JoAnna Jones MD Digitally signed by JoAnna Jones MD
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The most current laboratory reference ranges are included in the laboratory report from the LIS.
Laboratory testing information is also available on the Laboratory Guide to Services Website. https://clinicallabs.osumc.edu

This document applies all laboratory testing at OSUWMC Clinical Laboratories. This includes:
Polaris Core Laboratory: 2001 Polaris Pkwy, Innovations Centre Suite 1500, Columbus OH 43240
Ackerman Laboratories: 680 Ackerman Rd Rm 429, Columbus OH 43202
Morehouse Laboratory: 1st Fl Morehouse Medical Plaza Tower, 2050 Kenny Rd, Columbus OH 43221
Spielman Laboratory: 1145 Olentangy River Rd Rm 2030, Columbus Oh 43212
Clinical Laboratories (UH): 410 West 10th Avenue, Columbus OH 43210
Clinical Laboratories (UHE): 181 Taylor Avenue, Columbus OH 43203

Analyte	Alternative Names	Methodology / Reaction Type	Instrument or Kit Manufacturer	Units	Reference Ranges	Critical Values	Source of Reference Range	Technical Range / AMR	Reportable Range / CRR
Base Excess	Base Excess, Base Deficit	Calculation of the expression that approximates the amount of acid or base required to titrate one liter of blood back to a normal pH of 7.40.	Radiometer	mmol/L	-3.0 to + 3.0	N/A	Contemporary Practice in Clinical Chemistry 3rd Edition 2016. Chapter 32. Table 32-1 p450	-30.0 - 30.0	-30.0 - 30.0
HCO3	Bicarbonate, CO2 Whole Blood	Calculation	Radiometer	mmol/L	Arterial: >30 Days: 22-28 Venous: 22-29	N/A	Arterial: Blood Gases and Critical Care Testing Physiology, Clinical Interpretations, and Laboratory Applications. 3rd Edition, 2021 (p.3). Venous: Clinical Guide to Laboratory Tests 3rd Edition, Tietz, 1995.	Calculation	Calculation
Glucose, Whole Blood	Whole Blood Glucose	Amperometric	Radiometer	mg/dL	1+ years: 70-99	≥1 year: <50 and >400 ≤1 year: <40 and >200	Clinical Guide to Laboratory Tests, 3rd Edition Tietz, 1995; Pediatric Reference Ranges, Soldin, 1999	1-1030	1-1030
Hematocrit (Calculated)	N/A	Calculation	Radiometer	%	**>18 years** Male: 40.2-50.4 Female: 34.2-45.6	N/A	Derived from total hemoglobin reference interval. ABL 800 FLEX Reference Manual, 2008.	Calculation	Calculation
Total Hemoglobin, Whole Blood	N/A	Cooximetry	Radiometer	g/dL	**>18 years** Male: 13.4-16.8 Female: 11.4-15.2	>12y: <7.0 and >22.0 8d-12y: <8.0 and >22.0 0d-7d: <11.0 and >22.0	OSU Internal Normal Range Study, October 2018	4.8-23.5	4.8-23.5
Ionized Calcium, Whole Blood	ICA	Potentiometric	Radiometer	mg/dL	4.60-5.30	<3.40 and >6.20	Blood Gases and Critical Care Testing Physiology, Clinical Interpretations, and Laboratory Applications. 3rd Edition, 2021 (p.102)	1.00-13.00	1.00-13.00
Ionized Calcium, Serum	LAB54	Potentiometric	Radiometer	mg/dL	4.60-5.30	<3.40 and >6.20	- Blood Gases and Critical Care Testing Physiology, Clinical Interpretations, and Laboratory Applications. 3rd Edition, 2021 (p.102)	1.00-13.00	1.00-13.00
Ionized Calcium (CRRT)	ICACRT	Potentiometric	Radiometer	mg/dL	1.00-2.00	N/A	Email_ICA CRRT RR Physician Established 11-19-2020	1.00-13.00	1.00-13.00
Lactate, Whole Blood **Lactate, Blood**	Lactic Acid	Amperometric	Radiometer	mmol/L	Adult: 0.5 - 1.6	≥5.0	ABL 800 Flex Reference Manual, 2008	0.0-30.0	0.0-30.0
sO2	sO2	Visible absorption spectroscopy	Radiometer	%	Arterial 0-365 days: 40-90 >1 year: 94-98 Venous: 70-80	N/A	Arterial: Clinical Guide to Laboratory Tests, 3rd Edition, Tietz, 1995 Venous: Blood Gas O2Sat: Radiometer Bulletin No: 44 Compendium of reference intervals	5-100	5-100
pCO2	N/A	Potentiometric	Radiometer	mmHg	**>31 days** Arterial: 32-48 Venous: 36-52	Arterial: <20 and >65 Venous: <24 and >64	Arterial: Clinical Guide to Laboratory Tests, Tietz, 1995 & Fundamentals of Clinical Chem, 1987 / Venous: Respirology. 2014 Feb;19(2):168-75, doi:10.11111/resp.122225. Pub 2014 Jan 3.	5-115	5-115
pH	N/A	Potentiometric	Radiometer	pH	**>31 days** Arterial: 7.35-7.45 Venous: 7.32-7.43	Arterial: <7.20 and >7.55 Venous: <7.17 and >7.52	Clinical Guide to Laboratory Tests Tietz 3rd Edition, 1995.	6.80-8.00	6.80-8.00
pO2	N/A	Amperometric	Radiometer	mmHg	Arterial: 83-108 Venous: Venous pO2 is not recommended for the evaluation of oxygen status, clinical correlation is recommended	Arterial: ≤44 Venous: N/A	Arterial: Clinical Guide to Laboratory Tests, Tietz 3rd Edition, 1995 & Fundamentals of Clinical Chem, 1987 Venous: Respirology. 2014 Feb;19(2):168-75, doi:10.11111/resp.122225. Pub 2014 Jan 3. © 2012 Radiometer Medical ApS. All rights reserved. 995-950. 201206B.	0-700	0-700
Potassium, Whole Blood	Whole Blood Potassium	Potentiometric	Radiometer	mmol/L	18+ years: 3.5-5.0	1 - 18+ years: <3.0 and >6.0 ≤1 year: <3.0 and >7.0	Clinical Guide to Laboratory Tests, Tietz 3rd Edition, 1995	1.0-14.0	1.0-14.0
Sodium, Whole Blood	Whole Blood Sodium	Potentiometric	Radiometer	mmol/L	1+ years: 135-145	<125 and >160	Blood Gases and Critical Care Testing Physiology, Clinical Interpretations, and Laboratory Applications. 3rd Edition, 2021 (p.165).	80-175	80-175
Carboxyhemoglobin	Carboxyhemoglobin	Cooximetry	Radiometer	%	≤1.5	N/A	ABL 800 Flex Reference Manual 2008	0.0-50.0	0.0-50.0
Methemoglobin	Methemoglobin	Cooximetry	Radiometer	%	≤1.5	N/A	ABL 800 Flex Reference Manual 2008	0.0-30.0	0.0-30.0
Oxyhemoglobin	Oxyhemoglobin	Cooximetry	Radiometer	%	Adult: 94-98	N/A	ABL 800 Flex Reference Manual 2008	0-100	0-100
pH, Pleural Fluid	Fluid pH (by blood gas analyzer)	Potentiometric	Radiometer	pH	N/A	N/A	N/A	6.80-8.00	6.80-8.00
pCO2 Cord Blood Gas	pCO2, Cord Blood Arterial pCO2, Cord Blood Venous	Potentiometric	Radiometer	mmHg	Cord Blood Arterial: 41-58 Cord Blood Venous: 33-44	N/A	Clinical Guide to Laboratory Tests, Tietz 3rd Edition, 1995	5-115	5-115
pH Cord Blood Gas	pH, Cord Blood Arterial pH, Cord Blood Venous	Potentiometric	Radiometer	pH	Cord Blood Arterial: 7.23-7.33 Cord Blood Venous: 7.30-7.40	N/A	Clinical Guide to Laboratory Tests, Tietz 3rd Edition, 1995	6.80-8.00	6.80-8.00
pO2 Cord Blood Gas	pO2, Cord Blood Arterial pO2, Cord Blood Venous	Amperometric	Radiometer	mmHg	Cord Blood Arterial: 12-24 Cord Blood Venous: 23-35	N/A	Clinical Guide to Laboratory Tests, Tietz 3rd Edition, 1995	0-700	0-700
sO2 Cord Blood Gas	sO2, Cord Blood Arterial sO2, Cord Blood Venous	Visible absorption spectroscopy	Radiometer	%	Cord Blood Arterial: 3-69 Cord Blood Venous: 16-83	N/A	Brit Journ Obst Gyn 8-2000 Vol 107 pp 987-994 Cord Bld O2 SAT in vigorous infants at birth: What is normal?	5-100	5-100
Bicarbonate (HCO_3^-) Cord Blood Gas	Bicarbonate, Cord Blood Arterial Bicarbonate, Cord Blood Venous	Calculation	Radiometer	mmol/L	Cord Blood Arterial: 20-25 Cord Blood Venous: 16-25	N/A	Clinical Guide to Laboratory Tests, Tietz 3rd Edition, 1995	Calculation	Calculation
Base Excess Cord Blood Gas	Base Excess/Deficit, Cord Blood Arterial Base Excess/Deficit, Cord Blood Venous	Calculation of the expression that approximates the amount of acid or base required to titrate one liter of blood back to a normal pH of 7.40.	Radiometer	mmol/L	Cord Blood Arterial: -3.0-3.0 Cord Blood Venous: -2.0-2.0	N/A	Email_Cord blood Gas RR Physician Established Base Excess_11-2020	-30.0 - 30.0	-30.0 - 30.0
Acetaminophen Level	Tylenol, Datril, Tempra, Liquiprin, Tenlap	Enzyme Immunoassay	Beckman	mcg/mL	Therapeutic: 10.0 - 32.0	>150.0 after 4 hours of ingestion	Applied Pharmacokinetics: Principles of Therapeutic Drug Monitoring, 2nd Edition 2002 Applied Therapeutics, Inc. and Micromedex On OSU Intranet.	10.0-200.0	10.0-600.0

ALT	SGPT, Alanine Aminotransferase	Transfer of the amino group from alanine to α-oxoglutarate to form pyruvate and glutamate. The pyruvate enters a lactate dehydrogenase (LD) catalyzed reaction with NADH to produce lactate and NAD+. The decrease in absorbance due to the consumption of NADH is measured at 340nm and is proportional to the ALT activity in the sample.	Beckman	U/L	18+ years: Female: 9-48 Male: 10-52	N/A	OSUWMC Reference Range Study effective 12.11.2013; verified by OSUWMC Reference Interval Study 2021. Pediatric Reference Ranges, Soldin, 1999 (Lower end of reference range modified to agree with the linear limits.)	3-500	3-25,000
Beta-Hydroxybutyrate	Beta Hydroxybutyrate	D-3 Hydroxybutyrate in the presence of NAD gets converted to acetoacetate and NADH. NADH produced reacts with INT in the presence of diaphorase to produce color at 505nm. Absorbance is proportional to B- hydroxybutyrate in sample.	Beckman	mmol/L	<0.27	≥1.20	Stanbio Package Insert and verified by OSUWMC Reference Interval Study 2021.	0.10-8.00	0.10-24.00
Albumin	N/A	This Albumin method is a modification of the Doumas and Rodkey procedures utilizing a different buffering system. At pH 4.2, bromocresol green reacts with albumin to form an intense green complex. The absorbance of the albumin-BCG complex is measured bichromatically (600/800nm) and is proportional to the albumin concentration in the sample.	Beckman	g/dL	19+ years: 3.5-5.0	N/A	Tietz 2nd Edition referenced by Beckman Coulter IFU for recumbant adult and verified by OSUWMC Reference Interval Study 2021.	1.5-6.0	1.5-18.0
Albumin, Body Fluid	N/A	See ALB	Beckman	g/dL	Pleural: Serum- pleural fluid albumin gradients of >1.2 g/dL are consistent with transudates. Peritoneal: Serum-ascites albumin gradient (SAAG) of 1.1 g/dL or greater suggests portal hypertension. Pericardial: The reference range has not been established for this fluid specimen. The fluid results should be compared with the concentration in serum/plasma or integrated into the clinical context for interpretation.	N/A	Pleural: Roth, B.J., et.al. Chest, Vol 98, 546-549, 1990. Peritoneal: Runyon, B.A. Ann Intern Med. 1992;117:215-220.	1.5-6.0	1.5-6.0
Albumin, CSF	Microalbumin, CSF	Turbidimetry	Beckman	mg/dL	10.0-30.0	N/A	CCLM Vol 54 issue 2 p285-292 Feb 2016	1.0-45.0	1.0-450.0
Alcohol (Ethanol), Blood	Serum Alcohol	Based on an enzymatic reaction.4 Reagent 1 contains the buffering system. Reagent 2 contains alcohol dehydrogenase (ADH), the coenzyme nicotinamide adenine dinucleotide (NAD), buffer, preservatives, and stabilizers. The ADH catalyzes the oxidation of ethyl alcohol to acetaldehyde. During this reaction, NAD is reduced to NADH. The increase in absorbance at 340 nm is proportional to the concentration of alcohol in the specimen.	Beckman	mg/dL	<10	≥300	N/A	10-600	10-600
Alk Phosphatase	ALP	This ALP procedure is based on the method developed by Bowers and McComb2 and has been formulated as recommended by the AACC and IFCC3. Alkaline phosphatase activity is determined by measuring the rate of conversion of p-nitro-phenylphosphate (pNPP) in the presence of 2-amino-2-methyl-1-propanol (AMP) at pH 10.4.	Beckman	U/L	19+ years: 32-126	N/A	OSUWMC Reference Range Study effective 12.11.2013; Verified by OSUWMC Reference Interval Study 2021. Pediatric Reference Ranges, Soldin, 1999 ;Synchron Performance Verification Manual A22219	5-1,500	5-15,000
Alpha 1 Antitrypsin	N/A	Turbidimetry	Beckman	mg/dL	84-218	N/A	Package Insert. Verified by OSUWMC Reference Interval Study 2021.	30-500	30-5,000
Ammonia	Ammonia, Venous	Direct enzymatic procedure based on the following reaction sequence:- Glutamate dehydrogenase (GLDH) NH4 + α-ketoglutarate + NADH —> Glutamate + NAD + H2O. The reagent contains LDH in excess, to rapidly reduce endogenous pyruvate so that it does not interfere with the assay system: reagent also incorporates a patented stabilization process which renders the reagent stable in the liquid phase.	Beckman	umol/L	6-47	N/A	Package Insert	10-600	10-3,000
Ammonia, Arterial	N/A	Direct enzymatic procedure based on the following reaction sequence:- Glutamate dehydrogenase (GLDH) NH4 + α-ketoglutarate + NADH —> Glutamate + NAD + H2O. The reagent contains LDH in excess, to rapidly reduce endogenous pyruvate so that it does not interfere with the assay system: reagent also incorporates a patented stabilization process which renders the reagent stable in the liquid phase.	Beckman	umol/L	6-47	N/A	Package Insert	10-600	10-3,000
Amylase	N/A	The release of 2-chloro-4-nitrophenol (CNP) from the substrate and the resulting absorbance increase per minute is directly related to the α-Amylase activity in the sample. The resulting increase in absorbance can be measured spectrophotometrically at 410/480nm.	Beckman	U/L	19+ years: 20-103	0-18 years: ≥400 19+ years: ≥500	Prior study verified by OSUWMC Reference Interval Study 2021.	10-2,000	10-10,000
Amylase, 24 Hour Urine	N/A	See Amylase	Beckman	U/24 hrs	24 hour sample: 0-400	N/A	OSU validated 48 outpatients from Family Practice. See Method Validation binders.	N/A (calculation)	N/A (calculation)

Amylase, Body Fluid	N/A	See Amylase	Beckman	U/L	Pleural: Pleural fluid rich in amylase (fluid amylase to serum/plasma amylase ratio > 1) is associated with acute and chronic pancreatitis, esophageal leakage, malignancy, cirrhosis, or pneumonia. Pancreatic cyst: Very low pancreatic cyst fluid amylase concentrations (<~ 250 U/L) exclude a pseudocyst in the majority of cases. Peritoneal, Drainage, PFUN: The reference range has not been established for this fluid specimen. The fluid results should be compared with the concentration in serum/plasma or integrated into the clinical context for interpretation.	N/A	Pleural: State of the art. The pleura Sahn SA Am Rev Respir Dis. 1988;138(1):184. Pancreatic cyst: Elta GH, et al. Am J Gasroenterol. 208;113:464-479.	10-2,000	10-100,000
Amylase, Urine Random	N/A	See Amylase	Beckman	U/L	None established	N/A	N/A	10-1,500	10-75,000
Anion Gap	Gap	Calculation: ANION GAP=(NA+K)-(CL+CO2)	N/A	mmol/L	7-17	N/A	OSUWMC Study 2015	N/A	N/A
Anti Streptolysin O	N/A	Turbidimetry	Beckman	IU/mL	<250	N/A	Package Insert. Verified by OSUWMC Reference Interval Study 2021.	100-1,000	100-10,000
AST	SGOT, Aspartate Aminotransferase	Catalyzes the transamination of aspartate and α-oxoglutarate, forming L-glutamate and oxalacetate. The oxalacetate is then reduced to L-malate by malate dehydrogenase, while NADH is simultaneously converted to NAD+. The decrease in absorbance due to the consumption of NADH is measured at 340 nm and is proportional to the AST activity in the sample.	Beckman	U/L	19+ years: 10-39	N/A	Verified by OSUWMC Reference Interval Study 2021.	3-1,000	3-50,000
Beta HCG Quant, Blood	Quantitative Serum Pregnancy Test	Two-site sandwich immunoassay using direct chemiluminometric technology with paramagnetic particles as the solid phase and acridinium ester as the label.	Siemens	mIU/mL	Non-pregnant: <10.0 Postmenopausal: <10.0 2-4 Weeks: 39.1 - 8,388.0 5-6 Weeks: 861.0 - 88,769.0 6-8 Weeks: 8,636.0 - 218,085.0 8-10 Weeks: 18,700.0 - 244,467.0 10-12 Weeks: 23,143.0 - 181,899.0 13-27 Weeks: 6,303.0 - 97,171.0 28-40 Weeks: 4,360.0 - 74, 833.0	N/A	Advia Centaur tHCG Package Insert 10634917_EN Rev. F, 2011-04	2.6-1,000.0	2.6-128,000,000.0
B-hCG Qualitative, Blood	Serum Pregnancy Test	Lateral-flow test using a monoclonal antibody specific to the beta subunit of hCG.	Alere	Qualitative	Non-pregnant = Negative Pregnant = Positive	N/A	Package Insert	Positive Negative	Positive Negative
Bicarbonate, Fluid	FCO2, CO2 Fluid	See CO2	Beckman	mmol/L	Stool: The reference range has not been established for this fluid specimen. The fluid results should be compared with the concentration in serum/plasma or integrated into the clinical context for intepretation.	N/A	N/A	5-45	5-90
Bilirubin - Baby	Bilirubin, Total (Neonatal)	A stabilized diazonium salt, 3,5-dichlorophenyldiazonium tetrafluoroborate (DPD), reacts with bilirubin to form azobilirubin which absorbs at 570/660 nm.	Beckman	mg/dL	0 Days: 1.4-8.7 1 Day: 3.4-11.5 3 Days: 1.5-12.0 5 Days: 0.3-1.2 1 Year: <1.5	≤1 year: ≥14.0	Clinical Guide to Laboratory Tests, Kaplin, 2003	0.1-30.0	0.1-90.0
	Bilirubin, Direct (Neonatal)	Direct (conjugated) bilirubin couples directly with a diazonium salt of 3,5-dichloroaniline (DPD) in an acid medium to form azobilirubin. The direct bilirubin in serum is directly proportional to the color development of azobilirubin which is measured bichromatically at 570/660 nm.			All: < 0.3	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995	0.1-10.0	0.1-20.0
Bilirubin Direct	BILD	Direct (conjugated) bilirubin couples directly with a diazonium salt of 3,5-dichloroaniline (DPD) in an acid medium to form azobilirubin. The direct bilirubin in serum is directly proportional to the color development of azobilirubin which is measured bichromatically at 570/660 nm.	Beckman	mg/dL	All: < 0.3	N/A	Clinical Guide to Laboratory Tests, Tietz 1995, verified by OSUWMC Reference Interval Study 2021.	0.1-10.0	0.1-20.0
Bilirubin Total	BILT	A stabilized diazonium salt, 3,5-dichlorophenyldiazonium tetrafluoroborate (DPD), reacts with bilirubin to form azobilirubin which absorbs at 570/660 nm.	Beckman	mg/dL	Adult: <1.5	N/A	Clinical Guide to Laboratory Tests, Tietz 1995, verified by OSUWMC Reference Interval Study 2021.	0.1-30.0	0.1-90.0
Bilirubin, Total, Fluid	FBILT	A stabilized diazonium salt, 3,5-dichlorophenyldiazonium tetrafluoroborate (DPD), reacts with bilirubin to form azobilirubin which absorbs at 570/660 nm.	Beckman	mg/dL	Peritoneal: Peritoneal bilirubin concentrations greater than that of serum/plasma may suggest bile within the abdomen. Drainage: Drain fluid bilirubin concentration-to-serum/plasma bilirubin concentration ratios exceeding 5 indicates bile leakage.	N/A	Peritoneal: Runyon BA J Clin Gastroenterol. 1987;9(5):543. Drain: Darwin. Gastrointest Endosc. 2010 Jan;71(1):99-104.	0.1-30.0	0.1-90.0
B-Type Natriuretic Peptide	BNP	Two site sandwich immunoassay using direct chemiluminescent technology which uses constant amounts of two monoclonal antibodies.	Siemens	pg/mL	All: 0-100	N/A	Atellica IM BNP Package Insert 11202199_EN Rev. 05-2020-11	2-4,500	2-4,500
BUN	N/A	Urea is hydrolyzed enzymatically by urease to yield ammonia and carbon dioxide. The ammonia and α-oxoglutarate are converted to glutamate in a reaction catalyzed by L-glutamate dehydrogenase (GLDH). Simultaneously, a molar equivalent of reduced NADH is oxidized.3,4,5 Two molecules of NADH are oxidized for each molecule of urea hydrolyzed. The rate of change in absorbance at 340 nm, due to the disappearance of NADH, is directly proportional to the BUN concentration in the sample.	Beckman	mg/dL	All: 7-25	≥101	Beckman Coulter IFU for serum verified by OSUWMC Reference Interval Study 2021.	2-130	2-650
C Reactive Protein	N/A	Measurement of the rate of decrease in light intensity transmitted (increase in absorbance) through particles suspended in solution is			All: <10.00	N/A	Clinical Guide to Laboratory Tests, Tietz, 2005; Verified by OSUWMC Reference Interval Study 2021.		

C Reactive Protein For Cardiac Risk	CRPR, CRP High Sensitivity	the result of complexes formed during the immunological reaction between the CRP of the patient serum and rabbit anti-CRP-antibodies coated on latex particles.	Beckman	mg/L	All: Non-specific: >10.00 High Risk: ≥2.00 Low Risk: <2.00	N/A	2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease. Circulation. 2019 Sep 10;140(11):e596-e646.	0.20-80.00	0.20-480.00
C3 Complement	C3	Turbidimetry	Beckman	mg/dL	87-200	N/A	Package Insert. Verified by OSUWMC Reference Interval Study 2021.	15-500	15-1,500
C4 Complement	C4	Turbidimetry	Beckman	mg/dL	18-52	N/A	Historic Reference Range. Verified by OSUWMC Reference Interval Study 2021.	8-150	8-450
CA 125	CA125N	Two-site sandwich immunoassay using direct chemiluminometric technology	Siemens	U/mL	All: ≤30	N/A	Advia Centaur CA 125II Package Insert 128516 Rev. H, 2009-02	3-600	3-360,000
CA 19-9	N/A	Two-site sandwich immunoassay using direct chemiluminometric technology	Siemens	U/mL	All: ≤37.00	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995; see Source link for additional Reference Range information	15.00-700.00	15.00-33,600,000.00
CA27.29 (Breast Care Assoc Ag)	BR	Competitive chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiliminescent label.	Siemens	U/mL	All: ≤38.6	N/A	Advia Centaur, BR (CA 27.29) Package Insert 116751 Rev. J, 2009-07	9.0-450.0	9.0-90,000.0
Calcium	CA	Calcium ions (Ca2+) reacting with Arsenazo III (2,2'-[1,8-Dihydroxy-3,6-disulphonaphthylene-2,7-bisazo]-bisbenzenear-sonic acid) to form an intense purple colored complex. Absorbance of the Ca-Arsenazo III complex is measured bichromatically at 660/700 nm.	Beckman	mg/dL	>1 year: 8.6-10.5	<6.0 and >12.0	Established by OSUWMC Reference Interval Study 2013, verified by OSUWMC Reference Interval study 2021.	4.0-18.0	4.0-18.0
Calcium, Urine 24HR	N/A	See Calcium	Beckman	mg/24 hours	100.0-300.0	N/A	N/A	N/A (Calculation)	N/A (Calculation)
Calcium/Creat Ratio, Random Urine	CALCR	See Calcium / Creatinine	Beckman	Ca mg/Creat mg	0-6 months: <0.86 7-18 months: <0.60 19 months-2 years: <0.42 >3years: <0.22	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995	N/A (Calculation)	N/A (Calculation)
Calculated LDL Cholesterol	LDL, Low-Density Lipoprotein Cholesterol	Calculation: CHOL - [(TRIG/5)+HDL]	N/A	mg/dL	Adult optimal : <100	N/A	National Cholesterol Education Project (NCEP) Adult Treatment Protocol (ATP- III) (Circulation, 2002;106:3143-3421)	N/A	N/A
Carbamazepine Total Level	CARB	Competition between drug in the sample and drug labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH) for antibody binding sites. Enzyme activity decreases upon binding to the antibody, so the drug concentration in the sample can be measured in terms of enzyme activity. Active enzyme converts oxidized nicotinamide adenine dinucleotide (NAD) to NADH, resulting in an absorbance change.	Beckman	mcg/mL	All: 4.0-12.0 (Therapeutic Range)	>15.0	Applied Clinical Pharmacokinetics, 2001 Micromedex, OSU Intranet	2.0-20.0	2.0-100.0
CEA	N/A	Sandwich chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	ng/mL	All: ≤5.0	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995. See source link for additional Reference Range information.	2.0-100.0	2.0-8,000,000.0
CEA, Fluid	FCEA	Sandwich chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	ng/mL	The reference range and other method performance specifications have not been established for this fluid specimen.	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995; see Source link for additional Reference Range information	2.0-100.0	2.0-10,000.0
Ceruloplasmin	CERP	Turbidimetry	Beckman	mg/dL	20-60	N/A	Verified by OSUWMC Reference Interval Study 2021.	6-200	6-4,000
Chloride	CL	The ISE module for Na+, K+, and Cl- employs crown ether membrane electrodes for sodium and potassium and a molecular oriented PVC membrane for chloride that are specific for each ion of interest in the sample. An electrical potential is developed according to the Nernst Equation for a specific ion. When compared to the Internal Reference Solution, this electrical potential is translated into voltage and then into the ion concentration of the sample.	Beckman	mmol/L	18+ years: 98-108	<75 and >130	Established by OSUWMC Reference Interval Study 2013, verified by OSUWMC Reference Interval study 2021	50-200	50-200
Chloride, 24 Hr Urine	UCL, 24	See Chloride	Beckman	mmol/24hrs	110-250	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995	N/A (Calculation)	N/A (Calculation)
Chloride, Fluid	FCL	See Chloride	Beckman	mmol/L	The reference range has not been established for this fluid specimen. The fluid results should be compared with the concentration in serum/plasma or integrated into the clinical context for interpretation.	N/A	N/A	50-200	50-200
Chloride, Random Urine	UCLR	See Chloride	Beckman	mmol/L	Random: None established	N/A	N/A	15-400	15-400
Cholesterol Total	CHOL	Cholesterol esters in serum are hydrolyzed by cholesterol esterase (CHE). The free cholesterol produced is oxidized by cholesterol oxidase (CHO) to cholest-4-en-3-one with the simultaneous production of hydrogen peroxide (H202), which oxidatively couples with 4-aminoantipyrine and phenol in the presence of peroxidase to yield a chromophore. The red quinoneimine dye formed can be measured spectrophotometrically at 540/600 nm as an increase in absorbance.	Beckman	mg/dL	Desirable: <200 Borderline: 200-239 High: >240	N/A	National Cholesterol Education Project (NCEP) Adult Treatment Protocol (ATP- III) (Circulation, 2002;106:3143-3421)	25-700	25-2,100
Cholesterol, Body Fluid	FCHOL	See Cholesterol	Beckman	mg/dL	Pleural: Pleural fluid cholesterol concentrations > 200 mg/dL are associated with pseudochylous effusions. Peritoneal: Peritoneal fluid cholesterol concentrations greater than 32-70 mg/dL may suggest malignant ascites.	N/A	Pleural: Hooper C, et al. Thorax. 2010 Aug;65:Suppl2:ii4-17. McGrath, et al. Int J Clin Pract. 2009 Nov;63(11):1653-9. Peritoneal: Block, et al. Crit Rev Clin Lab Sci. 2013;50:107-124.	25-700	25-700

CK	Creatine Kinase, CKB	CK reversibly catalyzes the transfer of a phosphate group from creatine phosphate to (ADP) to give creatine and (ATP) as products. The ATP formed is used to produce glucose-6-phosphate and ADP from glucose. This reaction is catalyzed by hexokinase (HK) which requires magnesium ions for maximum activity. The glucose-6-phosphate is oxidized by the action of the enzyme glucose-6-phosphate dehydrogenase (G6P-DH) with simultaneous reduction of the coenzyme nicotinamide adenine dinucleotide (NADP) to give NADPH and 6-phosphogluconate. The rate of increase of absorbance at 340/660 nm due to the formation of NADPH is directly proportional to the activity of CK in the sample.	Beckman	U/L	19+ years: Female: 30-184 Male: 30-220	≥500	Established by OSUWMC Reference Interval Study 2013, verified by OSUWMC Reference Interval study 2021	10-2,000	10-200,000
CO2 Total	CO2	Bicarbonate ($HCO3^-$) and phosphoenolpyruvate (PEP) are converted to oxaloacetate and phosphate in the reaction catalyzed by phosphoenolpyruvate carboxylase (PEPC). Malate dehydrogenase (MD) catalyzes the reduction of oxaloacetate to malate with the concomitant oxidation of reduced nicotinamide adenine dinucleotide (NADH). This oxidation of NADH results in a decrease in absorbance of the reaction mixture measured bichromatically at 380/410 nm proportional to the Bicarbonate content of the sample.	Beckman	mmol/L	3+ years: 21-31	<10 and >40	Beckman Coulter IFU verified by OSUWMC Reference Interval Study 2021.	5-45	5-45
Cortisol	ACTH Stimulation, CORT	Competitive chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	mcg/dL	All: 3.09-22.40	N/A	Atellica IM Cortisol Package Insert 11200393_EN Rev. 03-2020-03	0.50-75.00	0.50-2,400.00
Creatinine	CREA	This Creatinine procedure is a kinetic modification of the Jaffe procedure, in which creatinine reacts with picric acid at alkaline pH to form a yellow orange complex. The rate of change in absorbance at 520/800nm is proportional to the creatinine concentration in the sample.	Beckman	mg/dL	19+ years: Female: 0.50 - 1.20 Male: 0.70-1.30	>10.00	OSUWMC Reference Range Study effective 12.11.2013; verified by OSUWMC Reference Interval Study 2021. Pediatric Reference Ranges, Soldin, 1999	0.20-25.00	0.20-25.00
Creatinine, 24 HR Urine	UCRE, 24	See Creatinine	Beckman	g/24 hrs	18+ years male: 0.80-2.00 18+ years female: 0.60-1.80	N/A	NKDEP traceable :Clinical Guide to Laboratory Tests, Tietz, 1995; Pediatric Reference Ranges, Soldin, 1999	N/A (Calculation)	N/A (Calculation)
Creatinine, 8 Hour Urine		See Creatinine		mg/dL				1.00-300.00	1.00-900.00
Creatinine Clearance, 8 Hour Urine	8UCR	Calculation Urine Creatinine (mg/dL) X Urine Volume (mL) Serum/Plasma Creatinine (mg/dL) x Time (min) *serum/plasma creatinine (CREA) must be collected within +/-24 hours from the time of the urine collection for the calculation to work in LIS	Beckman	mL/Min	N/A	N/A	N/A	N/A	N/A
Creatinine, Body Fluid	FLCREA	See Creatinine	Beckman	mg/dL	Peritoneal and drainage: Fluid creatinine concentrations that are greater than serum/plasma creatinine concentrations may imply intraperitoneal leakage of urine outside of the urinary tract. Pleural: Pleural fluid creatinine to serum/plasma creatinine concentration ratio > 1 suggests urinothorax.	N/A	Manahan KJ, et al. Obstet Gynecol. 1999 May;93(5 Pt 1):780-2. Pleural: Toubes, et al. J Thorac Dis. 2017;9(5):1209:1218.	0.20-25.00	0.20-25.00
Creatinine, Random Urine	UCRER	See Creatinine	Beckman	mg/dL	N/A	N/A	N/A	1.00-300.00	1.00-900.00
Digoxin Level	Lanoxin, DIG	Enzyme Immunoassay	Beckman	ng/mL	0.5-1.0 (Therapeutic Range)	≥2.1	Applied Clinical Pharmacokinetics, Bauer, 2001	0.3-5.0	0.3-10.0
$eGFR_{cr}$	Estimated glomerular filtration rate	CKD-EPI 2021 Calculation. eGFRcr = 142 x min(Scr/κ, 1)a x max(Scr/κ, 1)-1.200 x 0.9938Age x 1.012 [if female] where κ = 0.7 (females) or 0.9 (males) a = -0.241 (female) or -0.302 (male) Scr = serum creatinine in mg/dL; divide by 88.4 for creatinine in µmol/L Age (years) The "min(Scr/κ, 1)" factor indicates the minimum of Scr/κ or 1.0 and "max(Scr/κ, 1)" indicates the maximum of Scr/κ or 1.0.	N/A	$mL/min/1.73m^2$	≥ 60 $mL/min/1.73m^2$	N/A	KDIGO 2012 Clinical Practice Guidelines	N/A	≤ 90 $mL/min/1.73m^2$
Estradiol Enhanced	eE2	Standardization traceable to Isotope Dilution Gas Chromatography-Mass Spectrometry (ID GC-MS). Competitive chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and monoclonal antibody labeled with acridinium ester as the chemiluminescent label.	Siemens	pg/mL	**Male: 19+ years**: <11.8-39.8 **Adult Female** **Follicular Phase**: 19.5-144.2 **Midcycle Phase**: 63.9-356.7 **Luteal Phase**: 55.8-214.2 **Post Menopausal**: <11.8-32.2	N/A	Advia Centaur, Enhanced Estradiol (eE2) Package Insert 10491467 Rev. C, 2010-09; Pediatric Reference Ranges, Soldin, 1999	11.8-3,000.0	11.8-150,000.0
Ferritin	FERIB	Two-site sandwich chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	ng/mL	Female 20+ years: 10.0-291.0 Male 20+ years: 22.0-322.0	N/A	Atellica IM Ferritin Package Insert 11200601_EN Rev. 03-2019-06; Pediatric Reference Ranges, Soldin, 1999	0.9-1,650.0	0.9-1,650,000.0
Folate, Serum	FOLSB	Competitive chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	ng/mL	19+ years: >5.38	N/A	Atellica IM Folate Package Insert 11200602_EN Rev. 04-2020-11; Pediatric Reference Ranges, Soldin, 1999	0.56-24.00	0.56-960.00
FSH	Follicle stimulating hormone	Two-site sandwich immunoassay using direct chemiluminometric technology	Siemens	mIU/mL	Male: <18.1 Female, follicular: 2.5-10.2 Female, midcycle: 3.4-33.4 Female, Luteal: 1.5-9.1 Female, pregnant: <0.3 Female, post-menopausal: 23.0-116.3	N/A	Atellica IM FSH Package Insert 11200384_EN Rev. 06-2020-09	0.3-200.0	0.3-6,400.0

GGT	Gamma Glutamyl Transferase	A modification of the Szasz procedure.2,3 GGT catalyzes the transfer of the gamma-glutamyl group from the substrate, gamma-glutamyl-3-carboxy-4-nitroanilide, to glycylglycine, yielding 5-amino-2-nitrobenzoate. The change in absorbance at 410/480 nm is due to the formation of 5-amino-2-nitrobenzoate and is directly proportional to the GGT activity in the sample.	Beckman	U/L	19+ years: 8-64	N/A	Beckman Coulter IFU verified by OSUWMC Reference Interval Study 2021 (lower end modified). Pediatric Reference Ranges, Soldin, 1999 (Lower end of reference range modified to agree with the linear limits).	3-1,200	3-6,000
Glucose	GLUC	Glucose is phosphorylated by hexokinase (HK) in the presence of adenosine triphosphate (ATP) and magnesium ions to produce glucose-6-phosphate (G-6-P) and adenosine diphosphate (ADP). Glucose-6-phosphate dehydrogenase (G6P-DH) specifically oxidizes G-6-P to 6-phosphogluconate with the concurrent reduction of nicotinamide adenine dinucleotide (NAD+) to nicotinamide adenine dinucleotide, reduced (NADH). The change in absorbance at 340/660 nm is proportional to the amount of glucose present in the sample.	Beckman	mg/dL	1+ years: 70-99 (fasting)	>1year: <50 and >400 <1 year: <40 and >200	ADA Standards October 2012, Clinical Guide to Laboratory Tests, Tietz, 1995; Pediatric Reference Ranges, Soldin, 1999	10-800	10-2,400
Glucose, Body Fluid	FGLUC	See Glucose	Beckman	mg/dL	**Amniotic:** Amniotic fluid glucose concentrations < 10 mg/dL are consistent with intra-amniotic inflammation in patients with prelabor rupture of membranes. **Peritoneal:** Peritoneal glucose concentrations >50 mg/dL (2.8 mmol/L) are consistent with spontaneous bacterial peritonitis and concentrations below this are consistent with secondary bacterial peritonitis due to gut perforation. **Pericardial:** Pericardial fluid glucose to serum/plasma glucose ratios are 1.0 in presumed 'normal' patients. **Pancreatic Body Cyst:** Pancreatic Cyst Glucose measurements of ≤ 50 mg/dL are suggestive of a mucinous lesion. **Pleural**: Pleural fluid glucose concentrations are equivalent to serum/plasma glucose concentrations in the absence of pleural pathology. Pleural fluid glucose concentrations < 60 mg/dL may indicate parapneumonic or malignant effusion. Other less common effusions associated with	N/A	Amniotic: Gonzalez-Bosquet, et al. J Matern Fetal Med. Jul-Aug 1999;8(4):155-8. Pancreatic cyst: Carr, et al. Surgery. 2018 Mar;163(3):600-605. Peritoneal: Runyon BA, Hoefs JC Hepatology. 1985;5(2):257. Pericardial: Ben-Horin S, et al. Am J Med 2005;118:636–40. Pleural: Toubes, et al. J Thorac Dis. 2017;9(5):1209:1218. Light, RW. N Engl J Med. 2002 Jun 20;346(25):1971-1977 Synovial: Margaretten, et al. JAMA. 2007;297(13):1478-1488.	10-800	10-800
Glucose, CSF	CFG	See Glucose	Beckman	mg/dL	All: 40-70	<30 and >300	Clinical Guide to Laboratory Tests, Tietz, 1995	10-800	10-800
Haptoglobin	HAP	Turbidimetry	Beckman	mg/dL	44-215	N/A	Package Insert. Verified by OSUWMC Reference Interval Study 2021.	30-400	30-1,200
hCG Qualitative, Urine	Urine Pregnancy Test	Lateral-flow test using a monoclonal antibody specific to the beta subunit of hCG.	Alere	Qualitative	Non-pregnant = Negative Pregnant = Positive	N/A	Package Insert	Positive Negative	Positive Negative
hCG, Quant (Tumor Marker)	HCGTM	Two-site sandwich immunoassay using direct chemiluminometric technology with paramagnetic particles as the solid phase and acridinium ester as the label.	Siemens	mIU/mL	<10.0	N/A	Advia Centaur tHCG Package Insert 10634917_EN Rev. F, 2011-04	2.6-1,000.0	2.6-128,000,000.0
HDL Cholesterol	HDL	In phase one, free cholesterol in non-HDL-lipoproteins is solubilized and consumed by cholesterol oxidase, peroxidase, and DSBmT to generate a colorless end product. In phase two a unique detergent selectively solubilizes HDL- lipoproteins. The HDL cholesterol is released for reaction with cholesterol esterase, cholesterol oxidase and a chromogen system to yield a blue color complex which can be measured bichromatically at 600/700nm. The resulting increase in absorbance is directly proportional to the HDL-C concentration in the sample.	Beckman	mg/dL	20+ years: ≥40	N/A	National Cholesterol Education Project (NCEP) Adult Treatment Protocol (ATP- III) (Circulation, 2002;106:3143-3421)	3-200	3-600
High-Sensitivity Troponin-I (Single Order) **High-Sensitivity Troponin I (Serial Order)**	HSTI1, Troponin I, Trop I HSTI2, Troponin I, Trop I	Three-site sandwich immunoassay using direct chemiluminometric technology with paramagnetic particles as the solid phase and	Siemens	ng/L	Female: <34 Male: <53	≥3000 first time in 24 hours AND	Atellica IM TnIH Package Insert 11200498_EN Rev. 06, 2019-06	3-25,000	3-2,000,000
Homocysteine	HOMCYS, HCY	Competitive chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	umol/L	All: 3.7-13.9	N/A	Atellica IM Homocysteine Package Insert 10995362_EN Rev. 04-2021-03	0.5-65.0	0.5-130.0
IgA	Immunoglobulin A	Turbidimetry	Beckman	mg/dL	Adult 19-60Y: 66-433	N/A	Package Insert. Verified by OSUWMC Reference Interval Study 2021.	10-700	10-14,000
IgG	Immunoglobulin G	Turbidimetry	Beckman	mg/dL	Adult 19-60Y: 600-1,714	N/A	OSUWMC Immunoglobulin Reference Range Study; Verified by OSUWMC Reference Interval Study 2021.	75-3,000	75-60,000
IgM	Immunoglobulin M	Turbidimetry	Beckman	mg/dL	Adult 19-60Y: 45-281	N/A	Package Insert. Verified by OSUWMC Reference Interval Study 2021.	20-500	20-50,000
Iron	N/A	TPTZ [2,4,6-Tri-(2-pyridyl)-5-triazine] as the chromogen.3 In an acidic medium, transferrin-bound iron dissociates into free ferric ions and apo-transferrin. Hydrochloric acid and sodium ascorbate reduce the ferric ions to the ferrous state. The ferrous ions then react with TPTZ to form a blue colored complex which can be measured bichromatically at 600/800 nm. The increase in absorbance is directly proportional to the amount of transferrin bound iron present.	Beckman	mcg/dL	19+ years: 40-174	N/A	Established by OSUWMC Reference Interval Study 2013, verified by OSUWMC Reference Interval study 2021.	10-1,000	10-2,000
Lactate Dehydrogenase	LD	Utilizes the forward reaction of lactate to pyruvate. Lactate and NAD are converted to pyruvate and NADH catalyzed by LD. NADH strongly absorbs light at 340 nm, whereas NAD does not. The rate of change of absorbance at 340 nm is directly proportional to the LD activity in the sample.	Beckman	U/L	19+ years: 100-190	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995; verified by OSUWMC Reference Interval Study 2021. Pediatric Reference Ranges, Soldin, 1999	25-1,200	25-60,000

Lactate Dehydrogenase Body Fluid	FLLD	See Lactate Dehydrogenase (LD)	Beckman	U/L	**CSF:** Contamination with red blood cells can falsely increase LDH measurements. Elevated LDH in CSF specimens may indicate a non-specific immune process. CSF LDH measurements above 40 U/L may be associated with Creutzfeldt-Jakob Disease, Bacterial meningitis, Neurosyphilis, or tumors of the central nervous system. Pleural: A Pleural fluid LDH to serum/plasma LDH ratio > 0.6 or a pleural fluid LDH concentration > two-thirds the upper limit of the serum/plasma LDH reference interval suggest an exudate. Pericardial: Pericardial fluid LDH to serum/plasma LDH ratio > 0.6 or > 300 U/L suggests an exudate. Peritoneal: Peritoneal fluid LDH to serum/plasma LDH ratio > 0.6 is consistent with an exudate.	N/A	CSF: Clinical Utility of Biochemical Analysis of Cerebrospinal Fluid Clinical Chemistry 1995 Watson MA. Pericardial and peritoneal: Burgess. Clinica Chimica Acta 343 (2004) 61–84. Pleural Light, RW. N Engl J Med. 2002 Jun 20;346(25):1971-1977.	25-1,200	25-30,000
Lactate, Blood	Lactate, Plasma	L-lactate is oxidized to pyruvate and hydrogen peroxide by lactate oxidase (LOD). A colored product is produced by the reaction of peroxidase (POD), hydrogen peroxide, 4 -aminoantipyrine and a hydrogen donor (TOOS). The colored product is measured photometrically. The color intensity is proportional to the concentration of lactate in the sample under examination.	Beckman	mmol/L	All: 0.5-2.2	≥5.0	Beckman Coulter Literature (IFU) which cites, Tietz, N. W., Clinical Guide to Laboratory Tests, 3rd Edition, W. B. Saunders, Philadelphia, PA (1995).	0.2-10.0	0.2-30.0
	Lactic Acid	Amperometric	Radiometer	mmol/L	Adult: 0.5 – 1.6		ABL 800 Flex Reference Manual, 2008	0.0-30.0	0.0-30.0
Lactate, CSF	CSLACT	See Lactate	Beckman	mmol/L	Adult: <2.8	N/A	Beckman Coulter literature which cites Clinical Guide to Laboratory Tests, Tietz, 1995	0.2-10.0	0.2-30.0
Lactate, Fluid	FLACT	See Lactate	Beckman	mmol/L	The reference range has not been established for this fluid specimen. The fluid results should be compared with the concentration in serum/plasma or integrated into the clinical context for interpretation.	N/A	N/A	0.2-10.0	0.2-30.0
LDL, Direct Measure	LDLB, Low-Density Lipoprotein Cholesterol	Cholesterol is consumed by cholesterol esterase, cholesterol oxidase, peroxidase and 4-aminoantipyrine to generate a colorless end product. In phase two a second detergent in reagent 2 releases cholesterol from the LDL – lipoproteins. This cholesterol reacts with cholesterol esterase, cholesterol oxidase and a chromogen system to yield a blue color complex which can be measured bichromatically at 540/660nm. The resulting increase in absorbance is directly proportional to the LDL-C concentration in the sample.	Beckman	mg/dL	Adult optimal : <100	N/A	National Cholesterol Education Project (NCEP) Adult Treatment Protocol (ATP- III) (Circulation, 2002;106:3143-3421)	7-400	7-1,200
LH	Luteinizing Hormone	Two-site sandwich chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	mIU/mL	**Male 20–70 years:** 1.5-9.3 **Male >70 years:** 3.1-4.6 **Children:** <0.1-6.0 **Female, follicular phase:** 1.9-12.5 **Female, mid cycle:** 8.7-76.3 **Female, luteal:** 0.5-16.9 **Female, pregnant:** <0.1-1.5 **Female, post-menopausal:** 15.9-54.0 **Female on Contraceptives:** 0.7-5.6	N/A	Atellica IM LH Package Insert 11200385_EN Rev. 04-2020-06; Pediatric Reference Ranges, Soldin, 1999	0.07-200.00	0.07-6,400.00
Lipase	LIPA	Colorimetric method of Imamura, et al.1 Pancreatic lipase hydrolyzes esters of long chain fatty acids from their triglycerides. The enzyme activity requires the presence of co-lipase. 1,2-Diglyceride is hydrolyzed to 2-monoglyceride and fatty acid. The 2-monoglyceride is then measured by coupled enzyme reactions catalyzed by monoglyceride lipase (MGLP), glycerol kinase (GK), glycerol phosphate oxidase (GPO) and peroxidase (POD).	Beckman	U/L	19+ years: 11-82	N/A	Beckman Coulter Chemistry Information Sheet, 9/2020; verified by OSUWMC Reference Interval Study 2021. Pediatric Reference Ranges, 1999	6-600	6-6,000
Lipase, Fluid	FLIPA	See Lipase	Beckman	U/L	The reference range has not been established for this fluid specimen. The fluid results should be compared with the concentration in serum/plasma or integrated into the clinical context for interpretation.	N/A	N/A	6-600	6-600
Lipid Panel With Reflex To Measured LDL	Lipid Screen, LIPDR	See individual testing methodology	See individual testing methodology	Varies	Varies	N/A	N/A	N/A	N/A
Lithium Level	LI	A spectrophotometric method which can be readily adapted to automated clinical chemistry analyzers. Lithium present in the sample reacts with a substituted porphyrin compound at an alkaline pH, resulting in a change in absorbance which is directly proportional to the concentration of Lithium in the sample.	Beckman	mmol/L	<60 years: 0.60-1.20 ≥60 years: 0.40-0.80 (Therapeutic Range)	>1.50	Applied Clinical Pharmacokinetics, Bauer, 2001; Clinical Pharmacokinetics, Eilers, 1995;29:442-50 Bipolar Disord. 2019 Mar;21(2):117-123. Bipolar Disord. 2019 May;21(3):190-191.	0.10-5.00	0.10-5.00
Magnesium	MG	Utilizes a direct method in which magnesium forms a colored complex with xylidyl blue in a strongly basic solution, where calcium interference is eliminated by glycoletherdiamine-N,N,N',N'-tetraacetic acid (GEDTA).3,4,5 The color produced is measured bichromatically at 520/800 nm and is proportional to the magnesium concentration.	Beckman	mg/dL	19+ years: 1.6-2.6	<1.0 and >4.4	Clinical Guide to Laboratory Tests, Tietz, 1995; verified by OSUWMC Reference Interval Study 2021. Pediatric Reference Ranges, Soldin, 1999	0.5-8.0	0.5-24.0
Magnesium, 24Hr Urine	UMG, 24	See Magnesium	Beckman	mg/24hrs	72.9-121.5	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995	N/A (Calculation)	N/A (Calculation)
Magnesium, Urine, Random	N/A	See Magnesium	Beckman	mg/dL	N/A	N/A	N/A	0.5-10.0	0.5-100.0
Microalbumin, Random Urine	MALBR	Turbidimetry	Beckman	mg/L	N/A	N/A	Package Insert	7.0-450.0	7.0-4,500.0

Microalbumin, 24HR Urine	N/A	Turbidimetry	Beckman	mg/24 hours	≤30.0	N/A	Package Insert	N/A (Calculation)	N/A (Calculation)
Microalbumin/Creatinine Ratio (ACR)	N/A	Turbidimetry	Beckman	mg/g	≤30.0	N/A	Package Insert	N/A (Calculation)	N/A (Calculation)
Mononucleosis Screen	Mononucleosis Testing, Rapid	One-step antibody test using solid-phase immunoassay technology for the qualitative detection of infectious mononucleosis heterophile antibodies.	Alere Acceava	Qualitative	All: Negative	N/A	Alere Acceava Mono Package Insert	Positive / Negative	Positive / Negative
Osmolality	Osmolality, Serum	Freezing point depression.	Advanced Instrument Osmometer	mOsm/kg	278 - 305	<250 and >325	OSU, In House Reference Range Validation, 2017	50-2,000	50-2,000
Osmolality, Stool	FOSMO	Freezing point depression.	Advanced Instrument Osmometer	mOsm/kg	275-300	N/A	Advanced Instruments Model A2O. June 2014.	50-2,000	50-2,000
Osmolality, Serum (Calculated)	Osmolality	Calculation (1.86 (Na +K) + 1.15 (Glucose/18) + (Urea/2.8) + 14	Beckman	mOsm/kg	278-305	N/A	OSU, In House Reference Range Validation, 2015	N/A	N/A
Osmolality, Urine	UOSMR	Freezing point depression.	Advanced Instrument Osmometer	mOsm/kg	All: 300-900	N/A	Clinical Guidelines for Laboratory Tests, Tietz, 1995	50-2,000	50-2,000
Phenobarbital Level, Random	PHNOR	The assay is based on competition between drug in the sample and drug labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH) for antibody binding sites. Enzyme activity decreases upon binding to the antibody, so the drug concentration in the sample can be measured in terms of enzyme activity. Active enzyme converts nicotinamide adenine dinucleotide (NAD) to NADH, resulting in an absorbance change that is measured spectrophotometrically.	Beckman	mcg/mL	All: 15.0-40.0 (Therapeutic Range)	>45.0	Applied Clinical Pharmacokinetics, 2001	5.0-80.0	5.0-240.0
Phenobarbital Level, Trough	PHNO	The assay is based on competition between drug in the sample and drug labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH) for antibody binding sites. Enzyme activity decreases upon binding to the antibody, so the drug concentration in the sample can be measured in terms of enzyme activity. Active enzyme converts nicotinamide adenine dinucleotide (NAD) to NADH, resulting in an absorbance change that is measured spectrophotometrically.	Beckman	mcg/mL	All: 15.0-40.0 (Therapeutic Range)	>45.0	Applied Clinical Pharmacokinetics, 2001	5.0-80.0	5.0-240.0
Phenytoin Total Level	PTN	The assay is based on competition between drug in the sample and drug labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH) for antibody binding sites. Enzyme activity decreases upon binding to the antibody, so the drug concentration in the sample can be measured in terms of enzyme activity. Active enzyme converts oxidized nicotinamide adenine dinucleotide (NAD) to NADH, resulting in an absorbance change that is measured spectrophotometrically.	Beckman	mcg/mL	All: 10.0-20.0 (Therapeutic Range)	≥22.0	Applied Clinical Pharmacokinetics, 2001	2.5-40.0	2.5-200.0
Phosphate, Inorganic	IP	Inorganic phosphate reacts with molybdate to form a heteropolyacid complex. The use of a surfactant eliminates the need to prepare a protein free filtrate. The absorbance at 340/380 nm is directly proportional to the Inorganic Phosphorus level in the sample.	Beckman	mg/dL	19+ years: 2.2-4.6	<1.0 and >10.0	OSUWMC Reference Range Study effective 12.11.2013; verified by OSUWMC Reference Interval Study 2021. Pediatric Reference Ranges, Soldin, 1999	1.0-20.0	1.0-60.0
Phosphorus, 24Hr	UIP, 24	See Phosphorus	Beckman	g/24hrs	0.4-1.3	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995	N/A (Calculation)	N/A (Calculation)
Phosphorus, Random Urine	UIPR	See Phosphorus	Beckman	mg/dL	N/A	N/A	N/A	10.0-200.0	10.0-1,000.0
Potassium	K	The ISE module for Na+, K+, and Cl- employs crown ether membrane electrodes for sodium and potassium and a molecular oriented PVC membrane for chloride that are specific for each ion of interest in the sample. An electrical potential is developed according to the Nernst Equation for a specific ion. When compared to the Internal Reference Solution, this electrical potential is translated into voltage and then into the ion concentration of the sample.	Beckman	mmol/L	18+ years: 3.5-5.0	>18Y: <3.0 and >6.0 1-18Y: <3.0 and >6.0 <1Y: <3.0 and >7.0	OSUWMC Reference Range Study effective 12.11.2013; verified by OSUWMC Reference Interval Study 2021. Pediatric Reference Ranges, Soldin, 1999	1.0-10.0	1.0-10.0
Potassium Body Fluid	FK	See Potassium	Beckman	mmol/L	The reference range has not been established for this fluid specimen. The fluid results should be compared with the concentration in serum/plasma or integrated into the clinical context for interpretation.	N/A	N/A	2.0-200.0	2.0-200.0
Potassium, 24 Hr Urine	UK, 24	See Potassium	Beckman	mmol/24hrs	25-125	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995	N/A (Calculation)	N/A (Calculation)
Potassium, Random Urine	UKR	See Potassium	Beckman	mmol/L	N/A	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995	2.0-200.0	2.0-200.0
Prealbumin	PALB	Turbidimetry	Beckman	mg/dL	17-34	N/A	Package Insert. Verified by OSUWMC Reference Interval Study 2021.	3-80	3-1,600
Procalcitonin	PROCAL	Two-site sandwich chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	ng/mL	<0.50	N/A	Atellica IM Procalcitonin 11200767_EN Rev. 03, 2019-06	0.04-50.00	0.04-2,000.00
Progesterone	PROG	Competitive chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	ng/mL	**Male:** 0.28-1.22 **Female, follicular:** Not detected-1.40 **Female, luteal:** 3.34-25.56 **Female, mid-luteal:** 4.44-28.03 **Female, post-menopausal:** Not detected-0.73	N/A	Atellica IM Progesterone Package Insert 11200386_EN Rev. 04-2020-06	0.21-60.00	0.21-3,000.00

Prolactin	PROL	Two-site sandwich chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	ng/mL	**Males:** 2.1-17.7 **Female, nonpregnant:** 2.8-29.2 **Female, pregnant:** 9.7-208.5 **Female, postmenopausal:** 1.8-20.3 <u>All</u>: **<2 years:** 3.3-14.7 **2-6 years:**1.0-12.8 **6-11 years:** 1.2-11.4 **11-18 years:** 1.4-14.3	N/A	Advia Centaur Prolactin Package Insert 111746 Rev. N, 2008-09; Pediatric Reference Intervals, 5th ed Soldin, 2005	0.3-200.0	0.3-800,000.0
Protein Total	TP	Cupric ions in an alkaline solution react with proteins and polypeptides containing at least two peptide bonds to produce a violet colored complex. The absorbance of the complex at 540/660nm is directly proportional to the concentration of protein in the sample.	Beckman	g/dL	19+ years: 6.4-8.3	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995; verified by OSUWMC Reference Interval Study 2021. Pediatric Reference Ranges, Soldin, 1999	3.0-12.0	3.0-24.0
Protein, 24 Hr Urine	UPRO	See Total Protein CSF (M-TP)	Beckman	mg/24hrs	40-225	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995	N/A (Calculation)	N/A (Calculation)
Protein, CSF	CFP	The Urinary/CSF Protein reagent is a colorimetric method. Pyrogallol red is combined with molybdate to form a red complex with a maximum absorbance at 470nm. The assay is based on the shift in absorbance that occurs when the pyrogallol red-molybdate complex binds basic amino groups of protein molecules. Under the conditions of the test in the presence of protein, a blue-purple complex is formed with a maximum absorbance at 600nm.	Beckman	mg/dL	31+ Days: 15-45	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995; Pediatric Reference Ranges, Soldin, 1999	4-200	4-5,000
Protein, Fluid	FLP	Cupric ions in an alkaline solution react with proteins and polypeptides containing at least two peptide bonds to produce a violet colored complex. The absorbance of the complex at 540/660nm is directly proportional to the concentration of protein in the sample.	Beckman	g/dL	Most transudates have total protein concentrations below 3.0 g/dL.	N/A	4th Edition of Tietz	0.5-12.0	0.5-24.0
Protein, Random Urine	UPROR	See Total Protein CSF (M-TP)	Beckman	mg/dL	N/A	N/A	N/A	4-200	4-5,000
PSA, Screening	EPSA	Two-site sandwich chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	ng/mL	All: ≤4.00	N/A	Atellica IM PSA Package Insert 10997799_EN Rev. 03-2019-09	0.04-100.00	0.04-6,400,000.00
PSA, Reflex to Free and Total PSA	PSA	Two-site sandwich chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	ng/mL	All: ≤4.00	N/A	Atellica IM PSA Package Insert 10997799_EN Rev. 03-2019-09	0.04-100.00	0.04-6,400,000.00
PSA - Tumor Marker	PSATM	Two-site sandwich chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	ng/mL	All: ≤4.00	N/A	Atellica IM PSA Package Insert 10997799_EN Rev. 03-2019-09	0.04-100.00	0.04-6,400,000.00
Rheumatoid Factor	RF	Turbidimetry	Beckman	IU/mL	≤14	N/A	Package Insert. Verified by OSUWMC Reference Interval Study 2021.	10-120	10-3,000
Salicylate Level	Aspirin	Serum is mixed with Reagent 1, which contains antibodies to salicylic acid and the coenzyme nicotinamide adenine dinucleotide (NAD). Subsequently, Reagent 2, which contains salicylic acid labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH), is added. Salicylic acid in the sample and salicylic acid-labeled G6PDH compete for antibody binding sites. Enzyme activity decreases upon binding to the antibody, so the salicylic acid concentration in the sample can be measured in terms of enzyme activity. Active enzyme converts oxidized NAD to NADH, resulting in an absorbance change that is measured spectrophotometrically.	Beckman	mg/dL	Therapeutic: 20.0-30.0	>30.0	Applied Pharmacokinetics: Principles of Therapeutic Drug Monitoring, 2nd Edition 2002 Applied Therapeutics, Inc. and Micromedex. On OSU Intranet.	5.0-80.0	5.0-240.0
Sodium	Na+	The ISE module for Na+, K+, and Cl- employs crown ether membrane electrodes for sodium and potassium and a molecular oriented PVC membrane for chloride that are specific for each ion of interest in the sample. An electrical potential is developed according to the Nernst Equation for a specific ion. When compared to the Internal Reference Solution, this electrical potential is translated into voltage and then into the ion concentration of the sample.	Beckman	mmol/L	1+ years: 135-145	<125 and >160	Verified by OSUWMC Reference Interval Study 2021.	50-200	50-200
Sodium Body Fluid	FNA	See Sodium	Beckman	mmol/L	The reference range has not been established for this fluid specimen. The fluid results should be compared with the concentration in serum/plasma or integrated into the clinical context for interpretation.	N/A	N/A	50-200	50-200
Sodium, 24 Hr Urine	UNA, 24	See Sodium	Beckman	mmol/24hrs	40-220	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995	N/A (Calculation)	N/A (Calculation)
Sodium, Random Urine	UNAR	See Sodium	Beckman	mmol/L	N/A	N/A	N/A	10-400	10-400
T3 Free	FT3	Competitive chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	pg/mL	19+ years: 2.3-4.2	N/A	Atellica IM Free T3 Package Insert 10995347_EN Rev. 03-2020-06	0.2-20.0	0.2-20.0
T3 Total (Triiodothyronine)	T3, T3RIA	Competitive chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	ng/mL	19+ years: 0.60-1.81	N/A	Atellica IM Total T3 Package Insert 10995424_EN Rev. 03-2020-06	0.10-8.00	0.10-80.00

T4	Thyroxine, Total	Competitive chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	mcg/dL	19+ years: 4.5-10.9	N/A	Atellica IM Total T4 Package Insert 10995425_EN Rev. 03-2020-069; Pediatric Reference Ranges, Soldin, 1999	0.4-30.0	0.4-300.0
T4 Free	Thyroxine, Free FT4	Competitive chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	ng/dL	19+ years: 0.89-1.76	≥4.50 (ED Only)	Atellica IM Free T4 Package Insert 10995348_EN Rev. 06-2020-11; Pediatric Reference Ranges, Soldin, 1999	0.10-12.00	0.10-12.00
Testosterone	TESTOS	Chemiluminescent	Siemens	ng/dL	Male: 87-814 Female: <48 (Female free testosterone = 0.08-0.5 ng/dL)	N/A	Advia Centaur Assay Manual, Testosterone II Package Insert 10998603_EN Rev. B, 2016-07	7-1,500	7-3,000
Theophylline Level	THEO	Based on competition between drug in the sample and drug labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH) for antibody binding sites. Enzyme activity decreases upon binding to the antibody, so the drug concentration in the sample can be measured in terms of enzyme activity. Active enzyme converts oxidized nicotinamide adenine dinucleotide (NAD) to NADH, resulting in an absorbance change that is measured spectrophotometrically.	Beckman	mcg/mL	Adult: 5.0-20.0 (Therapeutic Range)	≥20.0	Applied Clinical Pharmacokinetics, 2001	2.5-40.0	2.5-200.0
Tobramycin Level, Random	TOBR	This assay is based on competition for antibody binding sites between drug in the sample and drug labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH). Enzyme activity decreases upon binding to the antibody, so the drug concentration in the sample can be measured in terms of enzyme activity. Active enzyme converts oxidized nicotinamide adenine dinucleotide (NAD) to NADH, resulting in an absorbance change that is measured spectrophotometrically.	Beckman	mcg/mL	Displays in Comment Field: Peak 10.0-15.0 Trough <1.0	≥20.0 Peak	Antimicrobial Stewardship Program, 2013	0.6-10.0	0.6-50.0
Tobramycin Level, Extended Interval	TOBRE1	This assay is based on competition for antibody binding sites between drug in the sample and drug labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH). Enzyme activity decreases upon binding to the antibody, so the drug concentration in the sample can be measured in terms of enzyme activity. Active enzyme converts oxidized nicotinamide adenine dinucleotide (NAD) to NADH, resulting in an absorbance change that is measured spectrophotometrically.	Beckman	mcg/mL	Displays in Comment Field: Peak 10.0-15.0 Trough <1.0	≥20.0 Peak	Antimicrobial Stewardship Program, 2013	0.6-10.0	0.6-50.0
Tobramycin Level, Peak (Post Drug Level)	TOBRPK	This assay is based on competition for antibody binding sites between drug in the sample and drug labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH). Enzyme activity decreases upon binding to the antibody, so the drug concentration in the sample can be measured in terms of enzyme activity. Active enzyme converts oxidized nicotinamide adenine dinucleotide (NAD) to NADH, resulting in an absorbance change that is measured spectrophotometrically.	Beckman	mcg/mL	All: 10.0-15.0 (Therapeutic Range)	≥20.0 Peak	Antimicrobial Stewardship Program, 2013	0.6-10.0	0.6-50.0
Tobramycin Level, Trough (Pre Drug Level)	TOBRTR	This assay is based on competition for antibody binding sites between drug in the sample and drug labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH). Enzyme activity decreases upon binding to the antibody, so the drug concentration in the sample can be measured in terms of enzyme activity. Active enzyme converts oxidized nicotinamide adenine dinucleotide (NAD) to NADH, resulting in an absorbance change that is measured spectrophotometrically.	Beckman	mcg/mL	All: <1.0 (Therapeutic Range)	≥1.0 Trough	Antimicrobial Stewardship Program, 2013	0.6-10.0	0.6-50.0
Total Iron Binding Capacity	Transferrin/Iron Binding	Calculation: See information for Transferrin	Beckman	mcg/dL	19+ years: 250-425	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995; Pediatric Reference Ranges, Soldin, 1999	112-1,118	112-1,118
Transferrin	TRANB	In the procedure, the measurement of the decrease in light transmitted (increase in absorbance) through particles suspended in solution as a result of complexes formed during the antigen-antibody reaction, is the basis of this assay.	Beckman	mg/dL	200-400	N/A	Fundamentals of Clinical Chemistry, Tietz 4th ed; Verified by OSUWMC Reference Interval Study 2021.	75-750	75-2,250
Triglycerides	TRIG	The glycerol is phosphorylated by adenosine triphosphate (ATP) in the presence of glycerol kinase (GK) to produce glycerol-3-phosphate. The glycerol-3-phosphate is oxidized by molecular oxygen in the presence of GPO (glycerol phosphate oxidase) to produce hydrogen peroxide (H2O2) and dihydroxyacetone phosphate. The formed H2O2 reacts with 4-aminophenazone and N,N-bis(4-sulfobutyl)-3,5-dimethylaniline, disodium salt (MADB) in the presence of peroxidase (POD) to produce a chromophore, which is read at 660/800nm. The increase in absorbance at 660/800 nm is proportional to the triglyceride content of the sample.	Beckman	mg/dL	Desirable: <150 Borderline: 150-199 High: 200-499 Very High: ≥500	N/A	National Cholesterol Education Project (NCEP) Adult Treatment Protocol (ATP- III) (Circulation, 2002;106:3143-3421)	10-1,000	10-10,000

Triglycerides, Body Fluid	FTRIG	See TG	Beckman	mg/dL	Peritoneal: Peritoneal fluid triglyceride values greater than 110 mg/dL have been suggested for diagnosis of chylous ascites. Measurement may also be useful in distinguishing cirrhotic versus malignant origins. Pleural: Pleural triglycerides <5 0 mg/dL excludes a chylothorax. Pleural triglycerides > 110mg/dL supports a diagnosis of a chylothorax. Drain: The reference range has not been established for this fluid specimen. The fluid results should be compared with the concentration in serum/plasma or integrated into the clinical context for interpretation.	N/A	Pleural: Staats BA, et al. Mayo Clin Proc. 1980;55(11):700. Peritoneal: Jüngst D, et al. Hepatology. 1986;6(2):239.	10-1,000	10-10,000
TSH	Thyroid Stimulating Hormone, TSH High Sensitivity	The ADVIA Centaur TSH3-Ultra assay is a third-generation assay that employs anti-FITC monoclonal antibody covalently bound to paramagnetic particles, an FITC-labeled anti-TSH capture monoclonal antibody, and a tracer consisting of a proprietary acridinium ester and an anti-TSH mAb antibody conjugated to bovine serum albumin (BSA) for chemiluminescent detection.	Siemens	uIU/mL	18+ years: 0.550-4.780	Call abnormal ED only ≥150.000	Atellica IM TSH3-UL Package Insert 11202198_EN Rev. 04-2021-03	0.008-150.000	0.008-150.000
TSH w/ FT4 Reflex	TSHQR	The ADVIA Centaur TSH3-Ultra assay is a third-generation assay that employs anti-FITC monoclonal antibody covalently bound to paramagnetic particles, an FITC-labeled anti-TSH capture monoclonal antibody, and a tracer consisting of a proprietary acridinium ester and an anti-TSH mAb antibody conjugated to bovine serum albumin (BSA) for chemiluminescent detection.	Siemens	uIU/mL	18+ years: 0.550-4.780	Call abnormal ED only ≥150.000	Atellica IM TSH3-UL Package Insert 11202198_EN Rev. 04-2021-03	0.008-150.000	0.008-150.000
Urea Nitrogen, 24 Hr Urine	UUREA	See BUN	Beckman	g/24hrs	10.0-20.0	N/A	Clinical Guide to Laboratory Tests, Tietz, 2012	N/A (Calculation)	N/A (Calculation)
Uric Acid	URICB, UA	Uric acid is converted by uricase to allantoin and hydrogen peroxide. Hydrogen peroxide reacts with 4-aminoantipyrine (4-AAP) in the presence of N,N-bis(4-sulfobutyl)-3,5-dimethylaniline, disodium salt (MADB) to produce a chromophore which is read bichromatically at 660/800 nm. The amount of dye formed is proportional to the uric acid concentration in the sample.	Beckman	mg/dL	19+ years: Female: 2.8-6.0 Male: 3.5-7.0	N/A	OSUWMC Reference Range Study effective 12.11.2013; verified by OSUWMC Reference Interval Study 2021. Pediatric Reference Ranges, Soldin, 1999	1.5-30.0	1.5-60.0
Uric Acid (Spec Handling)	N/A	Uric acid is converted by uricase to allantoin and hydrogen peroxide. Hydrogen peroxide reacts with 4-aminoantipyrine (4-AAP) in the presence of N,N-bis(4-sulfobutyl)-3,5-dimethylaniline, disodium salt (MADB) to produce a chromophore which is read bichromatically at 660/800 nm. The amount of dye formed is proportional to the uric acid concentration in the sample.	Beckman	mg/dL	19+ years: Female: 2.8-6.0 Male: 3.5-7.0	N/A	OSUWMC Reference Range Study effective 12.11.2013; Pediatric Reference Ranges, Soldin, 1999	1.5-30.0	1.5-60.0
Uric Acid, 24Hr	UURIC, 24	See Uric Acid	Beckman	g/24hrs	0.3-0.8	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995	N/A (Calculation)	N/A (Calculation)
Uric Acid, Random, Urine	UURICR	See Uric Acid	Beckman	mg/dL	N/A	N/A	N/A	1.0-100.0	1.0-300.0
Urine Calcium	Calcium, Random Urine	See Calcium	Beckman	mg/dL	N/A	N/A	N/A	0.1-40.0	0.1-120.0
Urine Urea Nitrogen - Random	UREAR	See BUN	Beckman	mg/dL	N/A	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995	20-1,300	20-13,000
Vancomycin Level, Random	VANCTR	Serum is mixed with Reagent 1, which contains vancomycin labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH). Subsequently, Reagent 2, which contains antibodies to vancomycin and the coenzyme nicotinamide adenine dinucleotide (NAD), is added. Vancomycin in the sample and vancomycin-labeled G6PDH compete for antibody binding sites. Enzyme activity decreases upon binding to the antibody, so the vancomycin concentration in the sample can be measured in terms of enzyme activity. Active enzyme converts oxidized NAD to NADH, resulting in an absorbance change that is measured spectrophotometrically.	Beckman	mcg/mL	Peak 20.0-40.0 Trough 10.0-20.0	≥25.1 Trough	Applied Clinical Pharmacokinetics, 2001 Clinical Pharmacotherapy, 1995; 15:85-91, Antimicrobial Stewardship Program, 2013	2.0-50.0	2.0-250.0
Vancomycin Level, Trough (Pre Drug Level)	VANCTR	Serum is mixed with Reagent 1, which contains vancomycin labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH). Subsequently, Reagent 2, which contains antibodies to vancomycin and the coenzyme nicotinamide adenine dinucleotide (NAD), is added. Vancomycin in the sample and vancomycin-labeled G6PDH compete for antibody binding sites. Enzyme activity decreases upon binding to the antibody, so the vancomycin concentration in the sample can be measured in terms of enzyme activity. Active enzyme converts oxidized NAD to NADH, resulting in an absorbance change that is measured spectrophotometrically.	Beckman	mcg/mL	All: 10.0-20.0 (Therapeutic Range)	≥25.1 Trough	Applied Clinical Pharmacokinetics, 2001 Clinical Pharmacotherapy, 1995; 15:85-91, Antimicrobial Stewardship Program, 2013	2.0-50.0	2.0-250.0

Vancomycin, Peak (Post Drug Level)	VANCPK	Serum is mixed with Reagent 1, which contains vancomycin labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH). Subsequently, Reagent 2, which contains antibodies to vancomycin and the coenzyme nicotinamide adenine dinucleotide (NAD), is added. Vancomycin in the sample and vancomycin-labeled G6PDH compete for antibody binding sites. Enzyme activity decreases upon binding to the antibody, so the vancomycin concentration in the sample can be measured in terms of enzyme activity. Active enzyme converts oxidized NAD to NADH, resulting in an absorbance change that is measured spectrophotometrically.	Beckman	mcg/mL	All: 20.0-40.0 (Therapeutic Range)	N/A	Applied Clinical Pharmacokinetics, 2001 Clinical Pharmacotherapy, 1995; 15:85-91	2.0-50.0	2.0-250.0
Vitamin B12	B12	Competitive chemiluminescent immunological reaction with para-magnetic particles as the solid phase, and acridinium ester as the chemiluminescent label.	Siemens	pg/mL	19+ years: 211-911	N/A	Atellica IM Vitamin B12 Package Insert 10995437_EN Rev. 02-2019-08; Pediatric Reference Ranges, Soldin, 1999	45-2,000	45-20,000
ADAMTS13 Activity and IgG Antibodies	AD13A	ELISA	Activity: VersaMax plate reader Technozym kit IgG Antibodies: VersaMax plate reader, Technozym kit	Activity: % IgG Antibodies: U/mL	Activity: ≥40% IgG Antibodies: ≤12.0 U/mL	N/A	Technozym kit	Activity: 2-100% IgG Antibodies: 6.0-104.0 U/mL	Activity: 2-100% IgG Antibodies: 6.0-104.0 U/mL
Alternative Activation Pathway	Bb Complement	ELISA	VersaMax Plate Reader, Quidel kit	ng/mL	695-1,974	N/A	Biomarker Reference Lab	See Quidel kit values (lot number specific)	See Quidel kit values (lot number specific)
EM Platelet (Electron Microscopy)	Tissue Exam	Whole mount	N/A	dg/plt	3.68-6.24	N/A	Old journal articles; lab derived	N/A	N/A
SC5b-9 Complement	Terminal Activation Pathway	ELISA	VersaMax Plate Reader, Quidel kit	ng/mL	6-598	N/A	Biomarker Reference Lab	See Quidel kit values (lot number specific)	See Quidel kit values (lot number specific)
Anti-Cardiolipin Ab, IgG	ACA; ACL; APA; Anti-Phospholipid Antibody IgG	Chemiluminescent two-step immunoassay with paramagnetic microparticles as the solid phase, and a derivative of isoluminol as the chemiluminescent molecule.	Inova	CU	0.0-20.0	N/A	Inova Quanta-Flash Package Insert Verified in house	10.0-500.0	10.0-10,000.0
Anti-Cardiolipin Ab, IgM	ACA; APA; ACL; Anti-Phospholipid Antibody IgM	Chemiluminescent two-step immunoassay with paramagnetic microparticles as the solid phase, and a derivative of isoluminol as the chemiluminescent molecule.	Inova	CU	0.0-20.0	N/A	Inova Quanta-Flash Package Insert Verified in house	10.0-200.0	10.0-4,000.0
Antithrombin	AT	Chromogenic measurement system consisting of a beam of monochromatic light at 405nm. This is a two step thrombin neutralization process.	Stago	%	17+ years: 85-118	N/A	OSU Inhouse Study 02/2004; Blood, Vol 80, 1998-2005, Andrew, 1992; Amer. Jour. Ped. Hematol. Oncol, Vol 12, 95-104, Andrew, 1990	See Stago Unicalibrator assayed values (lot number specific)	9-200
Anti Xa DOAC (Apixaban)	Apixaban, DOAC, Eliquis	Chromogenic measurement system consisting of a beam of monochromatic light at 405 nm.	Stago	ng/mL	**Displayed Comment:** Routine monitoring of anti XA activity is not recommended in patients on Apixaban. Therapeutic reference ranges have not been established. At steady state- median (5th-95th percentile) peak and trough levels have been observed in clinical trials.	N/A	1. Package insert: Apixaban: Diagnostica Stago. Revised January 2015 2. Hurst KV, O'Callaghan JM, Handa A: Quick reference guide to apixaban. Vasc Health Risk Manag 2017; 13:263-267 3. Granger CB, Alexander JH, McMurray JJ, et al: Apixaban versus warfarin in patient with atrial fibrillation. N Engl J Med 2011;365:981-992 4. Frost C, Nepal S, Wang J, et al: Safety, pharmacokinetics and pharmacodynamics of multiple oral doses of apixaban, a factor Xa inhibitor, in healthy subjects. Br. J. Clin. Pharmocol 2013;76 (5):776-786 5. Agnelli G, Buller HR, Cohen A, et al: Oral apixaban for the treatment of acute venous thromboembolism. N Engl J Med 2013;369:799-808 6. Siegal DM, Curnutte JT, Connolly SJ, et al: Andexanet alfa for reversal of factor Xa inhibitor activity. N Engl J Med 2015;373:2413-2424 7. Martin K, Beyer-Westendorf J, Davidson BL, et al: Use of the direct oral anticoagulants in obese patients: guidance from the SSC of	23-500	23-500
Anti Xa DOAC (Rivaroxaban)	Rivaroxaban, DOAC, Xarelto	Chromogenic measurement system consisting of a beam of monochromatic light at 405 nm.	Stago	ng/mL	**Displayed Comment:** Routine monitoring of anti XA activity is not recommended in patients on Rivaroxaban. Therapeutic reference ranges have not been established. At steady state median (5th-95th percentile) peak and trough levels have been observed in clinical trials.	N/A	1. Package insert: Rivaroxaban: Diagnostica Stago, Revised December 2014 2. Mueck W, Stampfuss J, Kubitza D, Becka M: Clinical pharmacokinetic and pharmacodynamic profile of rivaroxaban. Clinical Pharmacokinetics 2014; 53(1):1-16 doi: 10.1007/s40262-013-0100-7 3. Bayer Pharma AG. Xarelto (rivaroxaban) Summary of Product Characteristics; 2013. Available at: www.ema.europa.eu/docs/en_GB/document_library/EPAR_-_Product_Information/human/000944/WC500057108.pdf 4. EINSTEIN Investigators, Bauersachs R, Berkowitz SD, et al: Oral rivaroxaban for symptomatic venous thromboembolism. N Engl J Med 2010; 363:2499-510 5. EINSTEIN-PE Investigators, Buller HR, Prins MH, et al: Oral rivaroxaban for the treatment of symptomatic pulmonary embolism. N Engl J Med 2012; 366:1287-1297 6. Patel MR, Mahaffey KW, Garg J, et al: Rivaroxaban versus warfarin in nonvalvular atrial fibrillation. N Engl J Med 2011; 365:883891 7. Siegal DM, Curnutte JT, Connolly SJ, et al: Andexanet alfa	25-500	25-500
Anti Xa LMWH (Enoxaparin) 4 Hr Post	Anti-Xa for LMWH, Peak Dose, AXMLPK	Chromogenic measurement system consisting of a beam of monochromatic light at 405nm.	Stago	Anti-Xa IU/mL	0.60-1.00 (Therapeutic Range: applies to 4 hour post dose collections)	N/A	Chest, vol. 119, issue 1, January 2001, pgs. 64S-75S.	0.10-1.60	0.10-1.60
Anti Xa LMWH (Enoxaparin) Random	Anti-Xa for low molecular weight heparin	Chromogenic measurement system consisting of a beam of monochromatic light at 405nm.	Stago	Anti-Xa IU/mL	0.60-1.00 (Therapeutic Range: applies to 4 hour post dose collections)	N/A	Chest, vol. 119, issue 1, January 2001, pgs. 64S-75S.	0.10-1.60	0.10-1.60
Beta-2 Glycoprotein 1 Ab, IgG	Beta 2 Glycoprotein 1 IgG Antibody	Chemiluminescent two-step immunoassay with paramagnetic microparticles as the solid phase, and a derivative of isoluminol as the chemiluminescent molecule.	Inova	CU	0.0-20.0	N/A	Inova Quanta-Flash Package Insert Verified in house	10.0-500.0	10.0-10,000.0
Beta-2 Glycoprotein 1 Ab, IgM	B2GP1, IgM; Beta 2 Glycoprotein 1 IgM Antibody	Chemiluminescent two-step immunoassay with paramagnetic microparticles as the solid phase, and a derivative of isoluminol as the chemiluminescent molecule.	Inova	CU	0.0-20.0	N/A	Inova Quanta-Flash Package Insert Verified in house	10.0-200.0	10.0-4,000.0
Beta-2 Glycoprotein 1, Domain 1	Beta2 GP1 Domain 1, B2GP1 Dm1, β2GP1 Domain 1, β2GP1 Dm1	Chemiluminescent two-step immunoassay with paramagnetic microparticles as the solid phase, and a derivative of isoluminol as the chemiluminescent molecule.	Inova	CU	0.0-19.9	N/A	Inova Quanta-Flash Package Insert Verified in house	10.0-200.0	10.0-2,000.0

D-Dimer, Quantitative	HSDDI	Immunoturbidimetric - photometric measurement system consisting of a beam of monochromatic light at 540nm passing through a solution of antibody coated microlatex particles.	Stago	mcg/mL FEU	<0.50	N/A	OSU Lab Normal Range Study (08/2007)	0.27-4.00	0.27-20.00
DIC Workup	**DIC Panel** Includes: Platelet Count, PT, PTT, Fib, TT, D-Dimer, PTT/TT Mixing Studies (as appropriate) and Pathologist Interpretation	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests
Dilute Russell Venom Time	DRVVT	Mechanical Clot Detection	Stago	Ratio	Screen ratio: ≤1.22 Normalized ratio: ≤1.32	N/A	OSUWMC, in-house reference range study performed yearly	N/A	N/A
Factor II Activity	Prothrombin Activity, FA2	Mechanical Clot Detection	Stago	% Activity	17+ years: 60-150	<5	Clinical Guide to Laboratory Tests, Tietz, 1995; Blood, Vol 80, 1998-2005, Andrew, 1992; Blood, Vol 70, 165-172, Andrew, 1987	See Stago Unicalibrator assayed values (lot number specific)	3-500
Factor IX Activity	Christmas Factor, FA9	Mechanical Clot Detection	Stago	% Activity	17+ years: 77-147	<5	OSU Inhouse Study 02/2004; Blood, Vol 80, 1998-2005, Andrew, 1992; Blood, Vol 70, 165-172, Andrew, 1987	See Stago Unicalibrator assayed values (lot number specific)	1-500
Factor IX Inhibitor	Factor IX Antibody, FAC9AB	Mechanical Clot Detection Bethesda Assay	Stago	Bethesda units	Negative (0.0 Bethesda units)	N/A	N/A	N/A	0.0 - dilute to endpoint
Factor V Activity	Labile Factor, FA5	Mechanical Clot Detection	Stago	% Activity	17+ years: 50-150	<5	Clinical Guide to Laboratory Tests, Tietz, 1995; Blood, Vol 80, 1998-2005, Andrew, 1992; Blood, Vol 70, 165-172, Andrew, 1987	See Stago Unicalibrator assayed values (lot number specific)	3-500
Factor VII Activity	FA7	Mechanical Clot Detection	Stago	% Activity	17+ years: 65-135	<5	Clinical Guide to Laboratory Tests, Tietz, 1995; Blood, Vol 80, 1998-2005, Andrew, 1992; Blood, Vol 70, 165-172, Andrew, 1987	See Stago Unicalibrator assayed values (lot number specific)	3-1000
Factor VIII Activity	Anti Hemophilic Factor, FA8	Mechanical Clot Detection	Stago	% Activity	17+ years: 75-220	<5	OSU Inhouse Study 02/2004; Blood, Vol 80, 1998-2005, Andrew, 1992; Blood, Vol 70, 165-172, Andrew, 1987	See Stago Unicalibrator assayed values (lot number specific)	1-500
Factor VIII Inhibitor Assay	Factor VIII Antibody	Mechanical Clot Detection Bethesda Assay	Stago	Bethesda units	Negative (0.0 Bethesda units)	N/A	N/A	N/A	0.0 - dilute to endpoint
Factor X Activity	Stuart Prower Factor, FA10	Mechanical Clot Detection	Stago	% Activity	17+ years: 60-130	<5	Clinical Guide to Laboratory Tests, Tietz, 1995; Blood, Vol 80, 1998-2005, Andrew, 1992; Blood, Vol 70, 165-172, Andrew, 1987	See Stago Unicalibrator assayed values (lot number specific)	3-500
Factor XI Activity	Hemophilia C, FA11	Mechanical Clot Detection	Stago	% Activity	17+ years: 65-135	<5	Clinical Guide to Laboratory Tests, Tietz, 1995; Blood, Vol 80, 1998-2005, Andrew, 1992; Blood, Vol 70, 165-172, Andrew, 1987	See Stago Unicalibrator assayed values (lot number specific)	1 - 500
Factor XIII Activity	Fibrin Stabilization Factor, FA13	Solubility	N/A	N/A	Present	N/A	N/A	N/A	Present Absent
Fibrinogen, Clottable	FIB	Mechanical Clot Detection	Stago	mg/dL	220-410 **OB Patient Comment:** Fibrinogen levels may be altered by the normal physiologic changes of pregnancy and should be interpreted considering reference ranges specific to gestational age. **First Trimester:** **244-510 mg/dL** **Second Trimester:** **291-538 mg/dL** **Third Trimester:** **373-619 mg/dL**	<75	OSU Lab Normal Range Study (05/2003) **OB Patient Comment:** Reference: Abbassi-Ghanavati M, Greer LG, Cunningham FG. Pregnancy and laboratory studies: a reference table for clinicians. Obstet Gynecol 2009; 114:1326.	60-900	60-900
Heparin Anti-Xa Unfractionated	HEPAS	Chromogenic measurement system consisting of a beam of monochromatic light at 405nm.	Stago	IU/mL	0.30-0.70 (Therapeutic Range: applies to 4 hour post dose collections)	N/A	Chest, vol. 119, issue 1, January 2001, pgs. 64S-75S.	0.10-0.80	0.10-1.60
Heparin Platelet Factor 4 (HIT Screen) With Reflex To SRA	PF4IGP	ELISA, IgG	Immucor	O.D., % Heparin Inhibition	O.D. <0.400 Heparin Inhibition- <50%	N/A	Immucor LIFECODES® PF4 IgG Assay Package Insert	0.000-3.000	0.000-3.000
Hexagonal PL Neutralization	Hexagonal PL Neutralization; STACLOT-LA	Mechanical Clot Detection	Stago	sec	≤8.2	N/A	OSUWMC, in-house reference range study performed yearly	N/A	≥0.0
INR	N/A	Calculated from PT value, the ISI and the geometric mean value of the PT normal reference range.	Stago	(ratio)	0.9-1.1 Oral Anticoagulant Therapy Target Ranges: Standard Therapy 2.0-3.0 High Dose 2.5-3.5	INR >4.9	OSUWMC in-house reference range, verified yearly	0.5 - 14.9	0.5 - 14.9
Lupus Anticoagulant	Lupus Workup Package includes PT, INR, TT, DRVVT Screen, PTT-LA, Mixing Studies, DRVVT Confirm and or Hexagonal Phase Phospholipid Neutralization (as appropriate)	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests
Platelet Aggregation	N/A	Platelet aggregometry / turbidimetric measurement of a solution.	Helena	% Aggregation	ADP 2.5 micromol/L: 64.8-112.4 ADP 10.0 micromol/L: 78.3-100.8 Arachidonic Acid, 1.64 mM: 78.5-104.6 Collagen, 2 mcg/mL: 74.1-105.4 Collagen, 10 mcg/mL: 74.1-105.4 Epinephrine 1.0 micromol/L: 75.9-103.9 Ristocetin, 1.5 mg/mL: 83.4-101.6 Ristocetin, 0.5 mg/mL: 0.0-14.0 Thromboxane Analogue U46619, 2.0 micromol/L: 78.1-103.4 Pathologist Interpretation: Normal Aggregation.	N/A	OSUWMC In-house Reference Range Study (03-2015)	N/A	N/A
Platelet Function Test	Platelet Function Assay, PFA	Instrument PFA-100 Closure Time: The time measured from the start of the test until a platelet to close aperture after exposure to agonist	Siemens	sec	Collagen/Epinephrine: 73-172 Collagen/ADP: 53-111 Platelet function interpretation: Normal Function	N/A	OSU Normal Range Study (07/2004)	31-300	31-300
Platelet P2Y12 Inhibition Test	P2Y12 Inhibition Test; Verify Now PRU Test	Platelet Aggregation is a self-contained test device	Verify Now	PRU	194 - 418	N/A	Accumetrics, verified at OSU	1-999	1-999
Protein C Activity	PROTC	Mechanical Clot Detection	Stago	% Activity	17+ years: 72-220	N/A	OSU Inhouse Study; Blood, Vol 80, 1998-2005, Andrew, 1992; Amer. Jour. Ped. Hematol. Oncol, Vol 12, 95-104, Andrew, 1990	See Stago Unicalibrator assayed values (lot number specific)	10-300
Protein S Activity	PROTS	Mechanical Clot Detection	Stago	% Activity	17+ years: 50-168	N/A	OSU Inhouse Study; Blood, Vol 80, 1998-2005, Andrew, 1992; Amer. Jour. Ped. Hematol. Oncol, Vol 12, 95-104, Andrew, 1990	See Stago Unicalibrator assayed values (lot number specific)	10 - 300
PT	Protime-INR	Mechanical Clot Detection	Stago	sec	11.9 - 14.2	N/A	OSUWMC in-house reference range, verified yearly	7.0 - 106.0	7.0 - 106.0

PT and PT Mixing Study	Prothrombin Time Mixing Study Protime Mixing Study	Mechanical Clot Detection	Stago	sec	N/A	N/A	N/A	N/A	N/A
PT Mix w/ Normal Plasma	N/A	Mechanical Clot Detection	Stago	sec	N/A	N/A	N/A	See PT Test	See PT Test
PTT	APTT Partial Thromboplastin Time	Mechanical Clot Detection	Stago	sec	24.0-34.3 Heparin Therapeutic Range (HTR): 77.0 - 91.0	Inpatient: >150.0 Outpatient: >60.0	OSUWMC, in-house reference range study performed yearly	20.0 - 180.0	20.0 - 180.0
PTT Mix w/ Normal Plasma	N/A	Mechanical Clot Detection	Stago	sec	N/A	N/A	N/A	See PTT Test	See PTT Test
PTT with Mixing Study	N/A	Mechanical Clot Detection	Stago	sec	N/A	N/A	N/A	See PTT Test	See PTT Test
PTT-LA	LA-PTT; PTT- Lupus Sensitive, Includes PTT-LA Mixing Study	Mechanical Clot Detection	Stago	sec	≤41.8	N/A	OSUWMC, in-house reference range study performed yearly	20.0-180.0	20.0-180.0
Ristocetin CoFactor	Von Willebrand Factor Activity	Platelet Agglutination Light Transmittance Aggregometry	Helena	% Activity	40-200	N/A	OSU Normal Range Study	See Helena SARP calibrator assayed value (lot number specific)	13-400
Thrombin Time	Thrombin Clotting Time	Mechanical Clot Detection	Stago	sec	13.0-20.0	N/A	OSU Lab Normal Range Study	10.0-120.0	10.0-120.0
TT Mix w/ Normal Plasma **(Not individually orderable. Order Lupus Anticoagulant Workup)**	Thrombin Clotting Time	Mechanical Clot Detection	Stago	sec	13.0-20.0	N/A	OSU Lab Normal Range Study	10.0-120.0	10.0-120.0
TT Mix w/ Protamine Sulfate **(Not individually orderable. Order Lupus Anticoagulant Workup)**	Thrombin Time with Heparin Neutralization	Mechanical Clot Detection	Stago	sec	13.0-20.0	N/A	OSU Lab Normal Range Study	10.0-120.0	10.0-120.0
Von Willebrand Battery Agn + Factor VIII	Von Willebrand Workup Includes: PTT, Factor VIII, VWF Antigen, Ristocetin Cofactor, and a Von Willebrand Multimeric (as applicable)	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests
Von Willebrand Factor Ag	VWFAG	Immunoturbidimetric-photometric measurement system consisting of a beam of monochromatic light at 540nm passing through a solution of antibody coated microlatex particles.	Stago	%	17+ years: 50-180	N/A	OSU Inhouse Study; Blood, Vol 80, 1998-2005, Andrew, 1992; Blood, Vol 70, 165-172, Andrew, 1987	See Stago VWF: Ag Calibrator assayed value (lot number specific)	3-400
Band Neutrophils	N/A	Manual Differential	N/A	%	N/A	N/A	N/A	0.0-100.0	0.0-100.0
Band/Band + Seg Ratio	BANDR	Calculation: BANDS/(Segs+BANDS)	N/A	N/A	N/A	≥0.25 (Neonates)	N/A	0.00-1.00	0.00-1.00
Basophil Relative (Fluid)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Basophils %	N/A	Flow Cytometry/ Manual differential	Sysmex	%	N/A	N/A	N/A	0.0-100.0	0.0-100.0
Basophils Absolute	N/A	Calculation	Sysmex	x10^3/uL **-OR-** K/uL	≥18 years: Male: 0.00-0.09 Female: 0.00-0.15	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	Electronic: 0.04-440.00 Manual: 0.00-440.00	Electronic: 0.04-dilute to obtain numeric result Manual: 0.00-dilute to obtain numeric result
Basophils Relative (CSF)	Spinal fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Blast Absolute	N/A	Calculation	N/A	x10^3/uL **-OR-** K/uL	All ages: 0.00	N/A	N/A	0.00-440.00	0.00-dilute to obtain numeric result
Blasts	N/A	Manual Differential	N/A	%	All ages: 0.0	N/A	N/A	0.0-100.0	0.0-100.0
Blasts Relative (CSF)	Spinal fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Blasts Relative (Fluid)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Body Fluid Cell Count	N/A	Hemocytometer Counts / Iris instrument	CCL: Iris RRL: N/A	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests
Body Fluid Cell Count with Diff	Body Fluid Battery	Hemocytometer Counts / Iris instrument/ Manual Differential	CCL: Iris RRL: N/A	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests
Bone Marrow Collection (Assist)	N/A	Manual	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CBC, EDIF, Platelet	CBC, Electronic Diff with Platelets	See individual analytes	Sysmex	Varies	Varies	Varies	Varies	Varies	Varies
CBC, Platelets	Complete Blood Count, Hemogram	See individual analytes	Sysmex	Varies	Varies	Varies	Varies	Varies	Varies
Cell Count & Diff, CSF; CSF Differential/Path Interpretation	Spinal Fluid Cell Count and Differential	Hemocytometer Counts / Iris instrument/ Manual Differential	CCL: Iris RRL: N/A	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests
Crystals, Fluid	N/A	Unstained synovial fluid slides reviewed by polarized microscopy.	N/A	N/A	Negative	N/A	N/A	N/A	Positive / Negative
CSF Fluid Count Only	Spinal Fluid Cell Count	Hemocytometer Counts / Iris instrument	CCL: Iris RRL: N/A	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests
Eosinophils %	N/A	Flow Cytometry/ Manual differential	Sysmex	%	N/A	N/A	N/A	0.0-100.0	0.0-100.0
Eosinophils Absolute	N/A	Calculation	Sysmex	x10^3/uL **-OR-** K/uL	≥18 years: Male: 0.00-0.48 Female: 0.00-0.42	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	Electronic: 0.04-440.00 Manual: 0.00-440.00	Electronic: 0.04-dilute to obtain numeric result Manual: 0.00-dilute to obtain numeric result
Eosinophils Relative (CSF)	Spinal fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Eosinophils Relative (Fluid)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Extended Reticulocyte Panel	Panel includes: Ret%, Ret#, IRF and RET-HE	Flow Cytometry, Calculation	Sysmex	Varies	Varies	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	Varies	Varies
Hairy Cells	N/A	Manual Differential	N/A	%	All ages: 0.0	N/A	N/A	0.0-100.0	0.0-100.0
Hairy Cells Absolute	N/A	Calculation	N/A	x10^3/uL **-OR-** K/uL	All ages: 0.00	N/A	N/A	0.00-440.00	0.00-dilute to obtain numeric result
Hematocrit	HCT	Cumulative Pulse Height Detection	Sysmex	%	≥18years: Male: 39.6-48.8 Female 34.9-44.3	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	0.1-75.0	0.1-dilute to obtain numeric result
Hematocrit, Fluid	Fluid HCT, Fluid PCV	Manual Spun Hematocrit	N/A	%	N/A	N/A	N/A	5.0-60.0	5.0-60.0
Hemoglobin	HGB	Photometrically measured	Sysmex	g/dL	≥18years: Male: 13.4-16.8 Female: 11.4-15.2	>12y: <7.0 and >22.0 8d-12y: <8.0 and >22.0 0d-7d: <11.0 and >22.0	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	0.2-26.0	0.2-dilute to obtain numeric result
Immature Granulocytes %	N/A	Flow Cytometry	Sysmex	%	N/A	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	0.0-100.0	0.0-100.0
Immature Granulocytes Absolute	IG	Calculation	Sysmex	x10^3/uL **-OR-** K/uL	≥18 years Male: ≤0.07 Female: ≤0.08	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	Electronic: 0.04-440.00	Electronic: 0.04-dilute to obtain numeric result
Immature Platelet Fraction	IPF	Calculation	Sysmex	%	≥18 years: Male: 0.0-9.0 Female: 0.0-8.6	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	0.0-100.0	0.0-100.0
Immature Reticulocyte Fraction	IRF	Calculation	Sysmex	%	≥18 years: Male: 0.2-16.3 Female: 1.1-16.2	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	0.0-100.0	0.0-100.0
Lymphocytes Relative (CSF)	Spinal fluid cell differential	Manual Differential	N/A	%	<3m: 35-50 >3m 40-80	N/A	Body Fluids 3rd ed. Kjeldsbreg, Knight 1993	0-100	0-100
Lymphocytes %	N/A	Flow Cytometry/ Manual differential	Sysmex	%	N/A	N/A	N/A	0.0-100.0	0.0-100.0

Lymphocytes Absolute	N/A	Calculation	Sysmex	x10^3/uL **-OR-** K/uL	≥18 years: Male: 0.83-3.57 Female: 1.16-3.51	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	Electronic: 0.04-440.00 Manual: 0.00-440.00	Electronic: 0.04-dilute to obtain numeric result Manual: 0.00-dilute to obtain numeric result
Lymphocytes Relative (Fluid)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Lymphoma Cells	N/A	Manual Differential	N/A	%	All ages: 0.0	N/A	N/A	0.0-100.0	0.0-100.0
Lymphoma Cells Absolute	N/A	Calculation	N/A	x10^3/uL **-OR-** K/uL	All ages: 0.00	N/A	N/A	0.00-440.00	0.00-dilute to obtain numeric result
Lymphoma Cells Relative (CSF)	Spinal fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Lymphoma Cells Relative (Fluid)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Malaria Prep	Parasite Screen / ID Blood, MPB	Giemsa Stain	N/A	N/A	NOPO - No parasitic organism seen, including plasmodium organisms	N/A	N/A	N/A	N/A
Malignant Cells Relative (CSF)	Spinal fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Malignant Cells Relative (Fluid)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Manual Retic	N/A	Manual/Miller Disk	N/A	%	≥18 years: Male: 0.68-2.64 Female: 0.74-2.54	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	0.25-30.00	0.25-30.00
MCH	Red Cell Indices	HGB x 10/RBC	Sysmex	pg	≥18 years: Male: 26.1-33.3 Female: 25.9-33.9	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	N/A	N/A
MCHC	Red Cell Indices	HGB x 100/HCT	Sysmex	g/dL	≥18 years: Male: 31.9-36.5 Female: 31.4-35.9	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	N/A	N/A
MCV	Red Cell Indices	HCT x10/RBC	Sysmex	fL	≥18 years: Male: 79.0-94.5 Female: 79.6-97.7	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	N/A	N/A
Mesothelial Cells Relative (Fluid)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Metamyelocytes	N/A	Manual Differential	N/A	%	N/A	N/A	N/A	0.0-100.0	0.0-100.0
Metas Absolute	N/A	Calculation	N/A	x10^3/uL **-OR-** K/uL	≥18 years Male: ≤0.07 Female: ≤0.08	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	0.00-440.00	0.00-dilute to obtain numeric result
Monocytes %	N/A	Flow Cytometry/ Manual differential	Sysmex	%	N/A	N/A	N/A	0.0-100.0	0.0-100.0
Monocytes / Macrophages Relative (CSF)	Spinal fluid cell differential	Manual Differential	N/A	%	<3m 50-90 >3m 15-45	N/A	Body Fluids 3rd ed. Kjeldsbreg, Knight 1993	0-100	0-100
Monocytes / Macrophages Relative (Fluid)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Monocytes Absolute	N/A	Calculation	Sysmex	x10^3/uL **-OR-** K/uL	≥18 years: Male: 0.24-0.93 Female: 0.22-0.87	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	Electronic: 0.04-440.00 Manual: 0.00-440.00	Electronic: 0.04-dilute to obtain numeric result Manual: 0.00-dilute to obtain numeric result
MPV	N/A	Derived from the PLT histogram.	Sysmex	fL	≥18 years: Male: 8.7-12.3 Female: 8.5-12.2	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	N/A	N/A
Myelocytes	N/A	Manual Differential	N/A	%	N/A	N/A	N/A	0.0-100.0	0.0-100.0
Myelos Absolute	N/A	Calculation	N/A	x10^3/uL **-OR-** K/uL	≥18 years Male: ≤0.07 Female: ≤0.08	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	0.00-440.00	0.00-dilute to obtain numeric result
Neutrophils %	N/A	Flow Cytometry/ Manual differential	Sysmex	%	N/A	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	0.0-100.0	0.0-100.0
Neutrophils Relative (CSF)	Spinal fluid cell differential	Manual Differential	N/A	%	<3m: 0-8 >3m: 0-6	N/A	Body Fluids 3rd ed. Kjeldsbreg, Knight 1993	0-100	0-100
Neutrophils Relative (Fluid)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
NRBC	N/A	Flow Cytometry	Sysmex	/100 WBC	≥18 years: ≤0.2	N/A	Sysmex XN-9000 IFU (North American Edition) Code No. AC794819 Soldin, Steven J. Pediatric Reference Intervals. 7th ed., AACC Press, 2011.	0.0-600.0	0.0-600.0
NRBCs Relative (Fluid)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Nucleated RBCs Relative (CSF)	Spinal fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Other Cells	N/A	Manual Differential	N/A	%	All ages: 0.0	N/A	N/A	0.0-100.0	0.0-100.0
Other Cells Absolute	N/A	Calculation	N/A	x10^3/uL **-OR-** K/uL	All ages: 0.00	N/A	N/A	0.00-440.00	0.00-dilute to obtain numeric result
Other Cells Relative (CSF)	Spinal fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Other Cells Relative (Fluid)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Peripheral Smear for Pick up by Physician for Review	N/A	Manual	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Plasma Cells	N/A	Manual Differential	N/A	%	All ages: 0.0	N/A	N/A	0.0-100.0	0.0-100.0
Plasma Cells Absolute	N/A	Calculation	N/A	x10^3/uL **-OR-** K/uL	All ages: 0.00	N/A	N/A	0.00-440.00	0.00-dilute to obtain numeric result
Plasma Cells Relative (CSF)	Spinal fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Plasma Cells Relative (Fluid)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
Platelet Count	N/A	Electronic Resistance Detection	Sysmex	x10^3/uL **-OR-**	≥18 years: Male: 146-337 Female:	<30 and >1,000 **Oncology:** <10 and >1,000	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. Pediatric	5-5,000	5-dilute to obtain numeric result
Platelet Count - fluorescent		Flow Cytometry							
Prolymphs	N/A	Manual Differential	N/A	%	All ages: 0.0	N/A	N/A	0.0-100.0	0.0-100.0
Prolymphs Absolute	N/A	Calculation	N/A	x10^3/uL **-OR-** K/uL	All ages: 0.00	N/A	N/A	0.00-440.00	0.00-dilute to obtain numeric result
Promyelocytes	N/A	Manual Differential	N/A	%	N/A	N/A	N/A	0.0-100.0	0.0-100.0
Promyelocytes Absolute	N/A	Calculation	N/A	x10^3/uL **-OR-** K/uL	≥18 years Male: ≤0.07 Female: ≤0.08	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	0.00-440.00	0.00-dilute to obtain numeric result
RBC (CSF)	Spinal fluid cell count	Hemocytometer Counts / Iris instrument	CCL: Iris RRL: N/A	/uL	All Ages: <3	N/A	Body Fluids 3rd ed. Kjeldsbreg, Knight 1993	3-50,000	3-dilute to endpoint
RBC Fluid	Body fluid cell count	Hemocytometer Counts / Iris instrument	CCL: Iris RRL: N/A	/uL	N/A	N/A	N/A	3-50,000	3-dilute to endpoint

RDW	Red Cell Indices	Derived from RBC histogram. Representative of CV% of the histogram.	Sysmex	%	≥18 years: Male: 10.9-14.3 Female: 10.8-14.9	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	N/A	N/A
Red Blood Cell Count	RBC	Electronic Resistance Detection	Sysmex	x10^6/uL **-OR-** M/uL	≥18years: Male: 4.38-5.83 Female: 3.91-5.04	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	0.05-8.60	0.05-dilute to obtain numeric result
Retic Absolute	N/A	Calculation: Ret% x RBC	Sysmex	x10^6/uL **-OR-** M/uL	Automated: ≥18 years: Male: 0.0317-0.1377 Female: 0.0324-0.1142 Manual: ≥18 years: Male: 0.0317-0.1377 Female: 0.0324-0.1142	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	XN: 0.0100-0.7200 XN-L: 0.0100-0.4576 Manual: 0.0000-8.6000	XN: 0.0100-dilute to obtain numeric result XN-L: 0.0100-dilute to obtain numeric result Manual: 0.0000-dilute to obtain numeric result
Retic Count	N/A	Flow Cytometry	Sysmex	%	≥18 years: Male: 0.68-2.64 Female: 0.74-2.54	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	0.25-30.00	0.25-30.00
Retic HGB Equivalent	RET-HE	Calculation	Sysmex	pg	≥18 years: Male: 29.9-38.7 Female: 28.8-39.9	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	N/A	N/A
Sedimentation Rate, Automated	ESR	Photometric Rheology	Alcor	mm/hr	Male: >85Y: <30 50-85Y: <20 0-49Y: <15 Female: >85Y: <42 50-85Y: <30 0-49Y: <20	N/A	JB Henry, Clinical Diagnosis & Mgmt., 19th Ed., 1996, pg. 1460	1-130	1-130
Segs + Bands Absolute	ANC	Calculation: WBC x (NE% + Bands%)	Sysmex	x10^3/uL -OR- K/uL	≥18 years: Male: 1.57-6.19 Female: 1.64-7.28	N/A	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	Electronic: 0.04-440.00 Manual: 0.00-440.00	Electronic: 0.04-dilute to obtain numeric result Manual: 0.00-dilute to obtain numeric result
Sperm pH	YFER, YSEMB	pH paper	N/A	N/A	>7.0 Refer to Mayo	N/A	WHO laboratory manual for the Examination and Processing of Human Semen. 5th Ed	5.0-10.0 Refer to Mayo	5.0-10.0 Refer to Mayo
Synovasure PJI, Synovial Fluid	Synovasure Alpha Defensin Lateral Flow Test	Qualitative, visually read immunochromatographic assay for the detection of human host response proteins, Alpha Defensins 1-3, in the synovial fluid of adults with a total joint replacement who are being evaluated for revision surgery.	CD Diagnostics, Inc	N/A	Positive/Negative	N/A	Package Insert	Positive/Negative	Positive/Negative
Synovial Lining Cells Relative (Fluid)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0-100	0-100
TNC (CSF)	Spinal fluid cell count	Hemocytometer Counts / Iris instrument	CCL: Iris RRL: N/A	/uL	<1Y: <31 1-4Y: <21 ≥5Y: <6	≥41	Body Fluids 3rd ed. Kjeldsbreg, Knight 1993	3-2,500	3-dilute to endpoint
TNC Fluid	Body fluid cell count	Hemocytometer Counts / Iris instrument	CCL: Iris RRL: N/A	/uL	N/A	N /A	N/A	3-2,500	3-dilute to endpoint
White Blood Count	WBC	Flow Cytometry	Sysmex	x10^3/uL **-OR-** K/uL	≥18years: Male: 3.73-10.10 Female 3.99-11.19	<1.50 and >35.00 **Oncology:** <0.50 and >35.00	OSU Internal Normal Range Study, October 2018 Soldin, Steven J. *Pediatric Reference Intervals.* 7th ed., AACC Press, 2011.	0.30-440.00	0.30-dilute to obtain numeric result
Urine Screen	Urine dipstick	Various	Siemens Clinitek	N/A	Various	Various	Various	Various	Various
Bacteria	N/A	Microscopic Examination of Urine Sediment, CCL has Urine Particle Counter (UF1000i) and iQ200	CCL: Sysmex or Beckman RRL, James, MMMP, SSCBC: N/A	N/A	Absent	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	Microscopic: Absent, Trace, Present CCL: Absent (0-499/uL), Trace (500-1199/uL), Present (≥1200/uL) iQ200: Absent, Trace, Present
Blood Urine	N/A	The peroxidase-like activity of hemoglobin catalyzes the reaction of diisopropylbenzene dihydroperoxide and 3,3',5,5'-tetramethylbenzidine to produce a color from orange to green.	Siemens Clinitek	NA	Negative Manufacturer's sensitivity is 0.015-0.062 mg/dL hemoglobin	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	Negative, Trace, Small, Moderate, Large
Appearance	Clarity	CCL: measuring the transmission and scattering of light that passes through the specimen. RRL, James, MMMP, SSCBC: Manual	CCL: Siemens Clinitek Novus James, RRL, MMPP, SSCBC: N/A	N/A	Clear	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	Clear, Cloudy, Turbid
Color	N/A	Manual and reflectance spectrophotometer	CCL: Siemens Clinitek Novus James, RRL, MMPP, SSCBC: N/A	N/A	Yellow	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	Yellow, Orange, Red, See Comment
Glucose Urine	N/A	Glucose oxidase catalyzes the breakdown of glucose into gluconic acid and hydrogen peroxide. CCL: This test is based on a double sequential enzyme reaction. One enzyme, glucose oxidase, catalyzes the formation of gluconic acid and hydrogen peroxide from the oxidation of glucose. A second enzyme, peroxidase, catalyzes the oxidative coupling of 4-amino-antipyrine and 4-methylcatechol by hydrogen peroxide. RRL, James, MMMP, SSCBC: Peroxidase catalyzes the reaction of hydrogen peroxide with a potassium iodide chromogen to oxidize the chromogen to colors ranging from green to brown.	Siemens Clinitek	mg/dL	Negative Manufacturer's sensitivity level is 75-125 mg/dL	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	Negative, 100, 250, 500, ≥1000
Ketones Urine	N/A	Acetoacetic acid reacts with nitroprusside to produce a maroon color.	Siemens Clinitek	N/A	Negative Manufacturer's sensitivity level is 5-10 mg/dL acetoacetic acid	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	Negative, Trace, Small (15 mg/dL), Moderate (40 mg/dL), Large (≥80 mg/dL), Unable to analyze due to interfering substance

Leukocyte Esterase	N/A	Esterases contained in granulocytes catalyze the hydrolysis of the derivatized pyrrole amino acid ester to liberate 3-hydroxy-5-phenyl pyrrole which then reacts with a diazonium salt to produce a purple color.	Siemens Clinitek	N/A	Negative Manufacturer's sensitivity is 5-15 white blood cells/hpf	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	Negative, Trace, Small, Moderate, Large
Myoglobin Urine	Urine Myoglobin Screening	The peroxidase-like activity of hemoglobin catalyzes the reaction of diisopropylbenzene dihydroperoxide and 3,3',5,5'-tetramethylbenzidine to produce a color from orange to green.	Siemens Clinitek	N/A	Negative Manufacturer's sensitivity is 0.015-0.062 mg/dL hemoglobin and myoglobin	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	Negative, Reflexed to Sendout
Nitrites Urine	N/A	At the acid pH of the reagent area, nitrite in the urine reacts with p-arsanilic acid to form a Diaz onium compound which couples with 1,2,3,4-tetrahydrobenzo(h)quinolin-3-ol to produce a pink color.	Siemens Clinitek	NA	Negative Manufacturer's sensitivity is 0.06-0.1 mg/dL nitrite ion	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	Negative, Positive
Occult Blood, Fecal-Immunological	FIOB	Immunological Fecal Occult Blood Test is a rapid, immunoassay for the rapid qualitative detection of human hemoglobin (HGB) in feces.	Hemosure	N/A	Negative	N/A	N/A	N/A	Negative, Positive
Occult Blood, Gastric	Gastroccult	Developing solution (stabilized mixture of hydrogen peroxide and denatured alcohol) creates a reaction between hemoglobin and guaiac to produce a blue color.	Gastroccult Beckman	N/A	Negative	N/A	N/A	N/A	Negative, Positive
Occult Blood, Stool	Occult Blood, Fecal Hemoccult	Developing solution (stabilized mixture of hydrogen peroxide and denatured alcohol) creates a reaction between hemoglobin and guaiac to produce a blue color.	Hemoccult Beckman	N/A	Negative	N/A	N/A	N/A	Negative, Positive
pH Urine	N/A	Double indicator principle to cover the range of urinary pH range. Colors range from orange through yellow and green to blue.	Siemens Clinitek	N/A	5.0-7.0	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	CCL, RRL, James: 5.0 - ≥9.0 SSCBC, MMMP: 5.0 - ≥8.5
Protein Urine	N/A	Based on the protein-error-of-indicators principle where at a constant pH, the development of any green color is due to the presence of protein.	Siemens Clinitek	mg/dL	Negative Manufacturer's sensitivity is 15-30mg/dL albumin	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	Negative, Trace, 30mg/dL, 100mg/dL, ≥300mg/dL
RBC Casts	RBC Casts	Microscopic Examination of Urine Sediment and iQ200	CCL: Beckman RRL, James, MMMP, SSCBC: N/A	/lpf	0	Any seen	Urinalysis and Body Fluid, Ringsrud 1995	N/A	When reported: Rare, 1-2, 3-5, 6-9, 10-20, >20
RBC Urine	N/A	Microscopic Examination of Urine Sediment, CCL has Urine Particle Counter (UF1000i) and iQ200	CCL: Sysmex or Beckman RRL, James, MMMP, SSCBC: N/A	/hpf	0-2	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	0-2, 3-5, 6-9, 10-20, >20
Specific Gravity Urine	N/A	CCL: Fiber optic refractive index method RRL, James, MMMP, SSCBC: pKa change of pretreated polyelectrolyte in relation to ionic concentration	Siemens Clinitek	N/A	1.001-1.035	N/A	Urinalysis and Body Fluid, Ringsrud 1995	CCL Clinitek Novus: 1.001-1.045 CCL, RRL, James, SSCBC, MMMP Clinitek Advantus/Status+: ≤1.005 , 1.010, 1.015, 1.020, 1.025, ≥1.030	CCL Clinitek Novus: 1.001-1.045 CCL, RRL, James, SSCBC, MMMP Clinitek Advantus/Status+: ≤1.005 , 1.010, 1.015, 1.020, 1.025, ≥1.030
Squamous/Epithelial Cells	N/A	Microscopic Examination of Urine Sediment, CCL has Urine Particle Counter (UF1000i) and iQ200	CCL: Sysmex or Beckman RRL, James, MMMP, SSCBC: N/A	/hpf	Absent 1/hpf (1+) 2-5/hpf (2+)	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	Absent 1/hpf (1+) 2-5/hpf (2+) 6-8/hpf (3+) >8/hpf (4+)
Trichomonas	N/A	Microscopic Examination of Urine Sediment and iQ200	CCL: Beckman RRL, James, MMMP, SSCBC: N/A	N/A	Absent	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	When reported: Absent, Present
Urinalysis	U/A with Microscopic	Various	Siemens Clinitek, Sysmex and/or Beckman	N/A	Various	Various	Various	Various	Various
Urinalysis Reflex to Culture	UTI workup for general population	Various	Siemens Clinitek, Sysmex and/or Beckman	N/A	Various	Various	Various	Various	Various
Urine Dipstick with Reflex Microscopy	UASR	Various	Siemens Clinitek, Sysmex and/or Beckman if it is Positive	N/A	Various	Various	Various	Various	Various
Urobilinogen Urine	N/A	Ehrlich Reaction, in which p-diethylaminobenzaldehyde in conjunction with a color enhancer reacts with urobilinogen in a strongly acid medium to produce a pink-red color.	Siemens Clinitek	E.U./dL	0.2, 1.0	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	0.2, 1.0, 2.0,4.0, ≥8.0
WBC Casts	N/A	Microscopic Examination of Urine Sediment and iQ200	CCL: Beckman RRL, James, MMMP, SSCBC: N/A	/lpf	0	Any seen	Urinalysis and Body Fluid, Ringsrud 1995	N/A	When reported: Rare, 1-2, 3-5, 6-9, 10-20, >20
WBC Urine	N/A	Microscopic Examination of Urine Sediment, CCL has Urine Particle Counter (UF1000i) and iQ200	CCL: Sysmex and Beckman RRL, James, MMMP, SSCBC: N/A	/hpf	0-5	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	0-5, 6-9, 10-20, >20
Yeast /Fungi	N/A	Microscopic Examination of Urine Sediment and iQ200	CCL: Beckman RRL, James, MMMP, SSCBC: N/A	N/A	Absent	N/A	Urinalysis and Body Fluid, Ringsrud 1995	N/A	Absent, Present
Acetone, Blood	N/A	Gas chromatography	Agilent GC	mg/dL	<10	≥10	N/A	10-400	10-400
Amikacin Level, Trough (Pre Drug Level)	N/A	Turbidimetric immunoassay	Beckman	mcg/mL	Therapeutic Range: < 6.0	≥6.0	OSU Pharmacy	3.0-50.0	3.0-150.0
Amikacin Level, Peak (Post Drug Level)	N/A	Turbidimetric immunoassay	Beckman	mcg/mL	Therapeutic: Range 30.0-60.0	≥60.0	OSU Pharmacy	3.0-50.0	3.0-150.0
Amikacin Level, Random	Amikin	Turbidimetric immunoassay	Beckman	mcg/mL	Therapeutic: **Peak**: 30.0-60.0 **Trough**: < 6.0	≥60.0	OSU Pharmacy	3.0-50.0	3.0-150.0
Amphetamine Confirmation, Urine	N/A	LC/MS/MS	SCIEX 3200 QTRAP	None Detected / Positive	None Detected	N/A	N/A	N/A	N/A
Barbiturate Confirmation, Urine	N/A	Gas chromatography / Mass spectrometry	Agilent GC/MS	None Detected / Positive	None Detected	N/A	N/A	N/A	N/A
Barbiturates Screen, Serum	N/A	Enzyme immunoassay	Beckman	Negative / Positive	Negative	N/A	N/A	1000 ng/mL cutoff	N/A
Benzodiazepine Confirmation - Urine Qualitative	N/A	LC/MS/MS	SCIEX 3200 QTRAP	None Detected / Positive	None Detected	N/A	N/A	N/A	N/A
Amphetamine / Methamphetamine	Amphetamines Screen - Urine	Enzyme immunoassay	Beckman	Negative / Presumptive Positive / Positive	Negative	N/A	N/A	500 ng/mL	N/A
Barbiturates	Barbiturates Screen - Urine	Enzyme immunoassay	Beckman	Negative / Presumptive Positive / Positive	Negative	N/A	N/A	200 ng/mL cutoff	N/A
Benzodiazepines	Benzodiazepines Screen - Urine	Enzyme immunoassay	Beckman	Negative / Presumptive Positive / Positive	Negative	N/A	N/A	200 ng/mL cutoff	N/A
Buprenorphine	Buprenorphine Screen - Urine	Enzyme immunoassay	Beckman	Negative / Presumptive Positive / Positive	Negative	N/A	N/A	5 ng/mL cutoff	N/A
Cocaine	Cocaine Screen - Urine	Enzyme immunoassay	Beckman	Negative / Presumptive Positive / Positive	Negative	N/A	N/A	150 ng/mL cutoff	N/A
Drug Screen Creatinine, Urine	Creatinine - Urine Adulteration Screen	Modified Jaffe	Beckman	mg/dL	≥20.0	N/A	SAMSHA	1.0-300.0	1.0-300.0
Glutaraldehyde	Glutaraldehyde - Urine Adulteration Screen	Colorimetric	Beckman	ng/mL	Negative	N/A	SAMSHA	1000ng/mL cutoff	N/A
Methadone	Methadone Screen- Urine	Enzyme immunoassay	Beckman	Negative / Presumptive Positive / Positive	Negative	N/A	N/A	300ng/mL cutoff	N/A
Opiate	Opiate Screen - Urine	Enzyme immunoassay	Beckman	Negative / Presumptive Positive / Positive	Negative	N/A	N/A	**Clinical:** 300ng/mL cutoff **Industrials:** 2000 ng/mL cutoff	N/A
Oxidants	Oxidants-Urine Adulteration Screen	Colorimetric	Beckman	Negative / Positive	Negative	N/A	SAMSHA	50mcg/mL cutoff	N/A
Oxycodone	Oxycodone Screen- Urine	Enzyme immunoassay	Beckman	Negative / Positive	Negative	N/A	N/A	100ng/mL cutoff	N/A
pH (Drug Screen)	pH - Urine Adulteration Screen	Colorimetric	Beckman	N/A	4.5-9.0	N/A	SAMSHA	3.0-9.0	N/A
pH Confirmation	pH - Urine Adulteration Confirmation	pH meter	Corning					3.0-11.0	3.0-11.0
BKR Phencyclidine	PCP Screen - Urine	Enzyme immunoassay	Beckman	Negative / Presumptive Positive / Positive	Negative	N/A	N/A	25ng/mL cutoff	N/A
Cannabinoids (Marijuana)	THC Screen - Urine	Enzyme immunoassay	Beckman	Negative / Positive	Negative	N/A	N/A	50ng/mL cutoff	N/A
Cannabinoids, Quant (Urine) THC Confirmation	N/A	Gas chromatography/ Mass spectrometry	Agilent GC/MS	ng/mL	<5.0	N/A	N/A	5.0-500.0	5.0-500.0

Cocaine Confirmation, Urine	N/A	LC/MS/MS	SCIEX 3200 QTRAP	None Detected / Positive	None Detected	N/A	N/A	N/A	N/A
Confirmation Buprenorphine and Norbuprenorphine, Urine	Suboxone, Buprenorphine metabolite	LC/MS/MS	Agilent QQQ LCMS	ng/mL	<5	N/A	N/A	5-5,000	5-25,000
Cyclic Citrullinated Peptide Ab	Anti-CCP	Chemiluminescent microparticle immunoassay	Abbott	U/mL	<5.0	N/A	Abbott	0.5-200.0	0.5-1,200.0
Cyclosporine Level, Trough (Pre Drug Level)	CSAN	Chemiluminescent microparticle immunoassay	Abbott	ng/mL	Therapeutic Range: 70-320	N/A	OSU Pharmacy	30-1,500	30-3,000
Cyclosporine Level, 2HR	CSAN2	Chemiluminescent microparticle immunoassay	Abbott	ng/mL	Therapeutic Range: 320 - 960	N/A	OSU Pharmacy	30-1,500	30-3,000
Drugs of Abuse Screen 10, Meconium	10MECO	Enzyme immunoassay	Beckman	Negative / Presumptive Positive / Positive	Negative	N/A	N/A	N/A	N/A
Drugs of Abuse Screen 10, Urine	10DRUG	Enzyme immunoassay	Beckman	Negative / Presumptive Positive / Positive	Negative	N/A	N/A	N/A	N/A
Ethanol (Alcohol), Urine	Alcohol-Ethyl	Enzymatic	TOX: Beckman RRL: Beckman	mg/dL	<10	N/A	N/A	10-600	10-600
Ethyl Alcohol, Blood	Alcohol-Ethyl, ETOH	Gas chromatography	Agilent GC	mg/dL	<10	≥300	N/A	10-400	10-400
Everolimus, Trough (Pre Drug Level)	Afinitor Zortress	Particle-enhanced turbidimetric immunoassay	Beckman	ng/mL	Therapeutic range not established	N/A	Microgenics Corp. Thermo Scientific QMS Everolimus IFU	2.0-20.0	2.0-40.0
Fentanyl, Urine, Qualitative	N/A	Enzyme immunoassay	Beckman	Negative / Presumptive Positive/ Positive	Negative	N/A	N/A	1 ng/mL cutoff	N/A
Fentanyl, Urine, Quantitative	Fentanyl Urine Confirmation	LC/MS/MS	Agilent QQQ LCMS	ng/mL	<2.5	N/A	N/A	2.5-5,000	2.5-25,000
Gentamicin Level, Peak (Post Drug Level)	N/A	Enzyme immunoassay	Beckman	mcg/mL	3.0-15.0 (Therapeutic Range)	≥20.0	OSU Pharmacy	0.3-10.0	0.3-20.0
Gentamicin Level, Trough (Pre Drug Level)	N/A	Enzyme immunoassay	Beckman	mcg/mL	<1 year: ≤1.6 > 1year: ≤1.0 (Therapeutic Range)	<1 year: ≥1.6 > 1 year: >1.0	OSU Pharmacy	0.3-10.0	0.3-20.0
Isopropanol, Blood	2-propanol	Gas chromatography	Agilent GC	mg/dL	<10	≥10	N/A	10-400	10-400
Lidocaine Level	N/A	Enzyme immunoassay	Beckman	mcg/mL	**Therapeutic Range:** 1.5-5.0	>6.0	OSU Pharmacy	0.5-12.0	0.5-36.0
Methadone Confirm, Urine	N/A	LC/MS/MS	SCIEX 3200 QTRAP	None Detected / Positive	None Detected	N/A	N/A	N/A	N/A
Methanol, Blood	Alcohol-Methyl	Gas chromatography	Agilent GC	mg/dL	<10	≥10	N/A	10-400	10-400
Methotrexate Level	N/A	Homogeneous enzyme immunoassay	Beckman	umol/L	Due to different protocols using this drug, contact the primary attending physician	N/A	OSU Pharmacy	0.04-1.20	0.04-1,200.00
Nicotine Screen Urine	Cotinine	Enzyme immunoassay	Beckman	Negative / Positive	Negative	N/A	N/A	500mg/mL cutoff	N/A
Opiate Confirmation by Mass Spec	N/A	LC/MS/MS	SCIEX 3200 QTRAP	None Detected / Positive	None Detected	N/A	N/A	N/A	N/A
Oxycodone, Confirmation	N/A	LC/MS/MS	Agilent QQQ LCMS	ng/mL	N/A	N/A	N/A	25-5,000	25-25,000
Pain Management Screening and Confirmation, Urine	LCMS Quant, Quantitative Testing	LCMS	Agilent QQQ LCMS	ng/mL	N/A	N/A	N/A	Fentanyl/Norfentanyl: 2.5-5000.0 Norbuprenorphine/Buprenorphine, 6-Monoacetylmorphine: 5-5,000 All other drugs: 25-5,000	Fentanyl/Norfentanyl: 2.5-25,000.0 Norbuprenorphine/Buprenorphine, 6-Monoacetylmorphine: 5-25,000 All other drugs: 25-25,000
Pentobarbital Level	Nembutal	Gas chromatography	Agilent GC	ug/mL	**Intracranial pressure therapy:** 30-40	>45	OSU Pharmacy	5-50	5-50
Phenytoin Free Level	Dilantin, Free	Chemiluminescent microparticle immunoassay	Abbott	mcg/mL	0.6-2.4 (Therapeutic Range)	>3.0	OSU Pharmacy	0.5-40.0	0.5-40.0
Ethylene Glycol, Blood, Screen with Reflex to Confirmation	Ethylene Glycol Level	Enzymatic UV	Beckman	mg/dL	None Detected	≥10 (Presumptive Positive)	N/A	N/A	N/A
Ethylene Glycol, Blood, Quantitative Confirmation	N/A	Gas chromatography	Agilent GC	mg/dL	<10	≥10	N/A	10-250	10-250
Sirolimus (Rapamycin) Level, Random	Rapamycin	Chemiluminescent microparticle immunoassay	Abbott	ng/mL	Bone Marrow Transplant: **4.0-12.0** Therapeutic: **5.0-30.0**	N/A	OSU Pharmacy	2.0-30.0	2.0-60.0
Specific Gravity - Urine Adulteration Screen	N/A	refractometer	Refractometer	N/A	1.003-1.030	N/A	SAMSHA	1.000-1.045	1.000-1.045
Tacrolimus, Random	Prograf	Chemiluminescent microparticle immunoassay	Abbott	ng/mL	Bone Marrow Transplant: **4.0-12.0** Therapeutic: **5.0-15.0**	N/A	OSU Pharmacy	2.0-30.0	2.0-60.0
Talbot Hall Drug Screen With Alcohol And Creat, Urine	N/A	Enzyme immunoassay	Beckman	Negative / Presumptive Positive/ Positive	Negative	N/A	N/A	N/A	N/A
Toxicology Drug Screen, Serum	SDRG	LC/MS/MS, Enzyme immunoassay	SCIEX 3200 QTRAP	Negative / Positive	Negative	N/A	N/A	N/A	N/A
Toxicology Screen Urine - UDRG	UDRG	LC/MS/MS, Enzyme immunoassay	SCIEX 3200 QTRAP	Negative / Positive	Negative	N/A	N/A	N/A	N/A
Toxicology, Umbilical Cord Segment	Cord Drugs of Abuse	Immunoassay, liquid chromatography, Mass spectrometry	SCIEX 3200 QTRAP	Negative / Positive	Negative	N/A	OSU Toxicology	N/A	N/A
Valproic Acid, Free	FVPA	Chemiluminescent microparticle immunoassay	Abbott	mcg/mL	5-35 (Therapeutic Range)	>40	OSU Pharmacy	2-150	2-150
Valproic Acid, Total	VPA	**TOX:** Chemiluminescent microparticle immunoassay	TOX: Abbott RRL: Beckman	mcg/mL	50-120 (Therapeutic Range)	>150	Applied Clinical Pharmacokinetics, 2001 Clinical Pharmacokinetics,	4-150	4-750
Cytogenetic Studies	Cytogenetics, karyotype Chromosome Analysis	Manual	N/A	N/A	See report	N/A	N/A	N/A	N/A
MDS FISH Panel	N/A	Fluorescent in situ Hybridization (FISH)	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 1q25.2 (ABL2)	CG1q25.2	Fluorescent in situ Hybridization (FISH)	Empire Genomics	N/A	N/A	N/A	N/A	N/A	N/A
CG 9q34.11-q34.13 (ABL1)	CG9q34.11-9q34.13	Fluorescent in situ Hybridization (FISH)	Empire Genomics	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 9p11-q11 (D9Z4)	9 centromere, CEP 9, 9 cen	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 7p11.1-q11.1 (D7Z1)	7 centromere, CEP 7, 7 cen	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 7p11.1-q11.1, 7q31 (D7Z1-D7S486)	7q31-7centromere, -7, 7q-	Fluorescent in situ Hybridization (FISH)	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 15p11.1-q11.1 (D15Z4)	CEP15, 15 cen, 15 centromere	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 20q12, 8p11.1-q11.1 (D20S108-D8Z2)	20q12, 20q-	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CLL FISH Panel	N/A	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 2p16.1, 2q32.1 (REL-DIRC1)	N/A	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 6q21, 6q23 (SEC63-MYB)	6q21	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 9p21, 9p11-q11 (CDKN2A-D9Z4)	9p21-9 centromere	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 12p11.1-q11, 13q14.3, 13q34 (D12Z3-D13S319-LAMP1)	12 centromere-13q14.3	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
MYELOMA FISH PANEL	N/A	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 1p32.3, 1q21 (CDKN2C-CKS1B)	1p36.3-1q21	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 3q27 (BCL6)	3q27	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 5q33-34,5p15.2 (CSF1R-D5S23:D5S721)	5q33-5p15.2, 5q-	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 8q24.2 (MYC)	8q24.21	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 11q22.3, 17p13.1 (ATM-TP53)	11q22.3-17p13.1	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 12p13.2-21q22 (ETV6-RUNX1)	12p13-21q22, t(12;21), TEL-AML1	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 13q14.2, 13q34 (RB1-LAMP1)	13q14.2	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A

CG 14q32.3-11q13.3 (IGH-CCND1)	14q32.3-11q13, t(11;14), Mantle cell lymphoma FISH	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 8p11.1-q11.1,8q24 (D8Z2-MYC)	8q24	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 2p24,2p11-2q11 NMYC - D2Z1	2p24.1	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 11p15.4 (NUP98)	11p15.4	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
Xp22.33-Yp11.32 (P2RY8)	P2RY8	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 1q23-19p13.3 (PBX1-TCF3)	1q23-19p13.3, t(1;19)	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 5q32 (PDGFRB)	5q32	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 15q24-17q21 (PML-RARA)	15q24-17q21, t(15;17)	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 17q21 (RARA)	17q21	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 21q22 (RUNX1)	21q22.12	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 8q21.3-21q22 (RUNX1T1-RUNX1)	21q22-8q22, t(8;21), ETO-AML1	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
4q12 (SCFD2-LNX-PDGFRA-KIT)	4q12	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 19p13.3 (TCF3)	19p13	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 14q32.13-q32.2 (TCL1)	14q32	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 7q34 (TRB)	7q34	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG Xp11.1-q11.1, Yq12 (DXZ1-DYZ1)	XY	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 7p11.1-q11.1, 7q22, 7q36 (D7Z1-CUX1-CUL1)	7q	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 2p23.2-p32.1 (ALK)	2p23	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 19q13.3 (BCL3)	19p13	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 22q11.2-9q34.1 (BCR-ABL1)	22q11.2-9q34, t(9;22), Philadelphia chromosome	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 11q22-18q21.3 (BIRC3-MALT1)	11q21-18q21, t(11;18)	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 16q22 (CBFB)	16q22, inv(16)	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 16q22-16p13.1 (CBFB-MYH11)	16p13	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 4p11-q11,10p11.1-q11.1 (D4Z1-D10Z1)	4 centromere	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG Xp22.33-Yp11.32 (CRLF2)	Xp22.33/YP11.32	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 6p22-9q34 (DEK-NUP214)	6p22.3/9q34.12-9q34.13	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 5q31, 5p15.2 (EGR1-D5S23:D5S721)	5q31-5p15.2, 5q-	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 12p13.2 (ETV6)	12p13	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 22q12 (EWSR1)	22q12, Ewings	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 8p11.2, 8p11.1-q11.1 (FGFR1-D8Z2)	8p11.23/ 8p11.1-q11.1	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 13q14 (FOXO1)	13q14, FKHR	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 14q32.3 (IGH)	14q32.3	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 14q32.3-6p21 (IGH-CCND3)	14q32.33,6p21	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 14q32.3-18q21.3 (IGH-BCL2)	14q32.3-18q21.3	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 14q32.3-4p16.3 (IGH-FGFR3)	14q32.3-4p16, t(4;14)	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 14q32.3-16q23 (IGH-MAF)	14q32.3-16q23, t(14;16)	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 14q32.3-20q12 (IGH-MAFB)	14q32.3-20q12, t(14;20)	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 14q32.3-8q24,8p11.1-q11.1 (IGH-MYC/D8Z2)	14q32.3-8q24-8 centromere, t(8;14), Burkitt lymphoma FISH	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 2p11.2 (IGK)	2p11.2	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 9p24 (JAK2)	9p24	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 11q23 (KMT2A)	11q23	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 3q26.2 (MECOM)	3q26.2	Fluorescent in situ Hybridization	N/A	N/A	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
Acid Fast Bacilli Culture and Smear	Acid Fast Culture	Culture; Susceptibility testing performed based on established lab guidelines	Bactec/Bruker Daltonics MicroFlex	N/A	Collect time is required for each specimen submission. Normal is negative.	Presence of Acid-Fast Bacilli	N/A	N/A	N/A
Acid Fast Bacilli Smear	AFB Smear	Smear	N/A	N/A	Collect time is required for each specimen submission. Normal is negative.	Presence of Acid-Fast Bacilli	N/A	N/A	N/A
Acinetobacter Culture	N/A	Surveillance Culture	Vitek	N/A	Negative	N/A	N/A	N/A	N/A
Actinomyces, Screen	N/A	Gram stain	N/A	N/A	Negative	N/A	N/A	N/A	N/A
Affirm Test (Vaginitis DNA Probe) ED Only	Affirm	Nucleic Acid Hybridization	BD Microprobe Processor	N/A	Candida = negative Gardnerella = negative Trichomonas = negative	N/A	N/A	N/A	Negative / Positive
Anaerobe ID	Anaerobic Identification	Culture	Bruker Daltonics MicroFlex	N/A	N/A	N/A	N/A	N/A	N/A
Anaerobic Culture	Anaerobe Culture	Culture; Susceptibility testing performed based on established lab guidelines	Bruker Daltonics MicroFlex	N/A	Collect time is required for each specimen submission	N/A	N/A	N/A	N/A
Atypical Bacterial Pneumonia, PCR	Atypical Bacterial Pneumonia Panel	PCR	BioFire	N/A	Not Detected	N/A	Package Insert	N/A	Not Dected / Detected
Autoclave Spore Check	Autoclave Spore Check Assert	Steam sterilization	N/A	N/A	Negative	N/A	N/A	N/A	Negative / Positive

Bacterial Culture and Direct Smear, Lesion, Tissue, Device	Routine Culture and Smear	Smear; Culture; Susceptibility testing performed based on established lab guidelines	N/A	N/A	No growth	See critical call list for organisms requiring notification.	Validation	N/A	N/A
Bacterial vaginosis Panel	BV	TMA - transcription-mediated amplification	Hologic Panther Aptima kit	N/A	Negative	N/A	Package Insert; Clinical Data	N/A	Invalid, Negative, Positive
Beta Strep, Vaginal Screen	Group B Streptococcus Testing by PCR	Concentration in LIM broth for > 18 hours followed by real-time PCR testing for GBS DNA sequence	BD MAX	N/A	Negative	N/A	Validation	N/A	Negative / Positive
Beta Strep, Vaginal Screen, Reflex Susceptibility for Penicillin Allergy	GBS, Streptococcus agalactiae	Concentration in LIM broth for > 18 hours followed by real-time PCR testing for GBS DNA sequence	BD MAX	N/A	Negative	N/A	Validation	N/A	Negative / Positive
BK Virus DNA PCR, Quant, Urine	N/A	Real-Time PCR	3M Integrated Cycler	copies/mL	<500	N/A	Validation	500-10,000,000,000	500-endpoint
BK Virus DNA Qn, PCR, Plasma	BKBP	Real-Time PCR	3M Integrated Cycler	copies/mL	<500	N/A	Validation	500-5,000,000	500-5,000,000
Blood Culture, AFB, Mycobacteria	Blood, acid fast	Culture; Susceptibility testing performed based on established lab guidelines	Bruker Daltonics MicroFlex	N/A	Reference Range-Negative Collect time is required for each specimen submission.	Growth	N/A	N/A	N/A
Blood Culture, Fungus	N/A	Culture; Susceptibility testing performed based on established lab guidelines	Bruker Daltonics MicroFlex	N/A	Reference Range-Negative. Collect time is required for each specimen submission	Growth	N/A	N/A	N/A
Blood Culture, Pediatric	N/A	Culture; Susceptibility testing performed based on established lab guidelines	BioMerieux Virtuo/Bruker Daltonics MicroFlex	N/A	No growth	Growth	N/A	N/A	N/A
Blood Culture	N/A	Culture; Susceptibility testing performed based on established lab guidelines	Bruker Daltonics MicroFlex, BioMerieux Virtuo, Vitek	N/A	No growth	All first time positive blood cultures are called with organism morphology details. Any additional positives after 48 hours requires an additional call. If Gram negative resistance marker or vanA, vanB is detected on Nanosphere an additional call is made.	N/A	N/A	N/A
Blood Product Protocol	N/A	Culture	BioMerieux Virtuo	NA	Negative	Growth	N/A	N/A	N/A
Blood, Transfusion Reaction	Transfusion Reaction, Blood Product Culture	Culture	BioMerieux Virtuo	NA	Negative	Growth	N/A	N/A	N/A
BMTCDP	BMT C. diff by PCR	PCR	BD Max	N/A	Negative	N/A	Package insert; in-house validation; literature	N/A	Negative / Positive
Body Fluid Culture and Direct Smear	Sterile fluid culture	Culture; Susceptibility testing performed based on established lab guidelines	Vitek/Bruker Daltonics MicroFlex	N/A	N/A	N/A	N/A	N/A	N/A
Candida/ Trichomonas Panel	CV/TV	Transcription-mediated amplification	Hologic Panther Aptima kit	N/A	Not Detected	N/A	Package Insert; Clinical Data	N/A	Not Detected/ Detected
C difficile by PCR (Clostridium difficile toxin)	N/A	PCR	BD MAX	N/A	Negative	N/A	N/A	N/A	Negative / Positive
CAPD Fluid Bacterial Culture	N/A	Culture; Susceptibility testing performed based on established lab guidelines	Vitek/Bruker Daltonics MicroFlex	N/A	Collect time is required for each specimen submission.	N/A	N/A	N/A	N/A
Catheter Tip Culture	N/A	Culture	Vitek/Bruker Daltonics MicroFlex	N/A	Negative. Vascular Catheter tip cultures are interpreted in conjunction with blood culture results.	Growth	N/A	N/A	N/A
Chlamydia and Gonorrhea Amplified	Chlamydia trachomatis & Neisseria gonorrhoeae NAAT Testing	NAAT	Hologic Aptima Combo 2 Assay on Panther	N/A	Not Detected	N/A	Package Insert	N/A	N/A
CMV by PCR, Quantitative, Blood	CMV Viral Load, CMV PCR	Real-Time PCR	Abbott	IU/mL	<50	N/A	Literature / History	50-156,000,000	50-156,000,000
EBV by PCR, Quantitative, Blood	EBV Viral Load, EBV PCR	Real-Time PCR	3M Integrated Cycler	IU/mL	<1,000	≥10,000	Validation	1,000-5,000,000	1,000-5,000,000
EBV Rapid PCR, CSF Only	EBV PCR, EBV CSF	Real-Time PCR	3M Integrated Cycler	IU/mL	Not Detected	≥10,000	Validation	1-10,000	Not Detected, Detected <10,000, Detected >10,000
Fungal Susceptibility Testing	N/A	TREK panel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fungus Culture	N/A	Culture; Susceptibility testing performed based on established lab guidelines	N/A	N/A	Collect time is required for each specimen submission. No growth.	Growth	N/A	N/A	N/A
Fungus Culture (Skin, Hair, Nails)	N/A	Culture	N/A	N/A	Collect time is required for each specimen submission.	N/A	N/A	N/A	N/A
Fungus Smear	Calcofluor White fluorescent stain	Smear	N/A	N/A	Negative	Positive for fungal elements	N/A	N/A	N/A
Genital Culture, Bacterial	Vaginal, Cervical, Urethral	Smear when indicated; Culture; Susceptibility testing performed based on established lab guidelines	Vitek/Bruker Daltonics MicroFlex	N/A	Normal flora or no growth, depending on site	See critical call list for organisms that require a call.	N/A	N/A	N/A
Gram Stain	N/A	Smear	N/A	N/A	Negative	See Critical Call procedure for list of sources that are called to physician/nurse	N/A	N/A	N/A
H. Pylori Urea Breath Test	UBT for H. pylori, BreathTek	Infrared Spectrophotometry	Otsuka UBiT POC*one*	N/A	Cut-off value is 2.4 for adults and 10.0 for children 3-17 years	N/A	Package Insert	N/A	Negative / Positive
Hepatitis B DNA	HBV Viral Load	Real-Time PCR	Abbott	IU/mL and Log IU/mL	<10 IU/mL (<1.000 log unit)	N/A	Validation/ Package Insert	10-1,000,000,000 IU/mL (1.00-9.00 log units)	10-1,000,000,000 IU/mL 1.00-9.00 Log IU/mL
Hepatitis C by PCR, Quant	HCV Viral Load	Real-Time PCR	Abbott	IU/mL and Log IU/mL	<12 IU/mL (<1.08 log units)	N/A	Validation/ Package Insert	12-100,000,000 IU/mL (1.08-8.00 log units)	12-100,000,000 IU/mL 1.08-8.00 Log IU/mL
HIV Viral Load RNA PCR Quant	HIV Viral Load	Real-Time PCR	Abbott	copies/mL and log copies/mL	<40 copies/mL <1.60 log units	N/A	Validation/ Package Insert	40-10,000,000 copies/mL (1.60-7.00 log units)	40-10,000,000 copies/mL (1.60-7.00 log units)
HSV by PCR, Fluid/Lesion	Herpes Simplex Virus 1 and 2 Testing by PCR	Real-Time PCR	DiaSorin	N/A	Not Detected	Positive in CSF	Package Insert / Literature	N/A	Detected / Not Detected
Immunocompromised Respiratory Panel	BioFire RP2.1	Film Array PCR	BioFire	N/A	Not Detected	N/A	Package Insert / Literature	N/A	Detected / Not Detected Influenza A Only: Detected, Indeterminate, Not Detected
Influenza A/B Rapid Molecular	Rapid Flu	Isothermal Nucleic Acid Amplification	Abbott	N/A	Not Detected	N/A	Alere-I Influenza A+B package insert	N/A	Detected / Not Detected / Indeterminate
Influenza A/B, RSV by PCR	Flu PCR, RSV PCR	PCR	3M Integrated Cycler	N/A	Not Detected	N/A	Validation	N/A	Detected/ Not Detected
Lactoferrin, Qualitative, Stool	Fecal Leukocytes, Stool for WBCs	Immunochromatographic	Alere LEUKO EZ VUE	N/A	Negative	N/A	Package Insert	N/A	Negative / Positive
Legionella Culture	N/A	Culture	Bruker Daltonics MicroFlex	NA	Collect time is required for each specimen submission..	N/A	N/A	N/A	N/A
Legionella Environ	Environmental Culture for Legionella	Culture	Bruker Daltonics MicroFlex	N/A	Collect time is required for each specimen submission.	N/A	N/A	N/A	N/A
Lower Respiratory Culture, Bacterial	RES	Culture; Susceptibility testing performed based on established lab guidelines	Bruker Daltonics MicroFlex	N/A	normal flora	N/A	N/A	N/A	N/A
M Tuberculosis Complex by PCR	TB PCR, MTB, M. tuberculosis	Real-Time PCR	GeneXpert	N/A	Not Detected	Detected	Package Insert / Reference Materials	N/A	Not Detected / Detected
Macroscopic: Arthropod	Arthropod	Macroscopic Exam	N/A	N/A	Negative, Artifact (not arthropod)	N/A	N/A	N/A	N/A
Meningitis / Encephalitis Panel, CSF	BioFire Meningitis / Encephalitis Panel	Film Array PCR	BioFire	N/A	Not Detected	Detected	Package Insert	N/A	Detected / Not Detected
MRSA Screening Culture Panel, Nares, Axilla, Groin/Wound	MRSA Screen	Culture	N/A	N/A	Negative for MRSA	N/A	N/A	N/A	N/A
Molecular Enteric Panel, Stool	Gastrointestinal Panel	Molecular - real time PCR	BD MAX	N/A	Negative	N/A	N/A	N/A	Negative / Positive
Molecular Stool Parasite Panel	O&P	Real-Time PCR	BD MAX	N/A	Negative	N/A	Package insert; Microbiology Reference material	N/A	Negative / Positive
Neisseria-gonococcus Screen	GC Screen	Culture on selective agar for N. gonorrhoea and N. meningitidis	N/A	N/A	Negative	N/A	N/A	N/A	N/A
Outside Fungal ID	Dermatophyte Identification Mold Identification Yeast Identification	Culture	N/A Bruker Daltonics MicroFlex	N/A	N/A	N/A	N/A	N/A	N/A
Outside Mycobacterial ID	Mycobacterium Identification	Culture	Bruker Daltonics MicroFlex	NA	NA	NA	N/A	N/A	N/A
Pinworm Exam	N/A	Microscopic exam	N/A	N/A	Negative	N/A	N/A	N/A	N/A
Plesiomonas/Aeromonas Screen, Stool	Aeromonas / Plesiomonas Screen	Culture	Vitek/Bruker Daltonics MicroFlex	N/A	Negative	N/A	N/A	N/A	N/A
POCT Chlamydia trachomatis and Neisseria gonorrhoeae (CTNG)	binx io GC and Chlamydia	PCR	Binx io	N/A	Not Detected	N/A	Package Insert	N/A	Detected / Not Detected
Quantitative Tissue Culture	N/A	Tissue is weighed, serially diluted, and cultured for exact colony count.	Vitek/Bruker Daltonics MicroFlex	colony forming units/gram	No growth	N/A	N/A	N/A	N/A
Rapid HIV-1/HIV-2 Ab With P24 Antigen	Rapid HIV, Alere Determination HIV 1/2 Ag/Ab Combo	Qualitative Immunoassay / Immunochromatographic test for simultaneous and qualitative detection of free HIV-1 p24 antigen and antibodies to HIV-1 and HIV-2	Alere Determine	N/A	All: nonreactive	N/A	Package Insert	N/A	Reactive / Nonreactive / Presumptive Reactive

Rapid Malaria	Plasmodium	Immunochromatographic membrane assay that uses monoclonal antibodies to qualitatively detect Plasmodium falciparum antigen and pan-malarial antigen (an antigen shared by Plasmodium species causing human malaria)	Binax NOW	N/A	Negative for Plasmodium antigens	N/A	Package Insert	Limit of detection 100 parasites per microliter	Positive for Plasmodium antigen
Rapid Strep A, Molecular	Rapid Strep, Strep A	Molecular in vitro diagnostic test utilizing isothermal nucleic acid amplification	Abbott	N/A	Negative	N/A	N/A	N/A	Negative / Positive
Rectal Screening for Cipro Resistance	Ciprofloxacin Resistance Screening	Culture	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SARS-CoV-2 Rapid Antigen	COVID antigen test	Lateral flow immunoassay	Quidel Quickvue SARS Antigen test	N/A	Negative	N/A	Package Insert	N/A	Negative / Positive
SARS-COV-2 RAPID	Rapid COVID	Isothermal Nucleic Acid Amplification	Abbott	N/A	Not Detected	N/A	Abbott ID NOW Rapid Covid package insert	N/A	Detected / Not Detected
Novel Coronavirus PCR	COVID-19	Real Time PCR	DiaSorin Alinity m Panther	N/A	Not Detected	N/A	N/A	N/A	Detected / Not Detected
		Transcription Mediated Amplification							
Screen VRE	Vancomycin Resistant Enterococcus Screen	Culture on selective agar.	N/A	N/A	Negative for Vancomycin Resistant Enterococcus.	N/A	N/A	N/A	N/A
Screen, Yeast	N/A	Culture	Bruker Daltonics MicroFlex	N/A	Negative	N/A	N/A	N/A	N/A
Screen: MRSA - Baby	NICU MRSA	Culture	N/A	N/A	Negative	N/A	N/A	N/A	N/A
Screen: MRSA/MSSA	Respiratory Staphylococcus Screen, Staph Screen	Real-Time PCR	BD MAX	N/A	Negative	N/A	Package Insert	N/A	N/A
Sterility Check	N/A	Culture	Vitek/Bruker Daltonics MicroFlex	N/A	Negative	LOOP Specimens will be called to the coordinator	N/A	N/A	N/A
Strep Pneumoniae Antigen, Urine	N/A	Immunochromatographic membrane assay.	Binax NOW	N/A	Negative	N/A	Binax NOW Package Insert	N/A	Negative / Positive
Susceptibility	Susceptibility and Identification	N/A	Vitek/Bruker Daltonics MicroFlex	N/A	N/A	N/A	N/A	N/A	N/A
Upper Respiratory Culture, Bacterial	Throat Culture, RESN	Culture	Bruker Daltonics MicroFlex	N/A	normal flora	N/A	N/A	N/A	N/A
Urine Culture	N/A	Culture; Susceptibility testing performed based on established lab guidelines	N/A	CFU/mL	Culture includes colony count. Collect time is required for each specimen submission.	N/A	N/A	N/A	N/A
Vaginitis DNA Probes	DNA Probe, Vaginal	DNA Probe	BD Microprobe Processor	N/A	Negative	N/A	N/A	N/A	Negative / Positive / Invalid
Varicella Zoster By PCR, Skin	VZVPCR	Real Time PCR	DiaSorin	N/A	Not Detected	N/A	Package Insert / Literature	N/A	Detected / Not Detected
Yersinia Screen	N/A	Extended culture with cold enrichment	N/A	N/A	Negative	N/A	N/A	N/A	N/A
ABO / RH(D) Typing	Blood Type, ABORH	Agglutination	Manual: N/A Automated: Ortho	N/A	A, B, O, or AB and Rh positive or Rh Negative	N/A	N/A	N/A	N/A
ABORH Type Reconfirmation	Confirmatory Type	Agglutination	Manual: N/A Automated: Ortho	N/A	A, B, O, or AB and Rh positive or Rh negative	N/A	N/A	N/A	N/A
ABORH Not Valid for Transfusion	Blood Type, ABOD	Agglutination	Manual: N/A Automated: Ortho	N/A	A, B, O, or AB and Rh positive or Rh negative	N/A	N/A	N/A	N/A
Antibody ID	N/A	Agglutination	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Antibody Screen	Indirect Antiglobulin Test, ABS	Agglutination	Manual: N/A Automated: Ortho	N/A	Negative / Positive	N/A	N/A	N/A	N/A
Antibody Titer [LAB275]	ABTIT	Agglutination	N/A	N/A	Reciprocal of serial dilution	All antigens but K have a critical value of 32, K has a critical value of 8	Alloimmunization Committee	N/A	N/A
Antigen Typing, Red Cell	N/A	Agglutination	N/A	N/A	Negative / Positive	N/A	N/A	N/A	N/A
Autoadsorption, RBC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Baby Type and DAT (Direct Antiglobulin Test)	HEELS, Heelstick Evaluation	Agglutination	N/A	N/A	For type- A, B, O, or AB and Rh positive or Rh Negative, Antibody Screen Positive or Negative, DAT Positive or Negative	Positive DAT	N/A	N/A	N/A
Cold Agglutinin Titer	N/A	Agglutination	N/A	N/A	Reciprocal of serial dilution	N/A	N/A	N/A	N/A
Cord Blood Evaluation	N/A	Agglutination	N/A	N/A	For type- A, B, O, or AB and Rh positive or Rh Negative, DAT Positive or Negative	Positive DAT	N/A	N/A	N/A
Crossmatch	N/A	Agglutination	N/A	N/A	Compatible, Incompatible, Least incompatible	N/A	N/A	N/A	N/A
Direct Antiglobulin Test (DAT)	DAT, Direct Antiglobulin	Agglutination	N/A	N/A	Negative / Positive	N/A	N/A	N/A	N/A
Donor unit retype	Reconfirmation of donor units	Agglutination	Manual: N/A Automated: Ortho	N/A	A, B, O, or AB and Rh positive or Rh Negative	N/A	N/A	N/A	N/A
Eluate	Elution, RBC	Agglutination	N/A	N/A	N/A	New antibody identified in Eluate	N/A	N/A	N/A
Fetal Screen Workup	N/A	Agglutination	Immucor	N/A	Negative / Positive	N/A	N/A	N/A	N/A
Kleihauer-Betke Stain	KB	Agglutination	N/A	N/A	Number of fetal cells per 2000 adult cells, percent fetal bleed in mL's and number of vials of RhoIg if applicable	Positive	N/A	N/A	N/A
RHOIG Evaluation	Rhogam Evaluation	Agglutination	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Transfusion Reaction Battery	N/A	Agglutination	N/A	N/A	N/A	All transfusion reactions	N/A	N/A	N/A
Type and Screen	N/A	Agglutination	Manual: N/A Automated: Ortho	N/A	For type- A, B, O, or AB and Rh positive or Rh Negative, Antibody Screen Positive or Negative	N/A	N/A	N/A	N/A
Type and Screen-Not for Transfusion	N/A	Agglutination	Manual: N/A Automated: Ortho	N/A	For type- A, B, O, or AB and Rh positive or Rh Negative, Antibody Screen Positive or Negative	N/A	N/A	N/A	N/A
Type and Screen - Preadmission	N/A	Agglutination	Manual: N/A Automated: Ortho	N/A	For type- A, B, O, or AB and Rh positive or Rh Negative, Antibody Screen Positive or Negative	N/A	N/A	N/A	N/A
ACTH	Adrenocortico-trophic Hormone	Chemiluminescent	Immulite XPi	pg/mL	9.0-50.0	N/A	Textbooks, package insert	5.0-1,250.0	5.0-1,250.0
A1C - DCA	HA1CI	Latex immunoagglutination inhibition	DCA Vantage	%	4.7-5.6	N/A	Textbook	2.5-14.0	2.5-14.0
AFP Tumor Marker	AFPTMR	Two-site sequential chemiluminescent immunometric assay	Immulite XPi	ng/mL	<8.5	N/A	Package insert, textbook, operators manual	0.2-363.0	0.2 - dilute to endpoint
Aldosterone	ALDOS	Chemiluminescent Immunoassay	Diasorin Liason XL SF 2	ng/dL	Upright (serum) <39.20 Supine (serum) <23.20 Upright (EDTA) <35.30 Supine (EDTA) <23.60	N/A	Package insert	4.00-100.00	4.00-5,000.00
ANA Multiplex Screen	N/A	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
ANA Multiplex Scrn With Reflex	N/A	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
ANA Screen IFA	ANAB	Indirect Immunofluorescence Antibody	Werfen/ Inova	N/A	Negative	N/A	INOVA IFU 2018 Revision 7	N/A	Negative / Positive
ANA Titer*	N/A	Indirect Immunofluorescence Antibody	Werfen/ Inova	N/A	Negative	N/A	INOVA IFU 2018 Revision 7	N/A	1:80, 1:160, 1:320, 1:640, 1:1280, ≥1:2560
Anti Microsomal Antibody	MIAN	Chemiluminescent Immunoassay	Immulite XPi	IU/mL	<35.0	N/A	Package Insert	10.0-1,000.0	10.0-Dilute to Endpoint
Anti Mitochondrial Antibody	AMA	Indirect Fluorescent Antibody	Werfen/ Inova	N/A	Negative	N/A	INOVA IFU 2019 Revision 21	N/A	**Qualitative:** Negative / Positive **Quantitative:** 1:20, 1:40, 1:80, 1:160, ≥1:320
Anti Neutrophil Cytoplasmic Antibody	ANCA	Indirect Fluorescent Antibody	Werfen/ Inova	N/A	Negative	N/A	INOVA IFU 2019 Revision 3	N/A	**Qualitative:** Negative / Positive **Quantitative:** 1:20, 1:40, 1:80, 1:160, 1:320, 1:640, ≥1:1280
Anti Parietal Antibody	PCA	Indirect Fluorescent Antibody	Werfen/ Inova	N/A	Negative	N/A	INOVA IFU 2019 Revision 21	N/A	**Qualitative:** Negative / Positive **Quantitative:** 1:20, 1:40, 1:80, 1:160, ≥1:320
Anti Smooth Muscle Antibody	SMA	Indirect Fluorescent Antibody	Werfen/ Inova	N/A	Negative	N/A	INOVA IFU 2019 Revision 21	N/A	**Qualitative:** Negative / Positive **Quantitative:** 1:20, 1:40, 1:80, 1:160, ≥1:320
Anti-Proteinase 3 Ab	Anti-PR3	Multiplex ImmunoFlow Assay	Bioplex 2200	N/A	Negative is Normal	N/A	Instructions for use manual	N/A	Negative / Positive
Anti-Scleroderma Ab (Scl70)	SCL70T	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
Auto Immune Abs, Multiplex	BPRAB	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
Beta 2 Microglobulin Serum	B2M	Two-site chemiluminescent immunometric assay	Immulite XPi	mg/L	0.60-2.11	N/A	Package insert, Operators manual, Textbook	0.00-0.50	0.00-50.00
BKR Free Testosterone	N/A	Calculation	Centaur CXP1	TESTF = ng/dL TESTP = %	Male TESTF = 1.74-15.20 Female TESTF = 0.04-0.81 Male TESTP = 0.90-2.80 Female TESTP = 0.40-3.00	N/A	Customer Bulletin	N/A	N/A

CA 15-3N	CA153N	Two-site chemiluminescent immunometric assay	Immulite XPi	U/mL	Female: 0.0-38.0 Male: 0.0-38.0 (use not defined)	N/A	Package insert, Operators manual, Textbook	1.0-300.0	1.0-30,000.0
Calcitonin	CALCIT	Two-site Chemiluminescent Immunometric Assay	Immulite XPi	pg/mL	Male: <8.4 Female: <5.0	N/A	Kit Range	2.0-2,000.0	2.0-2,000,000.0
Centromere B Antibody	CENTT	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
Chromatin Antibody	N/A	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
CMV IgG Ab	CMVG	Two-step immunoassay	Immulite XPi	N/A	Negative is Normal	N/A	Textbooks, Package insert.	N/A	Negative / Positive
CMV IgM Ab	CMVM	Solid phase enzyme-labeled chemiluminescent immunometric assay	Immulite XPi	N/A	Negative is Normal	N/A	Package insert	N/A	Negative / Positive
C-Peptide	CPEP	Chemiluminescent	Immulite XPi	ng/mL	0.2-2.7	N/A	OSU validated Range	0.1-20.0	0.1-20,000.0
Cryptococcal Antigen	CRAG	Lateral Flow Assay	Immuno-Mycologics Inc.	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
Cryptococcus Antigen, CSF	FCRAG	Lateral Flow Assay	Immuno-Mycologics Inc.	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
DHEA-Sulfate	DHES	Chemiluminescent Immunoassay	Immulite XPi	ug/dL	Female: 35-430 Male: 80-560	N/A	Package insert, textbook	15-1,000	15-1,000
DS DNA Ab, Quant	N/A	Multiplex flow immunoassay	Bioplex 2200	IU/mL	Negative: ≤4 Indeterminate: 5-9 Positive: ≥10	N/A	Package insert	1-300	1-30,000
dsDNA Antibody	N/A	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
EBV VCA IgG Ab	EBVG	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
EBV VCA IgM Ab	EBVM	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
ENA Battery (SSA, SSB, Sm, RNP)	ENAB	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
Free Hemoglobin, Plasma	N/A	Photometric	HemoCue	mg/dL	≤5.0	N/A	HemoCue Operating Manual	30.0-2,100.0	30.0-Dilute to endpoint
G6PD, Qualitative	G6PD	Visual Fluorescence	Trinity Biotech	N/A	Enzyme Activity Present is Normal	N/A	Package Insert	N/A	Enzyme Activity Absent, Enzyme Activity Indeterminate, Enzyme Activity Present
Gastrin - Drug Stimulated	GSTRDS	Chemiluminescent	Immulite XPi	pg/mL	<122	N/A	OSU validated range	10-1,000	10-1,000,000
Gastrin - Non-Stimulated	GSTR	Chemiluminescent	Immulite XPi	pg/mL	<122	N/A	OSU validated Range	10-1,000	10-1,000,000
Growth Hormone	GRHR	Two-site chemiluminescent immunometric assay	Immulite XPi	ng/mL	Female: <8.00 Male: <3.00	N/A	Package insert, operators manual, textbook	0.05-40.00	0.05-dilute to endpoint
H. Pylori Ab IgG, Serum	HPAB	Solid phase enzyme-labeled chemiluminescent immunometric assay	Immulite XPi	N/A	Negative is Normal	N/A	Package insert	N/A	Negative / Positive
Hemoglobin A1C	A1CB	HPLC	Bio-Rad D-100	%	4.7-5.6	N/A	Textbook	3.5-15.0	3.5-15.0
Hemoglobin Plasma, Screen	HGBPSC	Photometric	HemoCue	mg/dL	≤5.0	N/A	Operators Manual	30.0-2,100.0	30.0-Dilute to endpoint
Hemoglobin, Fetal	HF	HPLC	Variant II	%	<1.0	N/A	Package Insert, Textbook	1.0-40.0	1.0-40.0
Hemoglobinopathy Eval	Abnormal HGB Detection, HFPB	HPLC	Variant II	%	Hemoglobin A: ≥95.0 Hemoglobin A2: 2.1-3.3 Hemoglobin F: <1.0 Hemoglobin C: 0.0 Hemoglobin S: 0.0	N/A	Package Insert, Textbook	N/A	N/A
Hep A Ab, Total (IgG+IgM)	HAABG	Competitive Direct Chemiluminescent Immunoassay	Siemens SF Atellica IM 1	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative/ Positive
Hep B Core Ab,Total (IgG+IgM)	HBCBG	2-Wash Antigen Sandwich Immunoassay	Siemens SF Atellica IM 1	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative/ Positive
Hep B Surf Ag Neutralization	HBAGN	Specific Antibody Neutralization	Siemens SF Atellica IM 1	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative/ Positive
Hepatitis A IgM Ab	HAABM	2-Step IgM-Capture Immunoassay	Siemens SF Atellica IM 1	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative/ Positive
Hepatitis B Core IgM Ab	HBCBM	2-Step IgM-Capture Immunoassay	Siemens SF Atellica IM 1	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative/ Positive
Hepatitis B Surface Antibody	HBSAB	Sandwich Direct Chemiluminescent Immunoassay	Siemens SF Atellica IM 1	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative/ Positive
Hepatitis B Surface Antigen	HBSAG	Sandwich Direct Chemiluminescent Immunoassay	Siemens SF Atellica IM 1	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative/ Positive
Hepatitis Be Antibody	HBEB	Chemiluminescent Immunoassay	Diasorin	N/A	Nonreactive is Normal	N/A	Package Insert	N/A	Nonreactive / Reactive
Hepatitis Be Antigen	HBEG	Sandwich 2-Step Immunoassay	Siemens SF Atellica IM 1	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative/ Positive
Hepatitis C Antibody	HCAB	Indirect Sandwich Immunoassay	Siemens SF Atellica IM 1	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative/ Positive
HIV 1 and 2 Antibodies	HIV	Sandwich 2-Step Immunoassay	Siemens SF Atellica IM 1	N/A	Nonreactive is Normal	N/A	Package Insert	N/A	Nonreactive/ Reactive
HIV-1/HIV-2 Differentiation	HIV12C	Immunochromatographic Assay	Bio-Rad Genius	N/A	Nonreactive is normal	N/A	Package Insert	N/A	Nonreactive / Reactive
HPV, High Risk, DNA	High Risk HPV with Genotyping	PCR	Cobas	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
HSV 1 And 2 IgG Antibody	HSVG12	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Textbooks, HSV-1&2 IgG procedure, Package Insert	N/A	Negative / Positive
HSV IgM Antibody	HSVM	ELISA - Manual	Gold Standard	N/A	Negative is Normal	N/A	Textbooks, HSV-1&2 IgG procedure, Package Insert	N/A	Negative / Positive / Equivocal
Immunofixation, Serum	SIMFXB, Serum Protein Electrophoresis with Immunofixation	Electrophoresis	Sebia Capillarys 3	N/A	N/A	N/A	Package Insert	N/A	N/A
Immunoglobulin IgE	IgE, Total	2-site Sandwich Direct Chemiluminescent Immunoassay	Siemens SF Atellica IM 2	IU/mL	≤165.3	N/A	Reference Range Study 11.3.2016	2.5-3000.0	2.5-3000.0
Insulin	N/A	Two-step immunoassay	Immulite XPi	uIU/mL	<29.1	N/A	OSU established	2.0-300.0	2.0-300.0
Insulin Glucose Tolerance: 10 Minutes	INSUL5	Two-step immunoassay	Immulite XPi	uIU/mL	N/A	N/A	OSU established	2.0-300.0	2.0-300.0
Insulin Glucose Tolerance: 2 Minutes	INSUL3	Two-step immunoassay	Immulite XPi	uIU/mL	N/A	N/A	OSU established	2.0-300.0	2.0-300.0
Insulin Glucose Tolerance: 5 Minutes	INSUL4	Two-step immunoassay	Immulite XPi	uIU/mL	N/A	N/A	OSU established	2.0-300.0	2.0-300.0
Insulin Glucose Tolerance: 30 Minutes	INSUL6	Two-step immunoassay	Immulite XPi	uIU/mL	N/A	N/A	OSU established	2.0-300.0	2.0-300.0
Insulin Glucose Tolerance: 0 Minutes	INSUL2	Two-step immunoassay	Immulite XPi	uIU/mL	N/A	N/A	OSU established	2.0-300.0	2.0-300.0
Insulin-like Growth Factor 1	Somatomedin C, IGF1	One-step sandwich chemiluminescence immunoassay	DiaSorin LIAISON XL	ng/mL	Age Dependent	N/A	Package Insert	10.0-1,000.0	10.0-1,000.0
Intact PTH (Intraoperative)	Intact PTH Rapid, RPTH	Two-site sandwich immunoassay	Siemens Atellica IM	pg/mL	14.0-72.0	N/A	Atellica product insert (PTH) REV 4, 2020/11	6.3-2,000.0	6.3-160,000.0
JO-1 Antibody	ANA Screen	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
Kappa Free Light Chains	Immunoglobulin Free Chains	Turbidimetry	The Binding Site Optilite	mg/L	3.9-26.0	N/A	2017 OSU Study	2.9-127.0	0.6-63,500.0
Kappa/Lambda Ratio	Immunoglobulin Free Chains	Turbidimetry	The Binding Site Optilite	N/A	0.51-1.72	N/A	2017 OSU Study	N/A	N/A
Lambda Free Light Chains	Immunoglobulin Free Chains	Turbidimetry	The Binding Site Optilite	mg/L	6.4-22.1	N/A	2017 OSU Study	5.2-139.0	1.3-139,000.0
Legionella Serogroup 1 Urinary Antigen	Legionella Urinary Ag	EIA	Binax Kit / Dynex DS2	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
Lyme Ab	N/A	Chemiluminescent Immunoassay	Diasorin Liaison XL SF 2	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
M Tuberculosis By Quantiferon	QFT, M. Tuberculosis Antigen	Direct, sandwich Chemiluminescence immunoassay	Diasorin Liaison XL SF 1	N/A	N/A	N/A	Package Insert	N/A	Negative / Positive / Indeterminate
Monoclonal Prot Immuno, Serum	Serum Monoclonal Protein	Capillary Electrophoresis	Sebia Capillarys 3	N/A	Negative is Normal	N/A	Package Insert	N/A	N/A
Mumps IgG Ab, Immune Status	Mumps Ab, IgG	Multiplex flow immunoassay	Bioplex 2200	N/A	Positive	N/A	BioPlex2200 MMRV IgG Procedure March 2010	N/A	Negative-The absence of detectable IgG-class antibodies to measles,
Myeloperoxidase Antibodies	N/A	Multiplex ImmunoFlow Assay	Bioplex 2200	N/A	Negative is Normal	N/A	Instructions for use manual	N/A	Negative / Positive
Protein Electrophoresis	Serum Electrophoresis, PSE, Serum Protein Electrophoresis with Reflex to Immunofixation	Electrophoresis	Sebia Capillarys 3	g/dL	Albumin: 3.5-5.0 g/dL Alpha 1: 0.2-0.4 g/dL Alpha 2: 0.5-1.0 g/dL Beta: 0.5-1.1 g/dL Gamma: 0.6-1.5 g/dL	N/A	Package Insert	N/A	N/A
PTH Intact	IPTH	Two-site sandwich immunoassay	Siemens Atellica IM	pg/mL	14.0-72.0	N/A	Atellica product insert (PTH) REV 4, 2020/11	6.3-2,000.0	6.3-160,000.0
Quant. Cryptococcus Antigen, Blood	N/A	Lateral Flow Assay	Immuno-Mycologics Inc.	N/A	Negative is Normal	N/A	Package Insert	N/A	1:2 - ≥1:2560
Quantitative RPR	N/A	Macroscopic nontreponemal flocculation	ASI	Nonreactive / Reactive	Nonreactive is Normal	N/A	Package insert	N/A	1:1 - ≥1:2048
Renin	Renin, Direct	Chemiluminescent Immunoassay	Diasorin Liaison XL SF 2	pg/mL	Upright: <40: 4.2-52.2 ≥40: 3.6-81.6 Supine: <41: 3.2-33.2 ≥40: 2.5-45.1	N/A	Package insert	2.1-300.0	2.1-3,000.0
Ribosomal P Antibody	RIBOPT	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
RNP Antibody	RNPT	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
RPR	Rapid Plasma Reagin	Macroscopic nontreponemal flocculation	ASI	Nonreactive / Reactive	Nonreactive is Normal	N/A	Package insert	N/A	1:1 - ≥1:2048
RPR - Baby	RPR, Neonatal	Macroscopic nontreponemal flocculation	ASI	Nonreactive / Reactive	Nonreactive is Normal	N/A	Package insert	N/A	1:1 - ≥1:2048
RPR with Titer	RPR, Therapy	Macroscopic nontreponemal flocculation	ASI	Nonreactive / Reactive	Nonreactive is Normal	N/A	Package insert	N/A	1:1 - ≥1:2048
Rubella Immune Status IgG Antibody	RUBAB	Multiplex flow immunoassay	Bioplex 2200	Negative / Positive	Positive	N/A	BioPlex2200 MMRV IgG Procedure March 2010	N/A	Negative-The absence of detectable IgG-class antibodies to measles,

Rubeola IgG Ab (Immune Status)	RUBOIB	Multiplex flow immunoassay	Bioplex 2200	Negative / Positive	Positive	N/A	BioPlex2200 MMRV IgG Procedure March 2010	N/A	Negative-The absence of detectable IgG-class antibodies to measles,
Sex Hormone Binding Globulin	SHBG	Solid phase, two-site chemiluminescent immunometric assay	Immulite XPi	nmol/L	Male: 10-57 Female (non-pregnant): 18-144	N/A	Package Insert	2-180	2-180
Sickle Cell Screen	Sickle Hemoglobin Solubility	Modified Nalbandian Procedure-Solubility	SickleScreen® Sickling Hemoglobin Screening Kit	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
Sm Antibody	Smith Antibody	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
Sm/RNP Antibody	N/A	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
SS-A/RO Antibody	SSA Antibody	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
SS-B/LA Antibody	SSB Antibody	Multiplex flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
Syphilis Ab w/Reflex RPR	Syphilis IgG/IgM Antibody with Reflex RPR	Direct sandwich assay	Siemens Atellica IM 1 & 2	N/A	Nonreactive is Normal	N/A	Package insert	N/A	Nonreactive / Equivocal / Reactive
Thyroid-Stimulating Immunoglobulin	TSI	Chemiluminescent Immunoassay	Siemens Immulite 2000 XPi	IU/L	≤0.55	N/A	Package Insert	0.10-40.00	0.10-40.00
Toxoplasma IgG Antibody	TOXOG	Sandwich Direct Chemiluminescent Immunoassay	SF Atellica IM 1	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative/ Positive
Urine Immunofixation - 24 Hour	Monoclonal Prot Immfx, Urine - 24 Hour, UIMFXB	Electrophoresis	Sebia Hydrasys 2	N/A	Negative is Normal	N/A	Package Insert	N/A	N/A
Urine Immunofixation, Random	Monoclonal Prot Immfx, Urine - Random, UIMFXR	Electrophoresis	Sebia Hydrasys 2	N/A	N/A	N/A	Package Insert	N/A	N/A
Varicella IgG Ab (Immune Status)	VZISB	Multiplex flow immunoassay	Bioplex 2200	N/A	Positive is Normal	N/A	BioPlex2200 MMRV IgG Procedure March 2010	N/A	Negative / Positive
Vitamin D (25-Hydroxy,Total)	Vitamin D, Total	Immunoassay Chemiluminescent	Diasorin Liaison XL SF 2	ng/mL	30.0-100.0	N/A	Diasorin	4.0-150.0	4.0-150.0
Vitamin D, (1,25 Dihydroxy)	1,25 Dihydroxy Vitamin D	In vitro chemiluminescent immunoassay	Diasorin Liaison XL SF 2	pg/mL	20.0-79.0	N/A	Package Insert	5.0-180.0	5.0-540.0
1P19Q (Glioma) FISH	1p/19q - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Not Detected	N/A	N/A	N/A	1p loss, FISH: Detected, Not Detected, Not Indicated, Indeterminate 19q loss, FISH: Detected, Not Detected, Not Indicated, Indeterminate
FISH, 3p (tumor), Sign-out	3p/3q - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Not Detected	N/A	N/A	N/A	Chr 3p loss: Detected, Not Detected, Not Indicated, Indeterminate
ALK Rearrangement	ALK - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
BCL2 FISH	BCL2 - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
BCL6 FISH	BCL6 - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
BCR/ABL, T(9;22), QUANT	BCRSCR, BCR-ABL, t(9;22), CML	Real Time PCR	7500 Fast Dx	% BCR-ABL1/ABL1	P190 transcript: Not Detected P210 transcript: Not Detected BCR-ABL1/ABL1 %: 0.000	N/A	N/A	0.000-100.000	0.000-100.000
C9or72 Hexanucleotide Repeat Analysis	N/A	Fragment analysis with reflex to agarose gel electrophoresis for expanded alleles >145 repeat	Asuragen	# of Hexanucleotide repeats	2-19	N/A	Testing control specimens and published literature	+/- 1 hexanucleotide repeat for normal range	2 repeats through thousands of hexanucleotid repeats
Hairy Cell Leukemia BRAF V600 Mutation	B-RAF, BRAF V600E	Pyrosequencing	Applied Biosystems GeneAmp PCR System +-Qiagen Pyromark	N/A	Not detected	N/A	N/A	N/A	BRAF Mutation: Detected, Not Detected, Not Indicated, Indeterminate
BTK and PLCG2, Comprehensive Mutation Profiling	BTK and PLCG2 Full Sequencing	Next Generation Sequencing	Ion Torrent S5	N/A	N/A	N/A	N/A	N/A	N/A
BTK Resistance Mutation	BTKR C481S	Digital droplet PCR	Raindance Technology	% mutant/total events	<100	N/A	Validation	N/A	0.1-100.0
Calr Mutation Analysis, Myeloproliferative Neoplasm MPN	Calreticulin Mutation Detection	Fluorescent fragment analysis, sequence analysis (non-NGS),	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	Not detected	N/A	N/A	N/A	Detected/Not detected
FISH, CCND1 (cyclin D1) Rearrangement, Sign-out	CCND1 - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
MAML2 Rearrangement	MEC, mucoepidermoid	Fluorescent In Situ Hybridization	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CEBPA Mutation	CEBP alpha, CEBPAa	Sequence analysis (non-NGS), fluorescent fragment analysis	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	Not detected	N/A	N/A	N/A	Detected/Not detected
FISH, DDIT3 (CHOP) Rearrangement	CHOP - FISH, DDIT3 - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
Comprehensive Hematology Panel with Germline Assessment	550+ Gene Panel, Extended NGS Heme Panel	Next Generation Sequencing	Illumina NextSeq	N/A	Negative for pathogenic mutation at the target VAF level	N/A	N/A	N/A	N/A
Comprehensive Tumor Genomic Profile with MSI Status	Large panel NGS, Tumor NGS, TMB, CTPNGS	Next Generation Sequencing	Illumina NextSeq	N/A	N/A	N/A	N/A	N/A	N/A
FISH, MET Amplification, Sign-out	CMET - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
Colon Cancer Mutation Panel, Sign-out	COLMOL	Next Generation Sequencing	Ion Torrent S5	N/A	Not detected	N/A	N/A	N/A	Detected/Not detected
EGFR Mutation Analysis (exons 19 & 21), Sign-out	Epidermal growth factor receptor, L858R, exon 19, exon 21	Fluorescent fragment analysis, restriction fragment length polymorphism	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	Not detected	N/A	N/A	N/A	Detected/Not detected
FISH, EGFR Amplification (glioma), Sign-out	EGFR - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Not detected	N/A	N/A	N/A	Detected, Not Detected, Not Indicated, Indeterminant
Extended RAS Mutation Panel, Sign-out	NRAS	Pyrosequencing	Pyromark	N/A	Not detected	N/A	N/A	N/A	Detected, Not Detected, Not Indicated, Indeterminant
FISH, EWSR1 Rearrangement, Sign-out	EWSR1 - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
Factor V Mutation FACV Leiden	Leiden, G1691A, R506Q	Fluorecent Capillary Fragment analysis, restriction fragment length polymorphism	Applied Biosystems GeneAmp PCR system + Genetic Analyzer	N/A	Not detected Heterozygous + Homozygous +	N/A	Gene Reviews	N/A	Not detected Heterozygous + Homozygous +
FLT3, ITD & TK Mutation	FLT3	PCR and capillary electrophoresis	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	Not detected	N/A	N/A	N/A	Detected/Not detected
Hematologic Neoplasm/Disorder Mutation Panel	LMPNGS, MYLNGS, T-cell mutation, T-LGL mutation, CLL mutation panel	Next Generation Sequencing	LifeTech S5	N/A	N/A	N/A	N/A	0.5% VAF	0.5-100.0% VAF
Hereditary Hemochromatosis, (Gene Analysis, Common Variants)	HFE, C282Y, H63D, Iron Overload Disease	PCR	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	N/A	N/A	N/A	N/A	N/A
FISH, HER2, Sign-out	HER-2, HER2/neu, neu	Fluorescent In Situ Hybridization	Bioview	N/A	N/A	N/A	N/A	N/A	N/A
Huntington's Disease	Huntington chorea, HTT Gene	Polymerase chain reaction, fluorescent capillary fragment analysis	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	Normal Allele; Normal Mutable Allele; HD Allele with reduced penetrance; HD Allele with full penetrance	N/A	Gene Reviews	N/A	Normal Allele; Normal Mutable Allele; HD Allele with reduced penetrance; HD Allele with full penetrance
IDH1 and IDH2 Mutations	IDH1	Pyrosequencing	Applied Biosystems GeneAmp PCR System + Qiagen Pyromark	N/A	Not detected	N/A	Normal controls	N/A	Detected/Not detected
B Cell Gene Rearrangement	IGH gene rearrangement, B cell Clonality, IgH PCR	Polymerase Chain Reaction	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	Negative	N/A	N/A	N/A	Positive/Negative
IGVH Mutation Analysis	IGH mut sequencing, IGVH, Ig mutation analysis, CLL IGVH	Clonal amplification, fluorescent fragment analysis, sequence analysis (non-NGS)	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	N/A	N/A	N/A	N/A	mutated/unmutated
JAK2 V617 Mutation Detection	JAK	Pyrosequencing	Applied Biosystems GeneAmp PCR System + Genetic Analyzer Qiagen Pyromark	N/A	Not detected	N/A	N/A	N/A	Detected/Not detected
Extended RAS Mutation Panel, Data Entry	K-RAS, Ki-RAS	Pyrosequencing	Applied Biosystems GeneAmp PCR System + Genetic Analyzer Qiagen Pyromark	N/A	Not detected	N/A	N/A	N/A	Detected/Not detected
KIT D816V Mutation Detection	cKIT, CD117, PBT, SCFR	Digital droplet PCR	BioRad	% mutant events	0.00	N/A	Validation	0.01	0.01
Lung Cancer Mutation Panel	PULMOL	Next Generation Sequencing	Ion Torrent S5	N/A	Not detected	N/A	N/A	N/A	Detected/Not detected
FISH, MALT1 Rearrangement, Sign-out	MALT1 - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
FISH, MDM2 Amplification, Sign-out	MDM2 - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative

MTHFR (Methylene Tetrahydrofolate Red)	NADPH, 677C>T, MTHFR	PCR-based restriction fragment polymorphism	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	Wild type, Heterozygous, Homozygous	N/A	Gene Reviews	N/A	Wild type, Heterozygous, Homozygous
MGMT Promoter Methylation, Tumor	MGMT1, O6-Metylguanine DNA methyltransferase	Pyrosequencing	PyroMark + Applied Biosystems GeneAmp PCR System	N/A	N/A	N/A	N/A	N/A	promoter hypermethylation absent/present
MLH1 Promoter Methylation	MLH1, Lynch syndrome, HNPCC	Bisulfite modification / Pyrosequencing	Applied Biosystems GeneAmp PCR System + Genetic Analyzer Qiagen Pyromark	N/A	N/A	N/A	N/A	N/A	promoter hypermethylation absent/present
Microsatellite Instability (MSI) Analysis, Tumor	MSI, mismatch repair, HNPCC, non-polyposis colon cancer, MMR, Lynch syndrome	multiplex polymerase chain reaction, fluorescent fragment analysis	Applied Biosystems GeneAmp PCR System + Thermal Cycler, PCR System	N/A	N/A	N/A	N/A	N/A	Microsatellite stable/high microsatellite instability (MSI-H), low/equivocal microsatellite instability (MSI-L)
MYCF FISH	MYC - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
MYD88 Mutation Analysis, Quant	N/A	ddPCR	BioRad	% mutant events	0.0	N/A	Validation	0.1	0.1
Myotonic Dystrophy	DMPK Gene	Polymerase chain reaction, fluorescent capillary fragment analysis	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	Negative; Premutation; Full Mutation	N/A	Gene Reviews	N/A	Negative; Premutation; Full Mutation
NPM1 Mutation Analysis, Quant	nucleophosmin, NPM exon 12 mutation	Allele-specific digital droplet polymerase chain reaction (AS-ddPCR)	BioRad QX200	% mutant/total events	<0.1%	N/A	Validation	0.02 - 100.00	Detected Result: 0.1-100% mutant/total events percent ratio in a case with a discrete cluster of at least 5 (A) or 20 (B,D) mutant events, Not Detected Result: 0.00% mutant/total events percent ratio after rounding or fewer than 5 (A) or 20 (B,D) mutant events
NRAS Mutation	NRAS codon 12, 13, 61	Pyrosequencing	Applied Biosystem GeneAmp PCR system + Qiagen Pyromark	N/A	Not detected	N/A	N/A	N/A	Detected/Not detected
NTRK Fusion Panel	NTRK1, NTRK2, NTRK3	LDT RNA sequencing	N/A	N/A	Not Detected	N/A	Validation	N/A	N/A
FISH, NUTM1 Rearrangement	NUT1, Midline Carcinoma	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
Oral Rinse Sample (Molecular)	NGS normal, molecular normal, comprehensive genomic panel	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pancreatic Fluid, Mutation Analysis, Request	cyst fluid mutation analysis	Next Generation Sequencing	Ion GeneStudio	N/A	N/A	N/A	N/A	N/A	2% for hotspot mutations, 4% for other mutations
PIK3CA Mutation Analysis, Request	N/A	Pyrosequencing	PyroMark	% mutation	0.0	N/A	Testing specimens from normal, healthy controls	5.0	5.0
Prothrombin A20120G Mutation	G20210A, Prothrombin Mutation	Fluorescent capillary fragment analysis, restriction fragment length polymorphism	Applied Biosystems GeneAmp PCR system + Genetic Analyzer	N/A	Wild type, Heterozygous, Homozygous	N/A	Gene Reviews	N/A	Wild type, Heterozygous, Homozygous
PML-RARA, APL, Quant PCR	15:17, PML, APL, retinoic acid	Real-time PCR	ABI Fast 7500	NCN = % PML-RARA/ABL1	N/A	N/A	Blood samples with no history of AML-M3	NCN > 1	0-100
RET Rearrangement	RET FISH - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
ROS1 Rearrangement	ROS1 - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
SARS-CoV-2 Genomic Sequencing	COVID-19 sequencing, Coronavirus sequencing	Next Generation Sequencing	Ion Torrent S5	N/A	Not detected	N/A	N/A	5-10 copies of virus/uL of extracted RNA from positive nasal swab	>10 copies of virus/uL of extracted RNA from positive nasal swab
SMN1/SMN2 DNA Sequencing	Survival of Motor Neuron 1 (SMN1)	PCR, chain-termination sequencing, capillary electrophoresis	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	Negative; Mutation Present	N/A	Gene Reviews	N/A	Negative; Mutation Present
Spinal Musc Atrophy Dosage - Carrier Study	SMA Carrier test, SMA compound heterozygote testing, SMN1 gene	Semi-quantitative PCR, fluorescent capillary fragment analysis, restriction fragment length polymorphism	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	1 copy; 2 copy	N/A	Gene Reviews	N/A	1 copy; 2 copy
Spinal Muscular Atrophy - Diagnostic	Werdnig-Hoffman, Kugelberg-Welander, SMN1 gene	Semi-quantitative PCR, fluorescent capillary fragment analysis, restriction fragment length polymorphism	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	Negative; Homozygous deletion	N/A	Gene Reviews	N/A	1 copy; 2 copy Negative; Homozygous deletion
Tumor Hotspot Mutation Panel	Solid Tumor Mutation Panel (Cancer Hotspot)	Next Generation Sequencing	Ion Torrent S5	N/A	No pathogenic mutations detected	N/A	N/A	N/A	mutation(s)detected/not detected
FISH, SS18 (SYT1) Rearrangement, Sign-out	SYT-FISH, SS18-FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
T Cell Receptor Gene Rearrangement	T-cell clonality, TCR beta, T-cell PCR	Polymerase Chain Reaction	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	Negative	N/A	N/A	N/A	negative / oligoclonal / clonal TCRB rearrangements
TCRG, PCR	T-cell clonality, TCR gamma, T-cell PCR	Polymerase Chain Reaction	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	N/A	Negative	N/A	N/A	N/A	negative / oligoclonal / clonal TCRG rearrangements
FISH, XY, Sign-out	XY FISH - FISH	Fluorescent In Situ Hybridization	Bioview	N/A	Negative	N/A	N/A	N/A	Positive/Negative
CD1a	Thymocyte	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
7AAD	Viability	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
Alpha/Beta	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
cCD3	T-CELL	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
cCD79a	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD10	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD103	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD107a	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD107b	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD117	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD11b	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD11c	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD123	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD127	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD13	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD134	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD138	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD14	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD15	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD158b	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD159a	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD16	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD16-/CD56-/CD3-/CD117-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	5.2-23.0% 1-619 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16-/CD56-/CD3+/CD117-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	57.2-82.8% 570-2430 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16-/CD56-/CD3+/CD117+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16-/CD56+/CD3-/CD117-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.2-1.1% 3-24 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16-/CD56+/CD3-/CD117+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.2% 0-3 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16-/CD56+/CD3+/CD117-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-7.0% 0-157 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16-/CD56+/CD3+/CD117+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16+/CD56-/CD3-/CD117-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-5.2% 0-122 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16+/CD56-/CD3+/CD117-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-1.6% 0-36 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16+/CD56-/CD3+/CD117+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16+/CD56+/CD3-/CD117-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-17.9% 0-446 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16+/CD56+/CD3-/CD117+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16+/CD56+/CD3+/ CD117-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-2.1% 0-49 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16+/CD56+/CD3+/ CD117+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD183	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD19	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD19	N/A	Flow Cytometry	Navios Flow Cytometer	% / absolutes	2.0-21.0% 17-750 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD19 Recombinant Protein	CD19 Probe, CD19 CAR T	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	Known value, circulating CAR T can only be found in infused patients	0.1-100.0	0.1-100.0
CD19+/CD80-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	3.6-20.5% 0-557 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD19+/CD80-/CD86-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	3.2-19.8% 0-534 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD19+/CD80+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.4% 0-11 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%

CD19+/CD80+/CD86+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD19+/CD86-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	2.9-20.7% 0-554 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD19+/CD86+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.5% 0-14 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD193	CCR3	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD194	CCR4	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD2	T11	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD2	T11	Flow Cytometry	Navios Flow Cytometer	% / absolutes	70.0-92.0% 581-3284 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD20	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD20	N/A	Flow Cytometry	Navios Flow Cytometer	% / absolutes	2.0-21.0% 17-750 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD22	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD23	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD235	Glycophorin A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD24	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD25	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD26	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD27	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD28	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD29	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD294	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD3	T-CELL	Flow Cytometry	Navios Flow Cytometer	% / absolutes	N/A	N/A	N/A	N/A	0.0-100.0%
CD3	T-CELL	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD3	T-CELL	Flow Cytometry	Navios Flow Cytometer	% / absolutes	59.0-92.0% 490-3284ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3-/CD5616-/CD314+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.2% 0-6 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3-/CD5616-/CD63+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-2.1% 0-48 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3-/CD5616-/CD69+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.2% 0-5 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3-/CD5616+/CD107a107b+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3-/CD5616+/CD158b+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-7.1% 0-178 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3-/CD5616+/CD159a+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-11.6% 0-275 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3-/CD5616+/CD159a+/ CD107a107b+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3-/CD5616+/CD314+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-14.8% 0-356 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3-/CD5616+/CD63+/ CD314+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-2.3% 0-48 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3-/CD5616+/CD69+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-1.1% 0-24ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3-/CD5616+/CD69+/ CD158b+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.2% 0-6 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/AlphaBeta+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	47.3-80.4% 550-2158 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD107a107b+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.3% 0-6 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD134+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-4.3% 0-95 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD134+/HLADR+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.1% 0-2 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD158b+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-4.4% 0-89 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD159a+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-6.8% 0-170 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD159a+/CD107a107b+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD314+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	10.3-36.2% 80-929 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD63+/CD314+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.5% 0-11 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD69+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-2.9% 0-50 ABS/mm3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD69+/CD134+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.1% 0-2 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD69+/CD134+/HLADR +	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD69+/CD158b+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.1% 0-3 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD69+/HLADR+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.2% 0-4 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD80-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	59.8-86.5% 611-2519 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD80-/CD86-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	59.3-85.8% 603-2502 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD80+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.2% 0-5 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD80+/CD86+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD86-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	59.7-86.3% 607-2517 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/CD86+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.5% 0-10 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/GammaDelta+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-7.3% 0-135 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3+/HLADR+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-5.6% 0-139 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD31	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD314	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD33	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD34	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD34	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD38	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD4	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD4+/CD193+/CD294+/ CD194+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD127+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	30.6-53.9% 318-1487 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD183+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	6.7-30.5% 84-696 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD193+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.1% 0-3 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD193+/CD183+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD193+/CD194+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD193+/CD294+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD193+/CD294+/CD183+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD194+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-27.8% 0-560 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD25+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-3.2% 0-68 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD25+/CD127-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-2.1% 0-43 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD25+/CD127+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-1.4% 0-30 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD27+/CD45RA- /CD45RO-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-2.5% 0-61 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD29+/CD45RA- /CD45RO-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.7% 0-17 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD294+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.8% 0-23 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD294+/CD194+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.2% 0-4 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD3+	T Helper	Flow Cytometry	Navios Flow Cytometer	%	32.0-62.0% 266-2213 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD3+	T Helper	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%

CD4+/CD3+	T Helper	Flow Cytometry	Navios Flow Cytometer	% / absolutes	32.0-62.0% 266-2213 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD45RA+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	6.4-36.3% 58-842 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD45RA+/CD27-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.08% 0-18 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD45RA+/CD27+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	4.6-30.2% 0-783 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD45RA+/CD29-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	2.5-26.1% 0-666 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD45RA+/CD29+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.3-5.9% 0-145 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD45RO+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	14.3-45.8% 187-1078 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD45RO+/CD27-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-8.0% 0-163 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD45RO+/CD27+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	9.9-36.1% 94-901 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD45RO+/CD29-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.9-8.4% 2-201 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD4+/CD45RO+/CD29+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	8.7-34.6% 83-848 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD41	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD43	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD45	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD45RA	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD45RO	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD49a	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD5	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD56	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD5616+/CD3-	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD5616+/CD3-	N/A	Flow Cytometry	Navios Flow Cytometer	% / absolutes	3.0-25.0% 30-1200 ABS/mm^3	N/A	N/A	N/A	0.0-100.0%
CD57	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD58	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD63	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD64	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD65	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD7	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD71	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD79b	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD8	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD8+/CD127+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	6.7-24.6% 55-624 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD127+/CD25-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	6.3-24.3% 50-616 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD25+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.1% 0-1 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD25+/CD127-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.0% 0-0 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD27+/CD45RA-/CD45RO-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.1% 0-1 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD29+/CD45RA-/CD45RO-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-0.1% 0-2 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD3+	T Suppressor	Flow Cytometry	Navios Flow Cytometer	%	11.0-40.0% 91-1428 ABS/mm^3	N/A	N/A	N/A	0.0-100.0%
CD8+/CD3+	T Suppressor	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD8+/CD3+	T Suppressor	Flow Cytometry	Navios Flow Cytometer	%/absolutes	11.0-40.0% 91-1428 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD45RA+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	8.9-32.5% 64-836 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD45RA+/CD27-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-15.0% 0-341 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD45RA+/CD27+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.8-18.3% 0-426 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD45RA+/CD29-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-14.2% 0-331 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD45RA+/CD29+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	2.6-18.1% 30-408 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD45RO+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	2.0-22.8% 0-545 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD45RO+/CD27-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-4.7% 0-122 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD45RO+/CD27+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-12.9% 0-291 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD45RO+/CD29-	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-2.6% 0-56 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD8+/CD45RO+/CD29+	N/A	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-14.4% 0-343 ABS/mm^3	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD80	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD86	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD9	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
eMPO	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
SARS-COV-2 Spike Protein Antibody	SARS-CoV-2, COVID-19 IgG	Chemiluminescent	Diasorin Liason XL	IU	<39	N/A	Negative Result	5-2077	<5; 2-2077; >2077
SARS-COV-2 Nucleocapsid (N) Protein Antibody	SARS-CoV-2, COVID-19 IgG (N)	ELISA	Epitope Diagnostic (KIT) DSX (Plate Reader)	Detected / Not Detected	Not Detected	N/A	N/A	N/A	Detected / Not Detected
FMC7	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
Gamma/Delta	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
HLA-DR	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
Kappa	N/A	Flow Cytometry	Navios Flow Cytometer	% / ratio	N/A	N/A	N/A	N/A	0.0-100.0%
Ki-67	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
Lambda	N/A	Flow Cytometry	Navios Flow Cytometer	% / ratio	N/A	N/A	N/A	N/A	0.0-100.0%
nTdT	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
Vb1	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	1.89-11.70%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb11	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.25-5.11%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb12	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	1.00-4.76%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb13.1	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	1.62-8.16%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb13.2	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.80-5.28%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb13.6	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.84-8.80%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb14	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	1.33-8.03%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb16	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.42-1.90%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb17	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	2.28-12.61%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb18	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.58-5.23%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb2	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	4.03-23.48%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb20	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.00-9.73%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb21.3	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	1.08-5.97%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb22	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	1.99-9.89%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb23	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.26-4.76%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb3	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.52-15.71%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb4	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.79-3.26%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb5.1	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	3.19-14.93%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb5.2	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.49-4.98%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb5.3	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.37-2.98%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb7.1	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.64-20.01%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb7.2	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.05-5.45%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb8	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	2.26-29.47%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb9	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	1.10-9.30%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Alloscreen Recipient (Post Tx Pra)	Post-Transplant Allo Screen	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Auto Crossmatch (Tissue Typing)	HC HLA Flow Crossmatch, AXMTB	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B & T Cell Flow Crossmatch	BTFXM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Celiac Associated HLA-Dq Typing	CELIAC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chimerism HLA-Str Pre-Engraft	HC STR Markers Analysis	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chimerism Post Engraft Bm	HC Chimerism Analysis	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chimerism Post Engraft Cd3	HC Chimerism Anal with Cell Selection	Flow Lab sorts cells and sends to TTLAB	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chimerism Post Engraft Cd33	HC Chimerism Anal with Cell Selection	Flow Lab sorts cells and sends to TTLAB	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chimerism Post Engraft WHBLD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HLA A29 Determination	HLA A29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HLA B5701	B5701	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

HLA Bmt Donor High Resolution	HLA Class I and Class II High Resolution Typing Related Donor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HLA Class I and Class II High Resolution Typing Unrelated Donor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HLA Confirmatory Typing	HLA verification typing for bone marrow transplant	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HLA Single Locus	Single Locus, HLALOC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HLA Typing (BMT)	HLA Class I and Class II High Resolution Typing Recipient	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HLA Typing (Platelet)	HLA Class I Typing Class I	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HLA Typing (Solid Organ)	HLA Class I & II Complete HLA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HLA-Antibody Testing for Platelet	HLABPL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HLA-B27	HLA27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pra Class (Pre-Transplant)	Pre-Transpant Antibody Testing, PRAPRE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STR Donor (Pre-engraftment)	HC STR Markers Analysis	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A