluorescence Monitoring
Performed:	Sun-Sat
Reported:	3-5 days
Note:	
CPT Codes:	81401
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Reference Interval:

Test Number	Components	Reference Interval

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

NEW TEST

Click for Pricing

RhD Gene (RHD) Copy Number by PCR

3019342, RHD PCR

Specimen Requirements:	
Patient Preparation:	
Collect:	Lavender (EDTA), pink (K2EDTA), or yellow (ACD solution A or B).
Specimen Preparation:	Transport 3 mL whole blood. (Min: 1 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Frozen specimens in glass collection tubes.
Remarks:	Patient History Form is available on the ARUP website or by contacting ARUP Client Services.
Stability:	Ambient: 72 hours; Refrigerated: 1 week; Frozen: 1 month
Methodology:	Polymerase Chain Reaction (PCR) / Fluorescence Monitoring
Performed:	Varies
Reported:	2-7 days
Note:	Whole blood is acceptable for paternal specimens.
CPT Codes:	81403
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report.	
Reference Interval:	
By report	

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

NEW TEST – Available Now

Click for Pricing

ICOS by Immunohistochemistry

3019353, ICOS_IHC

Specimen Requirements:	
Patient Preparation:	
Collect:	Tissue or cells.
Specimen Preparation:	Formalin fix (10 percent neutral buffered formalin) and paraffin embed specimen (cells must be prepared into a cellblock). Protect paraffin block and/or slides from excessive heat. Transport tissue block or 5 unstained (3- to 5-micron thick sections), positively charged slides in a tissue transport kit (ARUP supply #47808). Available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at 800-522-2787. (Min: 2 slides). If sending precut slides, do not oven bake.
Transport Temperature:	Room temperature or refrigerated. Ship in cooled container during summer months.
Unacceptable Conditions:	Specimens submitted with nonrepresentative tissue type. Depleted specimens.
Remarks:	IMMUNOHISTOCHEMISTRY ORDERING AND SUBMISSION DETAILS : Submit electronic request. If you do not have electronic ordering capability, use an ARUP Immunohistochemistry Stain Form (#32978) with an ARUP client number. For additional technical details, contact ARUP Client Services at 800-522-2787.
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
Methodology:	Immunohistochemistry (IHC)
Performed:	Mon-Fri
Reported:	1-3 days
Note:	This test is performed as a stain and return (technical) service only.
CPT Codes:	88342

New York DOH Approval Status: This test is New York DOH approved.

Interpretive Data:

Reference Interval:

Test Number	Components	Reference Interval

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

NEW TEST

Click for Pricing

Ankylosing Spondylitis (HLA-B27) Genotyping

3019466, HLA-B27PCR

Specimen Requirements:	
Patient Preparation:	
Collect:	Lavender (EDTA), pink (K2EDTA), or yellow (ACD solution A or B).
Specimen Preparation:	Transport 3 mL whole blood. (Min: 1 mL)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Plasma or serum; collection of specimen in sodium heparin tubes. Frozen specimens in glass collection tubes.
Remarks:	
Stability:	Ambient: 72 hours; Refrigerated: 1 week; Frozen: 1 month
Methodology:	Polymerase Chain Reaction (PCR)/Fluorescence Monitoring
Performed:	Sun-Sat
Reported:	3-7 days
Note:	
CPT Codes:	81374
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report. Counseling and informed consent are recommended for genetic testing. Consent forms are available online.	
Reference Interval:	
By report	

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

NEW TEST

Click for Pricing

THC Metabolite, with Ratio, Urine

3019471, THC CRT

Specimen Requirements:	
Patient Preparation:	
Collect:	Random urine.
Specimen Preparation:	Transfer 1 mL urine with no additives or preservatives to an ARUP standard transport tube. (Min: 0.5 mL)
Transport Temperature:	Room temperature.
Unacceptable Conditions:	Unknown fluids, pharmaceutical preparation, and breast milk.
Remarks:	
Stability:	Ambient: 1 week; Refrigerated: 1 month; Frozen: 1 Month
Methodology:	Quantitative High Performance Liquid Chromatography-Tandem Mass Spectrometry
Performed:	Sun-Sat
Reported:	1-5 days
Note:	
CPT Codes:	82570; 80349 (Alt code: G0480)
New York DOH Approval Status:	Specimens from New York clients will be sent out to a New York DOH approved laboratory, if possible.
Interpretive Data:	

Reference Interval:

Test Number	Components	Reference Interval

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

NEW TEST – Available Now

Click for Pricing

H3K36M by Immunohistochemistry

3019538, H3K36MIHC

Specimen Requirements:	
Patient Preparation:	
Collect:	Tissue or cells.
Specimen Preparation:	Formalin fix (10 percent neutral buffered formalin) and paraffin embed specimen (cells must be prepared into a cellblock). Protect paraffin block and/or slides from excessive heat. Transport tissue block or 5 unstained (3- to 5-micron thick sections), positively charged slides in a tissue transport kit (ARUP supply #47808). Available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at 800-522-2787. (Min: 2 slides). If sending precut slides, do not oven bake.
Transport Temperature:	Room temperature or refrigerated. Ship in cooled container during summer months.
Unacceptable Conditions:	Specimens submitted with nonrepresentative tissue type. Depleted specimens.
Remarks:	IMMUNOHISTOCHEMISTRY ORDERING AND SUBMISSION DETAILS : Submit electronic request. If you do not have electronic ordering capability, use an ARUP Immunohistochemistry Stain Form (#32978) with an ARUP client number. For additional technical details, contact ARUP Client Services at 800-522-2787.
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
Methodology:	
Performed:	Mon-Fri
Reported:	1-3 days
Note:	This test is performed as a stain and return (technical) service only.
CPT Codes:	88342

New York DOH Approval Status: This test is New York DOH approved.

Interpretive Data:

Reference Interval:

Test Number	Components	Reference Interval

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

NEW TEST – Available Now

Click for Pricing

Alpha Globin (HBA1 and HBA2) Sequencing and Deletion/Duplication, Fetal

3019566, HBA FGA FE

Specimen Requirements:	
Patient Preparation:	
Collect:	Fetal Specimen: Two T-25 flasks at 90% confluent of cultured amniocytes or cultured chorionic villus sampling (CVS). AND Maternal Whole Blood Specimen: Lavender (EDTA), pink (K2EDTA), or yellow (ACD solution A or B).
Specimen Preparation:	Cultured Amniocytes or Cultured CVS: Fill flasks with culture media. Transport two T-25 flasks at 90 percent confluent of cultured amniocytes or cultured CVS filled with culture media. Backup cultures must be retained at the client's insitution until testing is complete. If ARUP receives a sample below the minimum confluence, Cytogenetics Grow and Send (0040182) will be added on by ARUP, and additional charges will apply. If clients are unable to culture specimens, Cytogenetics Grow and Send should be added to initial order. Maternal Whole Blood Specimen: Transport 3 mL whole blood. (Min: 1 mL).
Transport Temperature:	Cultured Amniocytes or Culture CVS: CRITICAL ROOM TEMPERATURE. Separate specimens must be submitted when mulitple tests are ordered. Must be received within 48 hours of shipment due to viability of cells. Maternal Specimen: Refrigerated
Unacceptable Conditions:	Frozen specimens
Remarks:	
Stability:	Cultured Amniocytes or Cultured CVS: Room temperature: 48 hours; Refrigerated: Unacceptable; Frozen: Unacceptable Maternal Whole Blood Specimen: Room temperature: 7 days; Refrigerated: 1 month; Frozen: Unacceptable
Methodology:	Qualitative Multiplex Ligation-Dependent Probe Amplification (MLPA)/Qualitative Sequencing
Performed:	Varies
Reported:	14-21 days
Note:	Reported times are based on receiving the two T-25 flasks at 90 percent confluent. Cell culture time is independent of

	testing turnaround time. Maternal specimen is recommended for proper test interpretation. Order Maternal Cell Contamination.
CPT Codes:	81259; 81269; 81265
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	
Refer to report	
Reference Interval:	
By report	

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

NEW TEST

Click for Pricing

Bicarbonate, Urine

3019581, BICARBON

Specimen Requirements:	
Patient Preparation:	
Collect:	Urine
Specimen Preparation:	Transfer 1 mL urine to an ARUP standard transport tube. (Min: 0.3 mL) Test is not performed at ARUP; separate specimens must be submitted when multiple tests are ordered.
Transport Temperature:	
Unacceptable Conditions:	
Remarks:	
Stability:	Ambient: 48 hours; Refrigerated: 30 days; Frozen: 1 month
Methodology:	Quantitative Enzymatic Assay
Performed:	Varies
Reported:	5-9 days
Note:	
CPT Codes:	82374
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Reference Interval:

Test Number	Components	Reference Interval

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

NEW TEST

Click for Pricing

Bicarbonate, Body Fluid

3019583, BICARB BF

Specimen Requirements:	
Patient Preparation:	
Collect:	Body fluid
Specimen Preparation:	Transfer 1 mL body fluid to an ARUP standard transport tube. (Min: 0.3 mL) Test is not performed at ARUP; separate specimens must be submitted when multiple tests are ordered.
Transport Temperature:	Refrigerated. Also acceptable: Ambient or frozen
Unacceptable Conditions:	
Remarks:	
Stability:	Ambient: Undetermined; Refrigerated: Undetermined; Frozen: Undetermined
Methodology:	Quantitative Enzymatic Assay
Performed:	Varies
Reported:	8-11 days
Note:	
CPT Codes:	82374
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Reference Interval:

Test Number	Components	Reference Interval

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

NEW TEST – Available Now

Click for Pricing

Antimicrobial Susceptibility - Carbapenemase Detection by CARBA5

3019585, MA CARBA5

Specimen Requirements:	
Patient Preparation:	
Collect:	Actively growing Enterobacterales or Pseudomonas aeruginosa in pure culture.
Specimen Preparation:	Transport sealed container with pure culture on agar slant/bacterial transport media. Place each specimen in an individually sealed bag.
Transport Temperature:	
Unacceptable Conditions:	Specimen: FFPE and specimens in formalin. Rectal eSwab.
Remarks:	Isolate identification (for cultures) and specimen source required.
Stability:	Ambient: 1 week; Refrigerated: 1 week; Frozen: Unacceptable
Methodology:	Qualitative Immunochromatography
Performed:	Sun-Sat
Reported:	2-3 days
Note:	An additional processing fee will be billed for all isolates not submitted in pure culture, as indicated in the specimen requirements. If species identification is not provided, identification will be performed at ARUP. Additional charges apply.
CPT Codes:	87185 x5
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Reference Interval:

Test Number	Components	Reference Interval

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

NEW TEST

Click for Pricing

Methotrexate, Serum or Plasma

3019648, METHOTREX

Specimen Requirements:	
Patient Preparation:	
Collect:	Plain red, lavender (K2EDTA), or green (sodium heparin)
Specimen Preparation:	Transfer 1 mL serum or plasma to an ARUP standard transport tube. (Min: 0.3 mL) Test is not performed at ARUP; separate specimens must be submitted when multiple tests are ordered.
Transport Temperature:	Room temperature. Also acceptable: Refrigerated or frozen.
Unacceptable Conditions:	Polymer gel separation tube (SST or PST)
Remarks:	
Stability:	Ambient: 2 weeks; Refrigerated: 2 weeks; Frozen: 2 weeks
Methodology:	Liquid Chromatography-Tandem Mass Spectrometry
Performed:	Varies
Reported:	6-8 days
Note:	
CPT Codes:	80204
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Reference Interval:

Test Number	Components	Reference Interval

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

NEW TEST

Click for Pricing

Lactate, Plasma

3019650, LACTATE P

Specimen Requirements:	
Patient Preparation:	Patient should be fasting and at complete rest and avoid any exercise of the arm or hand before or during collection. Avoid hand clenching and draw the specimen without the use of a tourniquet if possible. A tourniquet with patient clenching and unclenching hand will lead to high potassium and lactic acid buildup from the hand muscles, and pH will decrease.
Collect:	Gray (potassium oxalate/sodium fluoride) prechilled in ice bath. Collect blood without stasis.
Specimen Preparation:	Mix well by gentle inversion then return to ice bath. Separate from cells within 15 minutes and transfer 1 mL plasma to an ARUP standard transport tube. (Min: 0.5 mL) Test is not performed at ARUP; separate specimens must be submitted when multiple tests are ordered.
Transport Temperature:	Refrigerated
Unacceptable Conditions:	
Remarks:	
Stability:	Ambient: 2 weeks; Refrigerated: 2 weeks; Frozen: 2 weeks
Methodology:	Quantitative Spectrophotometry
Performed:	Varies
Reported:	4-6 days
Note:	
CPT Codes:	83605
New York DOH Approval Status:	This test is New York DOH approved.

Interpretive Data:

Reference Interval:

Test Number	Components	Reference Interval

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

NEW TEST – Available Now

Click for Pricing

TRBC1 by Immunohistochemistry

3019652, TRBC1_IHC

Specimen Requirements:	
Patient Preparation:	
Collect:	Tissue or cells.
Specimen Preparation:	Formalin fix (10 percent neutral buffered formalin) and paraffin embed specimen (cells must be prepared into a cellblock).Protect paraffin block and/or slides from excessive heat. Transport tissue block or 5 unstained (3- to 5-micron thicksections), positively charged slides in a tissue transport kit (ARUP supply #47808). Available online through eSupply usingARUP Connect(TM) or contact ARUP Client Services at 800-522-2787. (Min: 2 slides). If sending precut slides, do not ovenbake.
Transport Temperature:	Room temperature or refrigerated. Ship in cooled container during summer months.
Unacceptable Conditions:	Specimens submitted with nonrepresentative tissue type. Depleted specimens.
Remarks:	IMMUNOHISTOCHEMISTRY ORDERING AND SUBMISSION DETAILS : Submit electronic request. If you do not have electronicordering capability, use an ARUP Immunohistochemistry Stain Form (#32978) with an ARUP client number. For additionaltechnical details, contact ARUP Client Services at 800-522-2787.
Stability:	Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable
Methodology:	Immunohistochemistry (IHC)
Performed:	Mon-Fri
Reported:	1-3 days
Note:	This test is performed as a stain and return (technical) service only.
CPT Codes:	88342

New York DOH Approval Status: This test is New York DOH approved.

Interpretive Data:

Reference Interval:

Test Number	Components	Reference Interval

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

NEW TEST

Click for Pricing

Lactate, CSF

3019672, LACT CSF

Specimen Requirements:	
Patient Preparation:	
Collect:	CSF
Specimen Preparation:	Centrifuge to remove cellular material. Transfer 1 mL CSF to an ARUP standard transport tube. (Min: 0.5 mL) Test is not performed at ARUP; separate specimens must be submitted when multiple tests are ordered.
Transport Temperature:	CRITICAL FROZEN
Unacceptable Conditions:	
Remarks:	
Stability:	Ambient: 3 hours; Refrigerated: 24 hours; Frozen: 2 months
Methodology:	Quantitative Colorimetry
Performed:	Varies
Reported:	7-11 days
Note:	
CPT Codes:	83605
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Reference Interval:

Test Number	Components	Reference Interval

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

NEW TEST

Click for Pricing

UPD Glucuronosyltransferase 1A1 (UGT1A1) and Dihydropyrimidine Dehydrogenase (DPYD) Genotyping

3019841, UGT1A1DPYD

Specimen Requirements:	
Patient Preparation:	
Collect:	Two tubes of lavender (EDTA), pink (K2EDTA).
Specimen Preparation:	Transport 3 mL whole blood in each tube. (Min: 1 mL in each tube)
Transport Temperature:	Refrigerated.
Unacceptable Conditions:	Heparinized specimens. Frozen specimens in glass collection tubes.
Remarks:	
Stability:	Ambient: 72 hours; Refrigerated: 1 week
Methodology:	Polymerase Chain Reaction (PCR) / Fluorescence Monitoring / Fragment Analysis
Performed:	Varies
Reported:	5-10 days
Note:	
CPT Codes:	81232; 81350
New York DOH Approval Status:	This test is New York DOH approved.
Interpretive Data:	

Reference Interval:

Test Number	Components	Reference Interval

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

ARUP LABORATORIES

A nonprofit enterprise of the University of Utah and its Department of Pathology

Inactivations

The following will be discontinued from ARUP's test menu on July 21, 2025
Replacement test options are indicated when applicable.

Test Number	Test Name	Refer to Replacement Test
0020045	Lactic Acid, Plasma(Change effective as of 07/21/25: Refer to 3019650 in the July Hotline)	Lactate, Plasma (3019650)
0020245	Bicarbonate (HCO[3]), Urine (Change effective as of 07/21/25: Refer to 3019581 in the July Hotline)	Bicarbonate, Urine (3019581)
0020504	Lactic Acid, Body Fluid(Inactive as of 07/21/25)	
0020516	Lactic Acid, CSF(Change effective as of 07/21/25: Refer to 3019672 in the July Hotline)	Lactate CSF (3019672)
0050392	Ankylosing Spondylitis (HLA-B27) Genotyping (Change effective as of 7/21/2025: Refer to 3019466 in the July Hotline)	Ankylosing Spondylitis (HLA-B27) Genotyping (3019466)
0051205	Medium Chain Acyl-CoA Dehydrogenase (ACADM) 2 Mutations (Change effective as of 07/21/25: Refer to 3019336 in the July Hotline)	Medium Chain Acyl-CoA Dehydrogenase (ACADM) 2 Variants (3019336)
0051368	RhD Gene (RHD) Copy Number (Change effective as of 7/21/25: Refer to 3019342 in the July Hotline)	RhD Gene (RHD) Copy number (3019342)
0055656	Hemochromatosis (HFE) 3 Mutations (Change effective as of 07/21/25: Refer to 3019007 in the July Hotline)	Hemochromatosis (HFE) 3 Variants (3019007)
0080315	Phenylalanine Monitoring, Plasma (Change effective as of 07/21/25: Refer to 0080336)	Phenylalanine and Tyrosine (0080336)
0080355	Tyrosine, Plasma (Change effective as of 07/21/25: Refer to 0080336)	Phenylalanine and Tyrosine (0080336)

Test Number	Test Name	Refer to Replacement Test
0081105	Cystinuria Panel (Change effective as of 07/21/25: Refer to 2009419)	Amino Acids Quantitative by LC-MS/MS, Urine (2009419)
2000136	Cytology, ThinPrep Pap Test and Human Papillomavirus (HPV) High Risk Screen by Transcription-Mediated Amplification (TMA), With Reflex to Genotypes 16 and 18/45 (Change effective as of 07/21/25: Refer to 3018973 in the July Hotline)	ThinPrep PAP Test With Co-Test HPV (3018973)
2000137	Cytology, ThinPrep Pap Test (Change effective as of 07/21/25: Refer to 3018968 in the July Hotline)	ThinPrep PAP Test (Standalone) (3018968)
2000138	Cytology, ThinPrep Pap Test With Reflex to Human Papillomavirus (HPV), High Risk Screen by Transcription-Mediated Amplification (TMA), With Reflex to Genotypes 16 and 18/45 (Change effective as of 07/21/25: Refer to 3018971 in the July Hotline)	ThinPrep PAP test with reflex to HPV if ASCUS (3018971)
2005405	Methotrexate, Sensitive(Change effective as of 07/21/25: Refer to 3019648 in the July Hotline)	Methotrexate, Serum or Plasma (3019648)
3000462	Immature PLT Fraction(Inactive as of 07/21/25)	
3005425	Chimerism, Posttransplant, Sorted Cells (Monocytes) (Inactive as of 7/21/25)	
3017866	Dihydropyrimidine Dehydrogenase (DPYD) and UPD Glucuronosyltransferase 1A1 (UGT1A1) Genotyping (Change effective as of 07/21/25: Refer to 3019841 in the July Hotline)	UPD Glucuronosyltransferase 1A1 (UGT1A1) and Dihydropyrimidine Dehydrogenase (DPYD) Genotyping (3019841)