

#### MEDICARE COVERAGE OF LABORATORY TESTING

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

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

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

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

Hotline Page #	Test Number	Summary of Changes by Test Name	Name Change	Methodology	Performed/Reported Schedule	Specimen Requirements	Reference Interval	Interpretive Data	Note	CPT Code	Component Change	Other Interface Change	New Test	Inactive
3	0010003	ABO Group & Rh Type				X								
4	<u>0060152</u>	Acid-Fast Bacillus (AFB) Culture and AFB Stain				X								
4	0030056	ADAMTS13 Activity						X						
20	2007179	Allergen, Food, Artichoke IgE												X
20	2001909	Allergen, Food, Currant Red, IgE												X
4	0055145	Allergen, Tree, Pecan (Hickory) Tree	X											
4	<u>2013601</u>	Autoimmune Encephalitis Reflexive Panel								X				
4	2013944	Autoimmune Neurologic Disease Reflexive Panel								X				



Hotline Page #	Test Number	Summary of Changes by Test Name	Name Change	Methodology	Performed/Reported Schedule	Specimen Requirements	Reference Interval	Interpretive Data	Note	CPT Code	Component Change	Other Interface Change	New Test	Inactive
4	0050141	C1-Esterase Inhibitor Functional				X								
20	0055565	Candida Antibody by ID												X
5	<u>2013798</u>	Candida Species by PCR				X								
5	<u>0080055</u>	Carotene, Serum Total				X								
20	<u>2003571</u>	CD44 by Immunohistochemistry												X
6	0025068	Chromium, Urine			X	X	X							
6	<u>0050148</u>	Complement Component 2					X							
6	2002693	Double-Stranded DNA (dsDNA) Antibody, IgG by IFA (using <i>Crithidia luciliae</i> )			X									
7	3000453	14-3-3 eta Protein											X	
8	3000443	Ethyl Glucuronide, Umbilical Cord Tissue, Qualitative											X	
20	0091515	Fluoride Quantitative, Urine												X
8	<u>2014180</u>	Fluoxetine and Metabolite Quantitative, Serum or Plasma				х								
9	3000258	Genetic Carrier Screen, (CF, FXS, and SMA) with Reflex to Methylation											X	
9	<u>0070426</u>	Hemoglobin A1c		X		X	X	X	X					
10	0020799	Hepatitis Delta Virus Antibody			X									
10	<u>2013880</u>	Hepatitis Delta Virus Antibody with Reflex to Hepatitis Delta Virus by Quantitative PCR			X									
10	<u>2012023</u>	Hepatitis E Virus (HEV) Antibodies, IgG and IgM			X									
10	<u>2010151</u>	Hepatitis E Virus (HEV) Antibody, IgG			X									
10	<u>2010156</u>	Hepatitis E Virus (HEV) Antibody, IgM			X									
10	2014234	Human Immunodeficiency Virus 1 (HIV-1) by Qualitative Transcription-Mediated Amplification (TMA)				x								
10	0020284	Human Immunodeficiency Virus Type 1 (HIV-1) Antibody Confirmation by Western Blot			X	71								
11	3000414	Human Papillomavirus (HPV) Genotype 16 and 18 by PCR, Head and Neck											X	
20	0070690	Insulin, Veterinary												X
11	<u>2005689</u>	Japanese Encephalitis Virus Antibodies, IgG and IgM by ELISA					X							
12	<u>2005687</u>	Japanese Encephalitis Virus Antibody, IgG by ELISA					X	X						
12	0091507	Ketamine and Metabolite Quantitative, Serum or Plasma				х								
12	3000440	KIT (D816V) Mutation by PCR											X	



Hotline Page #	Test Number	Summary of Changes by Test Name	Name Change	Methodology	Performed/Reported Schedule	Specimen Requirements	Reference Interval	Interpretive Data	Note	CPT Code	Component Change	Other Interface Change	New Test	Inactive
20	0040137	KIT (D816V) Mutation by PCR												X
13	0092079	Magnesium, RBC			X	X								
13	0025070	Manganese, Urine			X	X	X							
13	0060050	Microsporidia Stain by Modified Trichrome				X		X						
14	0049302	Mismatch Repair by Immunohistochemistry			X									
14	2002327	Mismatch Repair by Immunohistochemistry with Reflex to <i>BRAF</i> Codon 600 Mutation and <i>MLH1</i> Promoter Methylation			X									
14	2005270	Mismatch Repair by Immunohistochemistry with Reflex to <i>MLH1</i> Promoter Methylation			X									
14	3000352	Mucorales by PCR											X	
14	<u>2012729</u>	Non-Criteria Antiphospholipid Syndrome (APS) (aPs, aPt, aPs/aPt) Antibodies Panel					X					x		
15	<u>2002257</u>	Osmotic Fragility, Erythrocyte									X			
15	2002272	Ova and Parasite Exam, Fecal (Immunocompromised or Travel History)				X		x						
15	0060046	Parasitology Stain by Modified Acid-Fast				X		X						
16	<u>3000197</u>	PD-L1 22C3 IHC for Gastric/GEJ with Interpretation, pembrolizumab (KEYTRUDA)											x	
17	<u>3000455</u>	Ph-Like Acute Lymphocytic Leukemia (ALL) Panel by FISH											x	
17	<u>2014041</u>	Potassium, Total, RBC	X			X								
17	0051302	Prothrombin Antibody, IgG					X					Х		
18	3000460	Smith and RNP (U1) (ENA) Antibodies, IgG											X	
18	0099564	Strongyloides Antibody, IgG by ELISA, Serum			X		X	X						
19	2002736	Tramadol and Metabolite, Urine, Quantitative					X	X				X		
19	0050206	Treponema pallidum (VDRL), Cerebrospinal Fluid with Reflex to Titer				X								

0010003 ABO Group & Rh Type

IRL-ABORH

Specimen Required: Collect: Lavender (EDTA) or Pink ( $K_2EDTA$ ).

Specimen Preparation: **Do not freeze red cells.** Transport 3 mL whole blood. (Min 0.5 mL)

**Pediatric:** Transport 0.5 mL (10 drops) whole blood. Storage/Transport Temperature: Refrigerated. Unacceptable Conditions: Separator tubes.

Stability (collection to initiation of testing): Ambient: 72 hours; Refrigerated: 1 week; Frozen: Unacceptable



#### 0060152 Acid-Fast Bacillus (AFB) Culture and AFB Stain

MC AFB

**Specimen Required:** Patient Prep: Recommended collection: Three sputum specimens at 8-24 hour intervals (24 hours when possible) and at least one first-

morning specimen. An individual order must be submitted for each specimen.

Collect: Respiratory specimens. Also acceptable: Body fluid, CSF, gastric aspirate, tissue, or urine.

Specimen Preparation: Place each specimen in an individually sealed bag.

Respiratory Specimens: Transfer (for each collection) 5-10 mL to a sterile container. (Min: 1 mL)

**Body Fluids or CSF:** Transfer 5 mL to a sterile container. (Min: 1 mL)

Gastric Aspirates: Must be neutralized (pH7) with sodium carbonate if transport is delayed for more than four hours. Transfer 5-10

mL to a sterile container. (Min: 1 mL)

Tissue: Transfer to a sterile container and place on gauze moistened with sterile non-bacteriostatic saline to prevent drying. (Min:

Visible)

Urine: Transfer at least 40 mL to a sterile container. (Min: 10 mL)

Storage/Transport Temperature: Refrigerated.

Remarks: Specimen source required.

Unacceptable Conditions: Dry material or material collected and transported on a swab.

Acid Fast Stain: Stool, blood, bone marrow, grossly bloody specimens, CSF if less than 5 mL, or urine specimens if less than 40 mL.

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

#### 0030056 ADAMTS13 Activity

ADAMTS-13

**Interpretive Data:** ADAMTS13 levels of less than 10 percent may be associated with either inherited (Upshaw-Schulman Syndrome) or acquired thrombotic thrombocytopenic purpura (TTP).

A variety of medical conditions may result in a mild to moderate deficiency of ADAMTS13 activity. Recent plasma exchange therapy may raise the observed ADAMTS13 activity.

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

#### 0055145 Allergen, Tree, Pecan (Hickory) Tree

**PECAN TREE** 

**HOTLINE NOTE:** Name change only.

#### **2013601** Autoimmune Encephalitis Reflexive Panel

**AUTOENCEPH** 

CPT Code(s): 83519; 83516; 86255; 86341; if reflexed add 86255 x2, if further reflexed add 86256 per titer; if reflexed add 86256; if reflexed add

86255, if further reflexed add 86256

#### 2013944 Autoimmune Neurologic Disease Reflexive Panel

NEURO R

**CPT Code(s):** 83519 x3; 83516 x3; 86255 x4; 86341; if reflexed add 86256; if reflexed add

further reflexed add 86256; if reflexed add 86255 x2 if further reflexed add 86256 per titer; if reflexed add 83516; if reflexed add

83516 and/or 86256

#### 0050141 C1-Esterase Inhibitor Functional

C1 INH F

Specimen Required: Collect: 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 and freeze immediately. (Min: 0.1 mL)

Storage/Transport Temperature: CRITICAL FROZEN. Separate specimens must be submitted when multiple tests are ordered.

Unacceptable Conditions: Non-frozen specimens.

Stability (collection to initiation of testing): After separation from cells: Ambient: 2 hours; Refrigerated: Unacceptable; Frozen: 2

weeks



2013798 Candida Species by PCR **CANDPCR** 

Specimen Required: Collect: Body fluid, tissue, Lavender (EDTA), Pink (K2EDTA), or pure isolate of Candida species on potato dextrose agar (PDA),

sabouraud dextrose agar, sheep blood agar, chocolate agar, or inhibitory mold agar.

Specimen Preparation: Body Fluid: Transfer 1 mL body fluid to a sterile container. (Min: 0.5 mL)

Whole Blood: Transfer 2 mL whole blood to a sterile container. (Min: 1 mL)

Tissue: Transfer to a sterile container and freeze immediately.

Isolate: Transport sealed container with pure isolate on solid media. Place each specimen in an individually sealed bag.

Storage/Transport Temperature: Body Fluid or Tissue: Frozen.

Isolate or Whole Blood: Refrigerated.

Remarks: Specimen source required.

Unacceptable Conditions: Plasma, serum, mixed cultures or isolates other than suspected Candida species. Isolates with no visible

colonies. Isolates plated on CHROMagar chromogenic culture media.

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

Whole Blood: Ambient: 1 week; Refrigerated; 1 week; Frozen: 1 week Tissue: Ambient: Unacceptable; Refrigerated: Unacceptable; Frozen: 2 weeks Isolate: Ambient: 1 week; Refrigerated; 2 weeks; Frozen: Unacceptable

0080055 Carotene, Serum Total

**CARO** 

Specimen Required: Patient Prep: Fasting specimens preferred.

Collect: Serum Separator Tube (SST).

Specimen Preparation: CRITICAL: Protect from light immediately after collection and during storage and shipment. Transfer 3 mL serum to ARUP Amber Transport Tube. (Min: 0.6 mL)

Storage/Transport Temperature: Frozen. Separate specimens must be submitted when multiple tests are ordered.

<u>Unacceptable Conditions:</u> Any specimen other than serum. Hemolyzed or icteric specimens.

Stability (collection to initiation of testing): After separation from cells: Ambient: Unacceptable; Refrigerated: 4 hours; Frozen: 1

month



CR-U 0025068 Chromium, Urine

Performed: Sun-Sat Reported: 1-3 days

Specimen Required: Patient Prep: 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: 24-hour or random urine collection. Specimen must be collected in a plastic container. ARUP studies indicate that refrigeration of urine alone, during and after collection, preserves specimens adequately, if tested within 14 days of collection. Specimen Preparation: Transfer an 8 mL aliquot from a well-mixed collection to ARUP Trace Element-Free Transport Tubes (ARUP supply #43116) available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522-2787. (Min: 1 mL)

Storage/Transport Temperature: Refrigerated. Also acceptable: Room temperature or frozen.

Remarks: Record total volume and collection time interval on transport tube and on test request form.

Unacceptable Conditions: Urine collected within 72 hours after administration of iodinated or gadolinium-based contrast media. Acid preserved urine. Specimens contaminated with blood or fecal material. Specimens transported in non-trace element-free transport tube (with the exception of the original device).

Stability (collection to initiation of testing): Ambient: 1 week; Refrigerated: 2 weeks; Frozen: 1 year

#### **Reference Interval:**

Effective May 21, 2018

Test Number	Components	Reference Interval		
	Chromium, Urine - per volume	0.0- <mark>2.0</mark> μg/L		
	Chromium, Urine - per 24h	$0.0-2.0 \mu g/d$		
	Chromium, urine - ratio to CRT	0.0-10.0 (µg/g crt)		
0020473	Creatinine, Urine - per 24h	Age	Male	Female
		3-8 years	140-700 mg/d	140-700 mg/d
		9-12 years	300-1300 mg/d	300-1300 mg/d
		13-17 years	500-2300 mg/d	400-1600 mg/d
		18-50 years	1000-2500 mg/d	700-1600 mg/d
		51-80 years	800-2100 mg/d	500-1400 mg/d
		81 years and older	600-2000 mg/d	400-1300 mg/d

0050148 **Complement Component 2**  **C2** 

#### **Reference Interval:**

Effective May 21, 2018 1.6-4.0 mg/dL

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

Performed: Sun-Sat Reported: 1-3 days



New Test 3000453 14-3-3 eta Protein PRO 14-3-3

Available Now

Methodology: Quantitative Enzyme-Linked Immunosorbent Assay

**Performed:** Varies **Reported:** 3-10 days

Specimen Required: Collect: Plain Red. Also acceptable: Serum Separator Tube (SST).

Specimen Preparation: Transfer 1 mL serum to an ARUP Standard Transport Tube. (Min: 0.5 mL) Storage/Transport Temperature: Refrigerated. Also acceptable: Room temperature or frozen. Stability (collection to initiation of testing): Ambient: 1 week; Refrigerated: 1 week; Frozen: 3 weeks

Reference Interval: By Report

**CPT Code(s):** 83520

New York DOH Approved.

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



New Test Available Now 3000443

Ethyl Glucuronide, Umbilical Cord Tissue, Qualitative

ETG QQQ CD



Drug Test Table Meconium and Umbilical



Additional Technical Information

Supplemental Resources

Methodology: Qualitative Liquid Chromatography-Tandem Mass Spectrometry

**Performed:** Tue, Thu, Sat **Reported:** 1-4 days

Specimen Required: Collect: Umbilical Cord (At least 8 inches, approximately the width of a sheet of paper.) Caution must be used when collecting

specimen, to ensure no ethanol-containing personal care products (i.e., hand sanitizers, wipes, mouthwash) are used directly on the

specimen or nearby during collection.

Specimen Preparation: Drain and discard any blood. Rinse the exterior of the cord segment with normal saline or sterile water. Pat the cord dry and transport at least 8 inches of umbilical cord in a routine urine collection cup or Security Kit for Meconium/Umbilical Drug Detection (ARUP supply #51548) available online through eSupply using ARUP Connect<sup>TM</sup> or by contacting ARUP Client

Services at (800) 522-2787. (Min: 6 inches) Storage/Transport Temperature: Refrigerated.

<u>Unacceptable Conditions:</u> Cords soaking in saline or other solutions.

Stability (collection to initiation of testing): Ambient: 3 days; Refrigerated: 2 weeks; Frozen: 1 year

#### **Reference Interval:**

Drugs/Drug Classes	Cutoff Concentrations (ng/g)
Ethyl Glucuronide	5

#### **Interpretive Data:**

Methodology: Qualitative Liquid Chromatography-Tandem Mass Spectrometry

This test is designed to detect and document exposure that occurred during approximately the last trimester of a full term birth, to a common ethanol (alcohol) metabolite. Alternative testing is available to detect other drug exposures. The pattern and frequency of drug(s) used by the mother cannot be determined by this test. A negative result does not exclude the possibility that a mother used drugs during pregnancy. Detection of drugs in umbilical cord tissue depends on extent of maternal drug use, as well as drug stability, unique characteristics of drug deposition in umbilical cord tissue, and the performance of the analytical method. Drugs administered during labor and delivery may be detected. Detection of drugs in umbilical cord tissue does not insinuate impairment and may not affect outcomes for the infant. Interpretive questions should be directed to the laboratory.

For medical purposes only, not valid for forensic use unless testing was performed within Chain of Custody process. See Compliance Statement B: www.aruplab.com/CS

Note: Absolute Minimum: 6 inches. EtG may be formed in vitro in umbilical cord segment exposed to ethanol vapors at room temperature.

**CPT Code(s):** 80349 (Alt code: G0480)

New York DOH approval pending. Call for status update.

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

**2014180** Fluoxetine and Metabolite Quantitative, Serum or Plasma

FLUOX SP

Specimen Required: Collect: Plain Red, Lavender (EDTA), or Pink (K<sub>2</sub>EDTA).

Specimen Preparation: Separate from cells ASAP or within 2 hours of collection. Transfer 3 mL serum or plasma to an ARUP

Standard Transport Tube. (Min: 1.2 mL)

Storage/Transport Temperature: Refrigerated. Also acceptable: Room temperature or frozen.

Unacceptable Conditions: Separator tubes.

Stability (collection to initiation of testing): Ambient: 2 weeks; Refrigerated: 2 weeks; Frozen: 9 months



New Test 3000258 Genetic Carrier Screen, (CF, FXS, and SMA) with Reflex to

CF FX SMA

Available Now



Additional Technical Information



Patient History for Genetic Carrier Screen, CF, FXS, SMA

Methodology: Polymerase Chain Reaction/Fluorescence Monitoring, Polymerase Chain Reaction/Capillary Electrophoresis, Multiplex Ligation-

dependent Probe Amplification

**Performed:** Sun-Sat **Reported:** 4-14 days

Specimen Required: Collect: Lavender (EDTA). Also acceptable: Pink (K2EDTA) or Yellow (ACD Solution A).

Specimen Preparation: Transport 5 mL whole blood. (Min: 3 mL)

Methylation

Storage/Transport Temperature: Refrigerated.

<u>Unacceptable Conditions:</u> Plasma or serum. Specimens collected in sodium heparin or lithium heparin tubes. <u>Stability (collection to initiation of testing):</u> Ambient: 72 hours; Refrigerated: 1 week; Frozen: Unacceptable

Reference Interval: By report

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

**Note:** Cystic Fibrosis: The 165-variant test includes the 23 pathogenic CF variants recommended by the American College of Medical Genetics for population carrier screening.

Fragile X: If a CGG repeat of 55 or greater is detected by PCR and Capillary Electrophoresis; methylation analysis will be added. Additional charges apply.

**CPT Code(s):** 81220, 81401, 81243; if reflexed add 81244

New York DOH Approved.

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

0070426 Hemoglobin A1c HBA1C

Methodology: Quantitative Capillary Electrophoresis

**Specimen Required:** Collect: Lavender (EDTA) or Pink (K<sub>2</sub>EDTA).

Specimen Preparation: Transport 5 mL whole blood in original tube. (Min: 1 mL)

<u>Storage/Transport Temperature:</u> Refrigerated. <u>Unacceptable Conditions:</u> Tissue or urine.

Stability (collection to initiation of testing): Ambient: 72 hours; Refrigerated: 1 week; Frozen: 3 months (avoid repeated freeze/thaw

cycles)

#### **Reference Interval:**

Effective May 21, 2018

Test Number	Components	Reference Interval
	Hemoglobin A1c	Less than 5.7 percent
	Estimated Average Glucose	By report

**Interpretive Data:** HbA1c values of 5.7-6.4 percent indicate an increased risk for developing diabetes mellitus. HbA1c values greater than or equal to 6.5 percent are diagnostic of diabetes mellitus. For diagnosis of diabetes in individuals without unequivocal hyperglycemia, results should be confirmed by repeat testing.

**Note:** This assay provides accurate results for hemoglobin A1c in the presence of hemoglobin variants when hemoglobin A is also present. In patients with known hemoglobin variants without hemoglobin A, suggest monitoring long term glycemic control with Fructosamine (ARUP test code: 0099012).



0020799 Hepatitis Delta Virus Antibody HEP D AB

**Performed:** Mon, Wed, Fri **Reported:** 1-5 days

**2013880** Hepatitis Delta Virus Antibody with Reflex to Hepatitis Delta Virus by HDV AB QR

**Quantitative PCR** 

**Performed:** Mon, Wed, Fri **Reported:** 1-5 days

2012023 Hepatitis E Virus (HEV) Antibodies, IgG and IgM HEV PAN

**Performed:** Tue, Thurs, Sat **Reported:** 1-5 days

2010151 Hepatitis E Virus (HEV) Antibody, IgG HEV IGG

**Performed:** Tue, Thurs, Sat **Reported:** 1-5 days

2010156 Hepatitis E Virus (HEV) Antibody, IgM HEV IGM

**Performed:** Tue, Thurs, Sat Reported: 1-5 days

**2014234** Human Immunodeficiency Virus 1 (HIV-1) by Qualitative Transcription-Mediated HIV-1 TMA

**Amplification (TMA)** 

Specimen Required: Collect: Lavender (EDTA). Also acceptable: Yellow (ACD Solution A), Light Blue (Sodium Citrate), Plasma Preparation Tube (PPT),

Plain Red or Serum Separator Tube (SST).

Specimen Preparation: Separate from cells within 24 hours of collection. Transfer 1.6 mL plasma or serum to an ARUP Standard

Transport Tube. (Min: 0.6 mL)

<u>Storage/Transport Temperature:</u> Frozen. Also acceptable: Refrigerated. <u>Unacceptable Conditions:</u> Frozen plasma in Plasma Preparation Tube (PPT).

Stability (collection to initiation of testing): Ambient: 72 hours; Refrigerated: 5 days; Frozen: 35 days

**0020284** Human Immunodeficiency Virus Type 1 (HIV-1) Antibody Confirmation by HIV WBLOT

Western Blot

**Performed:** Varies **Reported:** 1-3 days



New Test 3000414 Human Papillomavirus (HPV) Genotype 16 and 18 by PCR, Head HN HPV PCR

and Neck

Available Now

Methodology: Qualitative Polymerase Chain Reaction

**Performed:** Mon, Fri **Reported:** Within 1 week

Specimen Required: Collect: Tissue.

Specimen Preparation: Formalin fixed (10 percent neutral buffered formalin) and paraffin-embedded (FFPE) tissue. Transport tissue block or 5 unstained 4-5 micron slides in a tissue transport kit (ARUP supply #47808) available online through eSupply using ARUP

Connect<sup>™</sup> or contact ARUP Client Services at (800) 522-2787. (Min: 4 slides)

 $\underline{Storage/Transport\ Temperature:}\ Room\ temperature.\ Also\ acceptable:\ Refrigerated.\ Ship\ in\ cooled\ container\ during\ summer\ months.$ 

Remarks: Anatomic source required. Pathology report requested.

Unacceptable Conditions: FFPE specimens without tumor tissue. FFPE specimens fixed in formalin substitutes (ie., Bouen or B5

fixatives), alternative fixatives or heavy metal fixatives (B-4 or B-5). Decalcified specimens.

Stability (collection to initiation of testing): Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable

**Interpretive Data:** This test amplifies DNA of HPV16 and HPV18 associated with head and neck cancer. Sensitivity may be affected by specimen collection methods, stage of infection, and the presence of interfering substances. Results should be interpreted in conjunction with other available laboratory and clinical data. A negative result for HPV 16 or HPV 18 does not exclude the presence of other high-risk HPV types.

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

**CPT Code(s):** 88381; 87625

New York DOH approval pending. Call for status update.

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

#### 2005689 Japanese Encephalitis Virus Antibodies, IgG and IgM by ELISA

JPN GM

#### **Reference Interval:**

Test Number	Components	Reference Interv	al					
2005687	Japanese Encephalitis Virus	Effective May 21, 20	Effective May 21, 2018					
	Antibody, IgG by ELISA	1.9 IV or less	Negative - No significant level of detectable Japanese encephalitis virus (JEV) IgG antibody.					
		2.0 - <b>5.0</b> IV	Equivocal - Questionable presence of JEV IgG antibody. Repeat testing in 10-14 days may be helpful.					
		5.1 IV or greater	Positive - JEV IgG antibody detected, which may indicate a current or past infection.					
2005685	Japanese Encephalitis Virus	Effective January 17	, 2012					
	Antibody, IgM by ELISA	3.9 IV or less	Negative - No significant level of detectable Japanese encephalitis virus (JEV) IgM antibody.					
		4.0 -6.0 IV	Equivocal - Questionable presence of JEV IgM antibody. Repeat testing in 10-14 days may be helpful.					
		6.1 IV or greater	Positive - JEV IgM antibody detected, which may indicate a current or recent infection. A low IgM antibody level may occasionally persist for more than 12 months post-infection.					



**2005687** Japanese Encephalitis Virus Antibody, IgG by ELISA

JPN G

#### **Reference Interval:**

Effective May 21, 2018

1.9 IV or less	Negative - No significant level of detectable Japanese encephalitis virus (JEV) IgG antibody.
2.0 - 5.0 IV	Equivocal - Questionable presence of JEV IgG antibody. Repeat testing in 10-14 days may be helpful.
5.1 IV or greater	Positive - JEV IgG antibody detected, which may indicate a current or past infection.

**Interpretive Data:** Patients in the early stage of JEV infection may not have a detectable level of IgG antibody; IgG response may take several days to several weeks to develop. In the absence of detectable IgG antibody, testing for IgM-class antibody is strongly recommended. A positive result (5.1 IV or greater) indicates the presence of IgG antibody to a *Flavivirus* in the Japanese encephalitis serogroup or the dengue virus serogroup. Cross-species plaque reduction neutralization tests on paired acute and convalescent sera are an acceptable means of determining the *Flavivirus* causing the antibody production.

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

0091507 Ketamine and Metabolite Quantitative, Serum or Plasma

KETAMINE S

Specimen Required: Collect: Plain Red or Lavender (EDTA).

Specimen Preparation: Separate from cells ASAP or within 2 hours of collection. Transfer 3 mL serum or plasma to an ARUP

Standard Transport Tube. (Min: 1.2 mL)

Storage/Transport Temperature: Refrigerated. Also acceptable: Room temperature or frozen.

<u>Unacceptable Conditions:</u> Separator tubes.

Stability (collection to initiation of testing): Ambient: 2 weeks; Refrigerated: 2 weeks; Frozen: 9 months

New Test 3000440 KIT (D816V) Mutation by PCR KIT D816V

Additional Technical Information

Methodology: Polymerase Chain Reaction
Performed: DNA isolation: Sun-Sat

**Assay:** Mon, Wed, Fri **Reported:** 2-7 days

**Specimen Required:** Collect: Lavender (EDTA) or bone marrow (EDTA).

Specimen Preparation: Whole Blood: Transport 5 mL whole blood. (Min: 1 mL)

Bone Marrow: Transport 3 mL bone marrow. (Min: 1 mL)

Storage/Transport Temperature: Refrigerated.

<u>Unacceptable Conditions:</u> FFPE tumor tissue. Fresh Tissue. Clotted or grossly hemolyzed specimens. <u>Stability (collection to initiation of testing):</u> Ambient: 24 hours; Refrigerated: 5 days; Frozen: Unacceptable

**Interpretive Data:** Refer to report.

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

**CPT Code(s):** 81273

New York DOH approval pending. Call for status update.

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



MG RBC 0092079 Magnesium, RBC

Performed: Sun-Sat Reported: 1-3 days

Specimen Required: Collect: Royal Blue (EDTA).

Specimen Preparation: Centrifuge whole blood and separate RBCs from plasma within 2 hours of collection. Transfer 2 mL RBCs to an ARUP Trace Element-Free Transport Tube (ARUP supply #43116) available online through eSupply using ARUP Connect™ or

contact ARUP Client Services at (800) 522-2787. (Min: 0.6 mL)

Storage/Transport Temperature: Room temperature. Also acceptable: Refrigerated.

Unacceptable Conditions: Specimens collected in tubes other than royal blue (EDTA). Specimens transported in containers other than

Royal Blue (EDTA) tube or Trace Element-Free Transport Tube. Clotted or grossly hemolyzed specimens.

Stability (collection to initiation of testing): After separation from plasma: Ambient: 1 week; Refrigerated: 1 week; Frozen:

Unacceptable

0025070 MANG U Manganese, Urine

Performed: Sun-Sat Reported: 1-3 days

Specimen Required: Patient Prep: 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: 24-hour or random urine collection. Specimen must be collected in a plastic container. ARUP studies indicate that refrigeration of urine alone, during and after collection, preserves specimens adequately, if tested within 14 days of collection. Specimen Preparation: Transfer an 8 mL aliquot from a well-mixed collection to ARUP Trace Element-Free Transport Tubes (ARUP supply #43116). Available online through eSupply using ARUP Connect<sup>TM</sup> or contact ARUP Client Services at (800) 522-2787. (Min: 1 mL)

Storage/Transport Temperature: Refrigerated. Also acceptable: Room temperature or frozen.

Remarks: Record total volume and collection time interval on transport tube and on test request form.

Unacceptable Conditions: Urine collected within 72 hours after administration of iodinated or gadolinium-based contrast media. Acid preserved urine. Specimens contaminated with blood or fecal material. Specimens transported in non-trace element free transport tube (with the exception of the original device).

Stability (collection to initiation of testing): Ambient: 1 week; Refrigerated: 2 weeks; Frozen: 1 year

#### **Reference Interval:**

Effective May 21, 201

Test Number	Components	Reference Interva	ıl	
	Manganese, Urine - per volume	0.0- <mark>5.0</mark> μg/L		
	Manganese, Urine - per 24h	0.0- <mark>5.0</mark> μg/d		
	Manganese, Urine - ratio to CRT	0.0- <mark>5.0</mark> μg/g CRT		
	Creatinine, Urine - per 24h	Age	Male	Female
		3-8 years	140-700 mg/d	140-700 mg/d
		9-12 years	300-1300 mg/d	300-1300 mg/d
		13-17 years	500-2300 mg/d	400-1600 mg/d
		18-50 years	1000-2500 mg/d	700-1600 mg/d
		51-80 years	800-2100 mg/d	500-1400 mg/d
		81 years and older	600-2000 mg/d	400-1300 mg/d

0060050 Microsporidia Stain by Modified Trichrome MICROST

Specimen Required: Collect: Stool. Three separate stool specimens collected over a 5-7 day period are recommended.

Specimen Preparation: Preserve 2 g of stool within one hour of collection in AlcorFix (ARUP Supply #52059) available online through eSupply using ARUP Connect™ contact ARUP Client Services at (800) 522-2787. (Min: 1 g) Additional specimen collection instructions can be found at https://www.aruplab.com/parasep. Preserving in 10 percent formalin is also acceptable.

Storage/Transport Temperature: Room temperature.

Unacceptable Conditions: Unpreserved stool or specimens in any other preservative than indicated above. Stability (collection to initiation of testing): Ambient: 9 months; Refrigerated: 9 months; Frozen: Unacceptable

Interpretive Data: Refer to report.



0049302 Mismatch Repair by Immunohistochemistry MSI

**Performed:** Tue-Sat **Reported:** Within 5 days

2002327 Mismatch Repair by Immunohistochemistry with Reflex to BRAF Codon 600 MSI REFLEX

Mutation and MLH1 Promoter Methylation

Performed: Tue-Sat

**Reported:** Within 5 days. Within 15 days if reflexed.

2005270 Mismatch Repair by Immunohistochemistry with Reflex to MLH1 Promoter MSI MLH1

Methylation

**Performed:** Tue- Sat **Reported:** Within 5 days

If the test reflexes, results will be available within 15 days.

New Test 3000352 Mucorales by PCR MUCORPCR

Available Now

Methodology: Qualitative Polymerase Chain Reaction

**Performed:** Mon, Thu, Sat **Reported:** 2-5 days

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

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

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

<u>Storage/Transport Temperature:</u> Frozen. <u>Remarks:</u> Specimen source required.

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

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

**CPT Code(s):** 87798

New York DOH approval pending. Call for status update.

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

2012729 Non-Criteria Antiphospholipid Syndrome (APS) (aPs, aPt, aPs/aPt) Antibodies NCAPS PAN

Pane

#### **Reference Interval:**

Test Number	Components	Reference Interval
0050906	Phosphatidylserine Antibody, IgG	Less than 11 U/mL
0050907	Phosphatidylserine Antibody, IgM	Less than 25 U/mL
2009447	Phosphatidylserine and Prothrombin Antibody, IgG	0-30 Units
2009449	Phosphatidylserine and Prothrombin Antibody, IgM	0-30 Units
0051302	Prothrombin Antibody, IgG	Less than 20 Units

**HOTLINE NOTE:** There is a numeric map change associated with this test.

Change the numeric map for component 0051302 Prothrombin Antibody, IgG from XXX.X to XXX.

**2002257** Osmotic Fragility, Erythrocyte

**OSM FRG** 

HOTLINE NOTE: There is a component change associated with this test.

Remove component 2002142, EER Osmotic Fragility.

#### 2002272 Ova and Parasite Exam, Fecal (Immunocompromised or Travel History)

OPFEC

**Specimen Required:** Patient Prep: Specimens analyzed to determine the efficacy of treatment should be collected three to four weeks after completion of therapy. Antibiotics may affect results of exam.

Collect: Stool. Recommended collection: 3 separate stool specimens within a 5-7-day period (an individual order must be

submitted for each specimen).

Specimen Preparation: Transfer 2 g of stool within one hour of collection into AlcorFix (ARUP Supply #52059) available online through eSupply using ARUP Connect TM or contact ARUP Client Services at (800) 522-2787. (Min: 1 g)

Also acceptable: Transfer 5 g of stool within one hour of collection into both 10 percent formalin and modified PVA (10 g total). (Min: 10 g total)

Additional specimen collection instructions can be found at https://www.aruplab.com/parasep.

Storage/Transport Temperature: Room temperature.

Remarks: Indicate suspected parasites.

<u>Unacceptable Conditions:</u> Rectal swabs. Multiple specimens (more than one in 24 hours). Unpreserved specimens. Specimens containing barium, oil, or urine.

Stability (collection to initiation of testing): Ambient: 9 months; Refrigerated: 9 months; Frozen: Unacceptable

Interpretive Data: Method for identification of Ova and Parasites includes wet mount and trichromes stain.

Due to the various shedding cycles of many parasites, three separate stool specimens collected over a 5-7-day period are recommended for ova and parasite examination. A single negative result does not rule out the possibility of a parasitic infection. Stool antigen testing is the optimal test method for determining the parasitic presence of *Giardia*, *Cryptosporidium* spp, or *Entamoeba histolytica*. The ova and parasite exam does not specifically detect *Cryptosporidium*, *Cyclospora*, *Cystoisospora*, and Microsporidia. For *Cryptosporidium*, refer to *Cryptosporidium* Antigen by EIA (ARUP test code 0060045). For *Cyclospora* and *Cystoisospora*, refer to Parasitology Stain by Modified Acid-Fast (ARUP test code 0060046). For Microsporidia, refer to Microsporidia Stain (ARUP test code 0060050).

#### 0060046 Parasitology Stain by Modified Acid-Fast

PARAST

Specimen Required: Collect: Stool. Due to the various shedding cycles of many parasites, three separate stool specimens collected over a 5-7 day period are recommended.

Specimen Preparation: Preserve 2 g of stool within one hour of collection in AlcorFix (ARUP Supply #52059) available online through eSupply using ARUP Connect<sup>TM</sup> or contact ARUP Client Services at (800) 522-2787. (Min: 1 g) Additional specimen collection instructions can be found at https://www.aruplab.com/parasep. Preserving in 10 percent formalin is also acceptable. Storage/Transport Temperature: Room temperature.

<u>Unacceptable Conditions:</u> Specimens other than stool or unpreserved stool.

Stability (collection to initiation of testing): Ambient: 9 months; Refrigerated: 9 months; Frozen: Unacceptable

Interpretive Data: Refer to report.



**New Test** 

3000197

## PD-L1 22C3 IHC for Gastric/GEJ with Interpretation, pembrolizumab (KEYTRUDA)

**22C3 GAST** 

Available Now



Additional Technical Information

Methodology: Immunohistochemistry

**Performed:** Mon-Fri **Reported:** 1-5 days

Specimen Required: Collect: Tumor tissue.

Specimen Preparation: Formalin fix (10 percent neutral buffered formalin) and paraffin embed specimen. 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 recommended but not required), available online through eSupply using ARUP Connector contact ARUP Client Services at (800) 522-2787. (Min: 3 slides) If sending precut slides, do not oven bake.

Storage/Transport Temperature: Room temperature. Also acceptable: Refrigerated. Ship in cooled container during summer months. Remarks: Include surgical pathology report and indicate tissue site with the test order. For additional technical details, please contact

ARUP Client Services at (800) 522-2787.

<u>Unacceptable Conditions:</u> Paraffin block with no tumor tissue remaining; specimens fixed in any fixative other than 10 percent neutral

buffered formalin. Decalcified specimens. Specimens with fewer than 100 viable tumor cells. Lung specimens. Stability (collection to initiation of testing): Ambient: Indefinitely; Refrigerated: Indefinitely; Frozen: Unacceptable

Interpretive Data: Refer to report.

Note: This test code includes pathologist interpretation. At least 100 viable tumor cells are required for interpretation.

**CPT Code(s):** 88360

New York DOH Approved.

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



**New Test** 

3000455

Ph-Like Acute Lymphocytic Leukemia (ALL) Panel by FISH

F PHLK ALL



Time Sensitive



Oncology Test Request Form Recommended (ARUP form #43099)

Additional Technical Information

Methodology: Fluorescence in situ Hybridization

Performed: Sun-Sat Reported: 3-10 days

Specimen Required: Collect: Non-diluted bone marrow aspirate collected in a heparinized syringe. Also acceptable: Whole blood in Green (Sodium

Heparin).

Specimen Preparation: Bone Marrow: Transfer 3 mL bone marrow to a Green (Sodium Heparin). (Min: 1 mL) Whole Blood:

Transport 5 mL whole blood. (Min: 2 mL)

Storage/Transport Temperature: Room temperature.

Remarks: Submit the Patient History for Cytogenetic (Chromosome) Studies form with the electronic packing list (available at

http://www.aruplab.com/genetics/forms.php).

Unacceptable Conditions: Clotted or paraffin-embedded specimens.

Stability (collection to initiation of testing): Ambient: 48 hours; Refrigerated: 48 hours; Frozen: Unacceptable

Reference Interval: By report

Interpretive Data: Probes included: CRLF2, JAK2, EPOR, CSF1R, ABL1, ABL2, PDGFRB

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

**Note:** A processing fee will be charged if this procedure is canceled at the client's request after the test has been set up or if the sample integrity is inadequate to allow culture growth. To order probes separately, refer to Chromosome FISH, Interphase (ARUP test code 2002298).

Other specimen types may be acceptable, contact the Cytogenetics Laboratory for specific specimen collection and transportation instructions.

If cell pellets or dropped cytogenetics slides are not submitted, a processing fee will apply.

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

**CPT Code(s):** 88271 x7; 88275 x7; 88291

New York DOH approval pending. Call for status update.

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

2014041 Potassium, Total, RBC K RBC

Specimen Required: Collect: Green (Lithium Heparin).

Specimen Preparation: Separate from cells ASAP or within 2 hours of collection. Leave RBCs in the original container and replace

stopper. Transport 2 mL RBCs in the original collection tube. (Min: 0.7 mL)

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

Unacceptable Conditions: Separator tubes. Tubes containing potassium-based preservative/anticoagulants. Stability (collection to initiation of testing): Ambient: Unacceptable; Refrigerated: 1 month; Frozen: 1 month

0051302

Prothrombin Antibody, IgG

PROTHROM G

Reference Interval: Less than 20 Units

**HOTLINE NOTE:** There is a numeric map change associated with this test.

Change the numeric map for component 0051302 Prothrombin Antibody, IgG from XXX.X to XXX.



New Test Available Now **3000460** 

Smith and RNP (U1) (ENA) Antibodies, IgG

SMITH\_RNP



Additional Technical Information

Methodology: Semi-Quantitative Multiplex Bead Assay

**Performed:** Sun-Sat **Reported:** 1-2 days

Specimen Required: Collect: Serum Separator Tube (SST).

Specimen Preparation: Separate from cells ASAP or within 2 hours of collection. Transfer 1 mL serum to an ARUP Standard

Transport Tube. (Min: 0.2 mL)

Storage/Transport Temperature: Refrigerated.

<u>Unacceptable Conditions:</u> Plasma or other body fluids. Contaminated, hemolyzed, or severely lipemic specimens.

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

(avoid repeated freeze/thaw cycles)

#### **Reference Interval:**

Test Number	Components	Reference Interval		
0050470	RNP (U1) (Ribonucleic Protein) (ENA) Antibody, IgG	29 AU/mL or Less	Negative	
		30-40 AU/mL	Equivocal	
		41 AU/mL or greater	Positive	
0050085	Smith (ENA) Antibody, IgG	29 AU/mL or Less	Negative	
		30-40 AU/mL	Equivocal	
		41 AU/mL or greater	Positive	

Interpretive Data: Refer to report.

**CPT Code(s):** 86235 x2

New York DOH Approved.

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

<u>0099564</u> Strongyloides Antibody, IgG by ELISA, Serum

STRONGY

**Performed:** Sun-Sat **Reported:** 1-3 days

#### **Reference Interval:**

#### Effective May 21, 2018

0.99 IV or less	Negative - No significant level of Strongyloides IgG antibody detected. Recommend repeat testing in 10-14 days if clinically indicated.
1.00 IV or greater	Positive - IgG antibodies to Strongyloides detected, which may suggest current or past infection.

Interpretive Data: False-positive results may occur with prior exposure to other helminth infections. Testing low-prevalence populations may also result in false-positive results.



**2002736** Tramadol and Metabolite, Urine, Quantitative

TRAMAD UR

#### **Reference Interval:**

Effective May 21, 2018

Drugs Covered	<b>Cutoff Concentrations</b>
Tramadol	25 ng/mL
O-desmethyltramadol	25 ng/mL

**Interpretive Data:** 

Methodology: Quantitative Liquid Chromatography-Tandem Mass Spectrometry

Positive cutoff: Tramadol: 25 ng/mL

O-desmethyltramadol: 25 ng/mL

For medical purposes only; not valid for forensic use.

The presence of metabolite(s) without parent drug is common and may indicate use of parent drug during the prior week.

The absence of expected drug(s) and/or drug metabolite(s) may indicate non-compliance, inappropriate timing of specimen collection relative to drug administration, poor drug absorption, diluted/adulterated urine, or limitations of testing. 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.

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

**HOTLINE NOTE:** There is a clinically significant charting name change, a result type change, a unit of measure change, and a numeric map change associated with this test.

Change the result type for component 2002740, O-desmethyltramadol, Urn, Qual from alpha response to numeric result type.

Change the unit of measure for component 2002740, O-desmethyltramadol, Urn, Qual to ng/mL.

Change the numeric map for component 2002740, O-desmethyltramadol, Urn, Qual to XXXXX.

Change the charting name for component 2002740, O-desmethyltramadol, Urn, Qual to O-desmethyltramadol, Urn, Quant.

Change the numeric map for component 2002769, Tramadol, Urn, Quant from XXXX to XXXXX.

0050206 Treponema pallidum (VDRL), Cerebrospinal Fluid with Reflex to Titer

VDRL CSF

Specimen Required: Collect: CSF.

Specimen Preparation: Transfer 0.5 mL CSF to an ARUP Standard Transport Tube. (Min: 0.2 mL)

Storage/Transport Temperature: Refrigerated.

<u>Unacceptable Conditions:</u> Other body fluids. Contaminated, hemolyzed, xanthochromic, or severely lipemic specimens.

Stability (collection to initiation of testing): Ambient: 48 hours; Refrigerated: 2 weeks; Frozen: 1 year (avoid repeated freeze/thaw cycles)



# The following will be discontinued from ARUP's test menu on May 21, 2018. Replacement test options are supplied if applicable.

Test Number	Test Name	Refer To Replacement
<u>2007179</u>	Allergen, Food, Artichoke IgE	
2001909	Allergen, Food, Currant Red, IgE	
<u>0055565</u>	Candida Antibody by ID	Candida albicans Antibodies IgA, IgG, and IgM by ELISA (0095200)
<u>2003571</u>	CD44 by Immunohistochemistry	
0091515	Fluoride Quantitative, Urine	
<u>0070690</u>	Insulin, Veterinary	
<u>0040137</u>	KIT (D816V) Mutation by PCR	KIT (D816V) Mutation by PCR (3000440)