

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									
<i>This document applies all laboratory testing at OSU/OSMC Clinical Laboratories. This includes:</i>									
Polaris Core Laboratory: 2001 Polaris Pkwy, Innovation Center Suite 1300, Columbus OH 43240									
Aclerimus Laboratories: 880 Ackerman Rd Rm 425, Columbus OH 43202									
Morehouse Laboratory: 1st Fl Morehouse Medical Plaza Tower, 2050 Kenny Rd, Columbus OH 43221									
Spectrum Laboratory: 1145 Okentany River Rd Rm 2030, Columbus OH 43217									
Clinical Laboratories (CL): 410 West 10th Avenue, Columbus OH 43210									
Clinical Laboratories (UHL): 181 Taylor Avenue, Columbus OH 43203									
James West Campus Laboratory (JWC): 2121 Kenny Rd, Columbus, OH 43221									
Analyte	Synonym	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
		$HCO_3^- \cdot 24.8 + 16.2 \times (pH - 7.4)$	GEM Premier 5000	mmol/L	-3.0 to +3.0	N/A	Contemporary Practice in Clinical Chemistry 3rd Ed 2016, Chapter 32, Table 32-1 p450	N/A	-30.0-30.0
HCO ₃	Bicarbonate, CO ₂ 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
		$\text{Log} (HCO_3(e)) = pH - \text{kg}(pCO_2) - 7.608$ mmol/L	GEM Premier 5000	mmol/L	>30 Days Arterial: 22-28 Venous: 22-29	N/A	Clinical Guide to Laboratory Tests Third Edition, Tietz, 1995	N/A	N/A
Glucose, Whole Blood	Whole Blood Glucose	Amperometric	Radiometer	mg/dL	1+ years: 70-99	21 year: <50 and <400 51 year: <40 and <200	Clinical Guide to Laboratory Tests, 3rd Edition Tietz, 1995; Pediatric Reference Ranges, Sodin, 1999	1-1030	1-1030
		Amperometry	GEM Premier 5000	mg/dL	Fasting, 1+ years: 70-99	21 year: <50 and <400 51 year: <40 and <200	Clinical Guide to Laboratory Tests, Tietz, 1995; Pediatric Reference Ranges, Sodin, 1999	16-685	16-685
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
		$3.0 \times Hb$	GEM Premier 5000	%	>18 years Male: 40.2-50.4 Female: 34.2-45.6	N/A	Derived from total hemoglobin reference interval based on GEM calculation of HCT.	15-60	15-60
Total Hemoglobin, Whole Blood	N/A	Cocimetry	Radiometer	g/dL	>18 years Male: 13.4-16.8 Female: 11.4-15.2	<7.0 and >22.0 8.0-12.0 <8.0 and >22.0 8.0-12.0 <11.0 and >22.0	OSU Internal Normal Range Study, October 2018	4.8-23.5	4.8-23.5
		Co-oximetry: TIB = COHb + COHb + MetHb + HbH	GEM Premier 5000	g/dL	>18 years Male: 13.4-16.8 Female: 11.4-15.2	21.2: <7.0 and >22.0 8.0-12.0: <8.0 and >22.0 8.0-12.0: <11.0 and >22.0	OSU Internal Normal Range Study, October 2018. Verified with GEM Validation Study, 2021.	5-20	5-20
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
		Potentiometry	GEM Premier 5000	mg/dL	4.60-5.30	<3.40 and >6.20	Tietz Textbook of Clinical Chemistry and Molecular Diagnostics Sixth Edition, 2018	1-13.0	1-13.0
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)	ICACT	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	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
		Amperometry	GEM Premier 5000	mmol/L	Adult: 0.5-1.6	≥5.0	ABL 800 Flex Reference Manual, verified by GEM Validation Study, 2021	0.3-17	0.3-17
Lactate, Blood		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
sO ₂	sO ₂	Visible absorption spectroscopy	Radiometer	%	Arterial: 95-100 6.65-10.90 21 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
		Co-oximetry: sO ₂ = 100 × (COHb)/(COHb + HbH%)	GEM Premier 5000	%	Arterial: 0-365 days: 40-90 ≥1 year: 94-98 Venous: 70-80	N/A	Arterial: Clinical Guide to Laboratory Tests third Edition, Tietz, 1995; Venous: Blood Gas O2Sat Radiometer Bulletin No. 44 Compendium of reference intervals	0-100	0-100
pCO ₂	N/A	Potentiometric	Radiometer	mmHg	>31 days: 12-48 Venous: 16-52	Arterial: <20 and >65 Venous: <24 and >64	Arterial: Clinical Guide to Laboratory Tests, Tietz, 1995 & Fundamentals of Clinical Chem, 1987/ Venous: Respiratory, 2014 Feb;19(2):168-75, doi:10.1111/resp.12225. Pub 2014 Jan 3.	5-115	5-115
		Potentiometry	GEM Premier 5000	mmHg	>31 days Arterial: 32-48 Venous: 36-52	Arterial: <20 and >65 Venous: <24 and >64	Arterial: Clinical Guide to Laboratory Tests Third Edition, Tietz, 1995; Venous: Respiratory, 2014 Feb;19(2):168-75.	18-125	18-125
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
		Potentiometry	GEM Premier 5000	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 Third Edition, Tietz, 1995	7-7.92	7-7.92
pO ₂	N/A	Amperometric	Radiometer	mmHg	Arterial: 83-108 Venous: 44	Arterial: 644 Venous: N/A	Arterial: Clinical Guide to Laboratory Tests, Tietz 3rd Edition, 1995 & Fundamentals of Clinical Chem, 1987 Venous: Respiratory, 2014 Feb;19(2):168-75, doi:10.1111/resp.12225. Pub 2014 Jan 3. © 2012 Radiometer Medical ApS. All rights reserved. 995-950, 2012080.	0-700	0-700
		Amperometry	GEM Premier 5000	mmHg	Arterial: 83-108 Venous: Venous pO ₂ is not recommended for the evaluation of oxygen status, clinical correlation is recommended	Arterial: <44 Venous: N/A	Clinical Guide to Laboratory Tests Third Edition, Tietz, 1995	35-529	35-529
Potassium, Whole Blood	Whole Blood Potassium	Potentiometric	Radiometer	mmol/L	18+ years: 3.5-5.0	1+ year: <3.0 and >7.0	Clinical Guide to Laboratory Tests, Tietz 3rd Edition, 1995	1.0-14.0	1.0-14.0
		Potentiometry	GEM Premier 5000	mmol/L	18+ years: 3.5-5.0	1.18: 1 year: <3.0 and >6.0 51 year: <3.0 and >7.0	Clinical Guide to Laboratory Tests, Tietz, 1995. Upper limit adjusted and verified with GEM Validation Study, 2021	1-10	1-10
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
		Potentiometry	GEM Premier 5000	mmol/L	1+ years: 135-145	<125 and >160	Clinical Guide to Laboratory Tests Third Edition, Tietz, 1995. Lower limit adjusted and verified with GEM Validation Study, 2021.	100-180	100-180
Carboxyhemoglobin	Carboxyhemoglobin	Cocimetry	Radiometer	%	≤1.5	N/A	ABL 800 Flex Reference Manual 2008	0.0-50.0	0.0-50.0
		Co-oximetry: COHb% = 100 × (COHb/TIB)	GEM Premier 5000	%	≤1.5	N/A	Clinical Guide to Laboratory Tests Third Edition, Tietz, 1995	0-75	0-75
Methemoglobin	Methemoglobin	Cocimetry	Radiometer	%	≤1.5	N/A	ABL 800 Flex Reference Manual 2008	0.0-30.0	0.0-30.0
		Co-oximetry: MetHb% = 100 × (MetHb/TIB)	GEM Premier 5000	%	≤1.5	N/A	Tietz Textbook of Clinical Chemistry and Molecular Diagnostics Sixth Edition, 2018	0-30	0-30
Oxyhemoglobin	Oxyhemoglobin	Cocimetry	Radiometer	%	Adult: 94-98	N/A	ABL 800 Flex Reference Manual 2008	0-100	0-100
		Co-oximetry: O2Hb% = 100 × (O2Hb/TIB)	GEM Premier 5000	%	Adult: 94-98	N/A	ABL 800 Flex Reference Manual, verified by GEM Validation Study, 2021	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
pCO ₂ Cord Blood Gas	pCO ₂ Cord Blood Arterial, pCO ₂ 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
		Potentiometry	GEM Premier 5000	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
pO ₂ Cord Blood Gas	pO ₂ Cord Blood Arterial, pO ₂ 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
		Amperometry	GEM Premier 5000	mmHg	Cord Blood Arterial: 14-60 Cord Blood Venous: 16-63	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, Dairi Tempa, Lاقiprin, 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 glutamate to α-ketoglutarate to form pyruvate and glutamate. The pyruvate enters a lactate dehydrogenase (LDH) 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: Male: 9-48 Female: 10-52	N/A	OSUWMC Reference Range Study effective 12.11.2013; verified by OSUWMC Reference Interval Study 2021. Pediatric Reference Ranges, Soltis, 1999 (Lower end of reference range modified to agree with the linear limits.)	3-500	3-25,000
Albumin	N/A	This Albumin method is a modification of the Doumas and Robkey 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 (660/800nm) and is proportional to the albumin concentration in the sample.	Beckman	g/dL	19+ years: 3.5-5.0	N/A	Tier 2nd Edition referenced by Beckman Coulter IJU 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	<u>Plural:</u> Serum pleural fluid albumin gradients of >1.2 g/dL are consistent with transudates. <u>Peritoneal:</u> Serum-ascites albumin gradient (SAAG) of 1.1 g/dL or greater suggests portal hypertension. <u>Pericardial:</u> 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.	0.5-6.0	0.5-6.0
Albumin, CSF	Microalbumin, CSF	Turbidimetry	Beckman	mg/dL	10.0-30.0	N/A	CCLM Vol 54 issue 2 6285-292 Feb 2016	1.0-45.0	1.0-450.0
Alcohol (Ethanol), Blood	Serum Alkohol	Based on an enzymatic reaction. 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 specimens.	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 NACC and FCC3. Alkaline phosphatase activity is determined by measuring the rate of conversion of p-nitrophenylphosphate (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, Soltis, 1999 (Synchro 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 binder.	N/A (calculation)	N/A (calculation)
Amylase, Body Fluid	N/A	Calculation: AMY*VOL/1000	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, carbuncle, 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: Stat of the art. The pleura Saha SA Am Rev Respr Dis. 1998;130(1):184. Pancreatic cyst: Eho GH, et al. Am J Gastroenterol. 2008;113:664-679.	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	Analyzes the transamination of aspartate and α-ketoglutarate, forming L-glutamate and oxaloacetate. The oxaloacetate 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 Chemiluminescent	Siemens	mIU/mL	<p>Non-pregnant: <10.0 Postmenstrual: <10.0</p> <p>2-4 Weeks: 39.1 - 8,388.0 4-6 Weeks: 861.0 - 88,769.0 6-8 Weeks: 8,650.0 - 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 - 971,171.0 28-40 Weeks: 4,360.0 - 74, 833.0</p>	N/A	Advia Centaur dHCG 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.	Alice	Qualitative	Negative	N/A	Package Insert	Positive Negative	Positive Negative
Beta-Hydroxybutyrate	Beta Hydroxybutyrate	D-3 Hydroxybutyrate in the presence of NAD gets converted to acetoacetic acid 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
Bicarbonate, Fluid	FCO ₂ , CO ₂ Fluid	See CO ₂	Beckman	mmol/L	<p>Blank. 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.</p>	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	<p>0 Day: 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</p>	<p><1 year: ≥14.0</p>	Clinical Guide to Laboratory Tests, Kaplan, 2003	0.1-30.0	0.1-90.0
	Bilirubin, Direct (Neonatal)	Direct (conjugated) bilirubin complex directly with a diazonium salt of 3,5-dichlorophenyldiazonium tetrafluoroborate (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.			<p>AE: < 0.3</p>	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995	0.1-10.0	0.1-20.0
Bilirubin Direct	BILD	Direct (conjugated) bilirubin complex directly with a diazonium salt of 3,5-dichlorophenyldiazonium tetrafluoroborate (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	<p>AE: < 0.3</p>	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	<p>Adult: <1.5</p>	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	<p>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.</p>	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	<p>AE: 0-100</p>	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 carbon dioxide are converted to glutamate in a reaction catalyzed by L-glutamate dehydrogenase (GLDH). Simultaneously, a molar equivalent of reduced NADH is oxidized to 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	<p>AE: 7-25</p>	≥101	Beckman Coulter IFU for serum verified by OSUWMC Reference Interval Study 2021.	2-130	2-650
BUN/Creatinine Ratio	N/A	Calculation: BUN/Creatinine	Beckman	N/A	N/A	N/A	N/A	N/A (calculation)	N/A (calculation)
C Reactive Protein	N/A	Measurement of the rate or increase in light intensity transmitted (increase in absorbance) through particles suspended in solution is the result of complexes formed during the immunological reaction between the CRP of the patient serum and rabbit anti-CRP antibody.	Beckman	mg/L	<p>AE: <10.00</p>	N/A	Clinical Guide to Laboratory Tests, Tietz, 2005; Verified by OSUWMC Reference Interval Study 2021.	0.20-80.00	0.20-480.00
C Reactive Protein For Cardiac Risk	CRPR, CRP High Sensitivity	Complexes formed during the immunological reaction between the CRP of the patient serum and rabbit anti-CRP antibody.	Beckman	mg/L	<p>AE: Non-specific: >10.00 High Risk: ≥2.00 Low Risk: <2.00</p>	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	<p>87-200</p>	N/A	Package Insert. Verified by OSUWMC Reference Interval Study 2021.	15-500	15-1,500
C4 Complement	C4	Turbidimetry	Beckman	mg/dL	<p>18-52</p>	N/A	Hanox Reference Range. Verified by OSUWMC Reference Interval Study 2021.	8-150	8-450
CA 125	CA125N	Two-site sandwich immunoassay using direct chemiluminescent technology.	Siemens	U/mL	<p>AE: ≤30</p>	N/A	Advia Centaur CA 125H Package Insert 128516 Rev. H, 2009-02	3-400	3-3,600,000
CA 15.3N	CA153N	Two-site sandwich immunoassay Chemiluminescent	Siemens	U/mL	<p>0.0-32.4 for both female and male</p>	N/A	Atellica IM CA 15.3 Package Insert 11206285_EN Rev. 04, 2020-03	3.0-200.0	3.0-200,000.0
CA 19-9	N/A	Two-site sandwich immunoassay using direct chemiluminescent technology.	Siemens	U/mL	<p>AE: ≤37.00</p>	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
Calcium	CA	Calcium ions (Ca ²⁺) reacting with Arsenazo III (2,2'-(1,8-Dihydroxy-3,6-disulphonylphenylene-2,7-bisazo)-bisbenzenesulfonic acid) to form an intense purple colored complex. Absorbance of the Ca-Arsenazo III complex is measured bichromatically at 660/790 nm.	Beckman	mg/dL	<p>>1 year: 8.6-10.5</p>	<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	Calculation: CA*VOL/100	Beckman	mg/24 hours	<p>100.0-300.0</p>	N/A	N/A	N/A (Calculation)	N/A (Calculation)
Calcium/Creat Ratio, Random Urine	CALCR	Calculation: Urine Calcium/ Urine Creatinine	Beckman	Ca mg/Creat mg	<p>0.6 months: <0.36 7-18 months: <0.60 19 months-2 years: <0.42 >2 years: <0.22</p>	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	<p>Adult optimal: <100</p>	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	<p>AE: 4.0-12.0 (Therapeutic Range)</p>	>15.0	Applied Clinical Pharmacokinetics, 2001 Micromedex, OSU Intracel	2.0-20.0	2.0-100.0
CEA	N/A	Two-site Sandwich Immunoassay Chemiluminescent	Siemens	ng/mL	<p>AE: ≤5.0</p>	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	Two-site Sandwich Immunoassay Chemiluminescent	Siemens	ng/mL	<p>The reference range and other method performance specifications have not been established for this fluid specimen.</p>	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	<p>20-60</p>	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	Calculation: CL*VOLUME/1000	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 the fluid specimen. The fluid results should be compared with the concentration in serum/plasma or integrated into the clinical context for interpretation.	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 (H ₂ O ₂), which oxidatively couples with 4-aminopyrimidine phenol in the presence of peroxidase to yield a chromophore. The red quinonimine dye formed can be measured spectrophotometrically at 500/600 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) (Calculation, 2002;106-3143-3421)	25-700	25-2,100
Cholesterol Total/HDL Ratio	N/A	Calculation: Chol/HDL	Beckman	N/A	<4.5	N/A	National Cholesterol Education Project (NCEP) Adult Treatment Protocol (ATP-III) (Calculation, 2002;106-3143-3421)	N/A (calculation)	N/A (calculation)
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 Suppl 24:1-7. McGrath, et al. Int J Clin Pract. 2009 Nov;33(11):1633-9. 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 creatinase (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
Chazapine Level	N/A	Turbidimetric immunoassay	Beckman	ng/mL	Therapeutic Range: 350-1000	>1500	N/A	68-1500	68-1500
CO2 Total	CO2	Bicarbonate (HCO ₃ ⁻) and phosphoenolpyruvate (PEP) are converted to oxaloacetate and phosphate in the reaction catalyzed by phosphoenolpyruvate carboxylase (PEPC). Malate dehydrogenase (MDH) 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 immunoassay using direct chemiluminescent technology	Siemens	mcg/dL	A/E 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, Seldin, 1999	0.20-25.00	0.20-25.00
Creatinine, 24 Hr Urine	UCRE, 24	Calculation: (CRE/1000)*(VOLUME/1000)	Beckman	g/24 hrs	18+ years male: 0.80-2.50 18+ years female: 0.66-1.80	N/A	NKDEP traceable Clinical Guide to Laboratory Tests, Tietz, 1995; Pediatric Reference Ranges, Seldin, 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	SUCR	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 urothorax.	Manahan KJ, et al. Obstet Gynecol. 1999 May;93(5 Pt 1):780-2. Pleural: Trobes, et al. J Thorac Dis. 2017;9(5):209-212.	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
Cystatin C and Creatinine with estimated GFR	CYS-C	Turbidimetric immunoassay	Beckman	mg/L	0.51-1.05	N/A	Package Insert	0.40-8.00	0.40-32.00
Digoxin Level	Lanoxin, DIG	Enzyme immunoassay	Beckman	ng/mL	0.5-1.0 (Therapeutic Range)	≥2.1	Applied Clinical Pharmacokinetics, Bener, 2001	0.3-5.0	0.3-10.0
eGFR _{CR}	Estimated glomerular filtration rate	CKD-EPI 2021 Calculation: eGFR _{CR} = 142 x min(SerCr, 1) x max(SerCr, 1) x 1.210 x 0.9938 ^{Age} x 1.012 [if female] where x = 0.7 (female) or 0.9 (male) e = -0.241 (female) or -0.302 (male) SerCr = serum creatinine in mg/dL, divide by 88.4 for creatinine in μmol/L Age (years) The "min(SerCr, 1)" factor indicates the minimum of SerCr or 1.0 and "max(SerCr, 1)" indicates the maximum of SerCr 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

eGFR _{MDRD}	Estimated glomerular filtration rate	CKD-EPI 2021 Calculation. eGFR _{MDRD} = $175 \times \text{min}(S_{Cr}, 1)^{-1.154} \times \text{max}(S_{Cr}, 1)^{-0.711} \times \text{min}(S_{Cr}, 1)^{1.210} \times \text{max}(S_{Cr}, 1)^{-0.711} \times 0.996^{\text{Age}}$ [if female] where $x = 0.7$ (female) or 0.9 (male) $y = -0.219$ (female) or -0.144 (male) S_{Cr} = serum creatinine in mg/dL S_{Cr} = serum creatinine in mg/L Age (years) The "min (Scr _x , 1)" factor indicates the minimum of Scr _x or 1.0, "max(Scr _x , 1)" indicates the maximum of Scr _x or 1.0, "min(Scr _x /0.8, 1)" indicates the minimum of Scr _x /0.8 or 1.0, and "max(Scr _x /0.8, 1)" indicates the maximum of Scr _x /0.8 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	Competitive assay format. The endogenous estradiol contained in a sample is released from its binding proteins by a releasing agent. Then, a sheep monoclonal anti-estradiol antibody labeled with acridinium ester is added to bind available estradiol. Finally, an estradiol derivative captures solid phase is added to the reaction to compete with estradiol for the binding of the acridinium-labeled antibody. After washing, acid and base are dispensed to initiate the chemiluminescent reaction.	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: <11.8-22.2	N/A	Advia Centaur, Enhanced Estradiol (eE2) Package Insert 10491467 Rev. C, 2010-09; Pediatric Reference Ranges, Södkin, 1999	11.8-3,000.0	11.8-150,000.0
Ferritin	FERIB	Two-site sandwich immunoassay Chemiluminescent	Siemens	ng/mL	Female 19+ years: 7.3-270.7 Male 19+ years: 10.5-307.3	N/A	Siemens Atellica IM Reference Interval Verification Study 2023 Siemens Atellica IM Reference Interval Verification Study Summary (Amendment)	0.9-1,650.0	0.9-1,650,000.0
Folate, Serum	FOLSB	Competitive immunoassay using direct chemiluminescent technology	Siemens	ng/mL	19+ years: >5.38	N/A	Atellica IM Folate Package Insert 11200602_EN Rev. 04-2020-11; Pediatric Reference Ranges, Södkin, 1999	0.56-24.00	0.56-960.00
FSH	Follicle stimulating hormone	Two-site sandwich immunoassay using direct chemiluminescent 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, postmenopausal: 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-nitroimidazole, 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, Södkin, 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)	>1 year: <-50 and <-400 <1 year: <-40 and <-200	ADA Standards October 2012. Clinical Guide to Laboratory Tests, Tietz, 1995; Pediatric Reference Ranges, Södkin, 1999	10-800	10-2,400
Glucose, Body Fluid	FGIUC	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 low glucose	N/A	Amniotic: Gonzalez-Bosquet, et al. J Matern Fetal Med. Jul-Aug 1999;9(4):155-8. Pancreatic cyst: Carr, et al. Surgery. 2018 Mar;163(3):600-605. Peritoneal: Rumyon BA, Hoeltz JC Hepatology. 1985;5(2):227. 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: Margareten, et al. JAMA. 2007;297(13):1478-1488.	10-800	10-800
Glucose, CSF	CFG	See Glucose	Beckman	mg/dL	AB 48-70	<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.	Alera	Qualitative	Negative	N/A	Package Insert	Positive Negative	Positive Negative
hCG, Quant (Tumor Marker)	HCSTM	Two-site sandwich immunoassay Chemiluminescent	Siemens	mIU/mL	<10.0	N/A	Advia Centaur hCG 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 DSSM TM 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 spectrophotometrically 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 Panel (ATP, III) (Calculation, 2002;106-3143-3421)	3-200	3-200
High-Sensitivity Troponin-I (Single Order)	HSTI1, Troponin I, Troponin I	Three-site sandwich immunoassay using direct chemiluminescent technology	Siemens	ng/L	Female: <34 Male: <53	≥3000 first time in 24 hours AND Abnormal ED ≥300	Atellica IM Troponin I Package Insert 11200498_EN Rev. 06, 2019-06	3-25,000	3-2,000,000
High-Sensitivity Troponin I (Serial Order)	HSTI2, Troponin I, Troponin I	Three-site sandwich immunoassay using direct chemiluminescent technology	Siemens	ng/L	Female: <34 Male: <53	≥3000 first time in 24 hours AND Abnormal ED ≥300	Atellica IM Troponin I Package Insert 11200498_EN Rev. 06, 2019-06	3-25,000	3-2,000,000
Homocysteine	HOMCYS, HCY	Competitive immunoassay using direct chemiluminescent technology	Siemens	umol/L	AE 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 Adult 19-60Y: 600-1,714	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. In an acidic medium, transferrin-bound iron dissociates into free ferric ions and apo-transferrin. Hydrochloric acid and sodium ascorbate reduce the ferric ion to the ferrous state. The ferrous ion then reacts with TPTZ to form a blue colored complex which can be measured spectrophotometrically 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 OSU/WMC Reference Interval Study 2013, verified by OSU/WMC Reference Interval study 2021.	10-1,000	10-2,000
Iron Saturation	N/A	Calculation: $(\text{Iron}/\text{TIBC}) \times 100$	Beckman	%	20-55	N/A		N/A (Calculation)	N/A (Calculation)
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 OSU/WMC Reference Interval Study 2021. Pediatric Reference Ranges, Soddin, 1999	25-1,200	25-60,000
Lactate Dehydrogenase Body Fluid	FLLD	See Lactate Dehydrogenase (LD)	Beckman	U/L		<p>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 Central Nervous System Disease, Bacterial meningitis, Neurosyphilis, or tumors of the central nervous system.</p> <p>Plasma: 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.</p> <p>Pericardial: Pericardial fluid LDH to serum/plasma LDH ratio > 0.6 or > 300 U/L suggests an exudate.</p> <p>Peritoneal: Peritoneal fluid LDH to serum/plasma LDH ratio > 0.6 is consistent with an exudate.</p>	<p>CSF: Clinical Utility of Biochemical Analysis of Cerebrospinal Fluid Clinical Chemistry 1995 Watson MA.</p> <p>Pericardial and peritoneal: Burgess. Clinica Chimica Acta 343 (2004) 61-84.</p> <p>Pleural: Light, RW. N Engl J Med. 2002 Jun 20;346(25):1971-1977.</p>	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-aminopyrine 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	ABL 0.5-2.2	≥5.0	Beckman Coulter Literature (FU) 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
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	0.2-10.0	0.2-30.0
LDL, Direct Measure	LDL-C Low-Density Lipoprotein Cholesterol	Cholesterol is consumed by cholesterol esterase, cholesterol oxidase, peroxidase and 4-aminopyrine 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 spectrophotometrically 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 Panel III (ATP-III) (Calculation, 2002);06:3143-3421)	7-400	7-400
LH	Luteinizing Hormone	Two-site Sandwich Immunoassay Chemiluminescent	Siemens	mIU/mL	<p>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</p>	N/A	Astlicca IM LH Package Insert 11200385_EN Rev. 04/2020-06; Pediatric Reference Ranges, Soddin, 1999	0.07-200.00	0.07-6,400.00
Lipase	LIPA	Coburn's method of Imman, et al) 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-mono-glyceride and fatty acid. The 2-mono-glyceride is then measured by coupled enzyme reactions catalyzed by mono-glyceride 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 OSU/WMC Reference Interval Study 2021. Pediatric Reference Ranges, 1999	6-600	6-6,000
Lipase, Fluid	PFUNZ, PFUN15, PFUN30, PFUN45, PFUN60	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	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, Buser, 2001; Clinical Pharmacokinetics, Ebers, 1995:29442-50 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 xylyl dye in a strongly basic solution, where calcium interference is eliminated by glycoloxyethanediamine- <i>N,N,N',N'</i> -tetraacetic acid (GEDTA). λ=4.5 The color produced is measured spectrophotometrically 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 OSU/WMC Reference Interval Study 2021. Pediatric Reference Ranges, Soddin, 1999	0.5-8.0	0.5-24.0
Magnesium, 24Hr Urine	UMG, 24	Calculation: $\text{MG} \times \text{VOL} / 100$	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/dL	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	Calculation: Urine Albumin(mg)/Urine Creatinine(mg/dL) × 100=mg/g	Beckman	mg/g	≤30.0	N/A	Package Insert	N/A (Calculation)	N/A (Calculation)
Monoclonosis Screen	Monoclonosis Testing, Rapid	Immunoelectrophoretic dipstick technology utilizing bovine erythrocyte extract	Fisher Healthcare Sure-Vue Signature	Qualitative	All: Negative	N/A	Sure-Vue Signature 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 A20, 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	AR 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	AR 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	AR 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	AR 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 molybdenum to form a heteropolyphosphate complex. The use of a surfactant eliminates the need to prepare a protein free filtrate. The absorbance at 640-650 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	OSU/WMC Reference Range Study effective 12.11.2013; verified by OSU/WMC Reference Interval Study 2021, Pediatric Reference Ranges, Söldin, 1999	1.0-20.0	1.0-60.0
Phosphorus, 24Hr	UP, 24	Calculation: (DIP/100)*VOLUME/1000	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	UPR	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	OSU/WMC Reference Range Study effective 12.11.2013; verified by OSU/WMC Reference Interval Study 2021, Pediatric Reference Ranges, Söldin, 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
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 OSU/WMC Reference Interval Study 2021.	3-80	3-1,600
Procalcitonin	PROCAL	Two-site Sandwich Immunoassay Chemiluminescent	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 immunoassay using direct chemiluminescent technology	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 11200306_EN Rev. 04-2020-06	0.21-60.00	0.21-3,000.00
Prolactin	PROL	Two-site Sandwich Immunoassay Chemiluminescent	Siemens	ng/mL	Male: 2.1-17.7 Female: nonpregnant: 2.8-29.2 pregnant: 9.7-208.5 Female, postmenopausal: 1.8-20.3 All: <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 Söldin, 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 OSU/WMC Reference Interval Study 2021, Pediatric Reference Ranges, Söldin, 1999	3.0-12.0	3.0-24.0
Protein, 24 Hr Urine	UPRO	Calculation: (PROT*VOLUME)/100 (uses UICSF Protein result)	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, Söldin, 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	UPRO	See Total Protein CSF (M-TP)	Beckman	mg/dL	N/A	N/A	N/A	4-200	4-5,000
PSA, Screening	EPISA	Two-site Sandwich Immunoassay Chemiluminescent	Siemens	ng/mL	AR <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 Immunoassay Chemiluminescent	Siemens	ng/mL	AR <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 Immunoassay Chemiluminescent	Siemens	ng/mL	AR: <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	Calculation: NAVAL/1000	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 immunoassay using direct chemiluminescent technology	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 immunoassay using direct chemiluminescent technology	Siemens	ng/mL	19+ years: 0.66-1.81	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 immunoassay using direct chemiluminescent technology	Siemens	mcg/dL	19+ years: 4.5-10.9	N/A	Atellica IM Total T4 Package Insert 10995425_EN Rev. 03-2020-06; Pediatric Reference Ranges, Seldin, 1999	0.4-30.0	0.4-300.0
T4 Free	Thyroxine, Free FT4	Competitive immunoassay using direct chemiluminescent technology	Siemens	ng/dL	19+ years: 0.89-1.76	≥4.50 (I/D Only)	Atellica IM Free T4 Package Insert 10995348_EN Rev. 06-2020-11; Pediatric Reference Ranges, Seldin, 1999	0.10-12.00	0.10-12.00
Testosterone	TESTOS	Competitive immunoassay using direct chemiluminescent technology	Siemens	ng/dL	Male: 240-950 Female: 8-60	N/A	Siemens Atellica IM Reference Interval Verification Study 2023	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	TOBREI	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	AR: 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	AR: <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: Transferrin*1.49	Beckman	mcg/dL	19+ years: 250-425	N/A	Clinical Guide to Laboratory Tests, Tietz, 1995; Pediatric Reference Ranges, Seldin, 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-aminophenazine and N,N'-bis(4-sulfobutyl)-3,5-dimethylbenzidine, disodium salt (MADBS) 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		N/A	Pleural: Statts BA, et al. Mayo Clin Proc. 1980;55(11):700. Peritoneal: Jinger D, et al. Hepatology. 1986;6(2):229.	10-1,000	10-10,000
TSH	Thyroid Stimulating Hormone, TSH High Sensitivity	The Atellica IM TSH3-LL assay is a third-generation assay that employs anti-TTC monoclonal antibody covalently bound to paramagnetic particles, an FITC-labeled anti-TSH capture mouse monoclonal antibody, and a reagent consisting of a proprietary acridinium ester and an anti-TSH mouse monoclonal antibody conjugated to bovine serum albumin (BSA) for chemiluminescent detection.	Siemens	uIU/mL	19+ years: 0.550-4.780	Call abnormal ED only ≥150.000	Atellica IM TSH3-LL Package Insert 11202198_EN Rev. 04-2021-03	0.008-150.000	0.008-150.000
TSH w FT4 Reflex	TSHQR	The Atellica IM TSH3-LL assay is a third-generation assay that employs anti-TTC monoclonal antibody covalently bound to paramagnetic particles, an FITC-labeled anti-TSH capture mouse monoclonal antibody, and a reagent consisting of a proprietary acridinium ester and an anti-TSH mouse monoclonal antibody conjugated to bovine serum albumin (BSA) for chemiluminescent detection.	Siemens	uIU/mL	19+ years: 0.550-4.780	Call abnormal ED only ≥150.000	Atellica IM TSH3-LL Package Insert 11202198_EN Rev. 04-2021-03	0.008-150.000	0.008-150.000
Urea Nitrogen, 24 Hr Urine	UREA	Calculation: (UREA/100)X(100)	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-aminopyrimidine (4-AA) in the presence of N,N'-bis(4-sulfobutyl)-3,5-dimethylbenzidine, disodium salt (MADBS) to produce a chromophore which is read spectrophotometrically 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	OSLWMC Reference Range Study effective 12.11.2013, verified by OSLWMC Reference Interval Study 2021, Pediatric Reference Ranges, Sodin, 1999	1.5-3.0	1.5-6.0
Uric Acid (Spec Handling)	N/A	Uric acid is converted by uricase to allantoin and hydrogen peroxide. Hydrogen peroxide reacts with 4-aminopyrimidine (4-AA) in the presence of N,N'-bis(4-sulfobutyl)-3,5-dimethylbenzidine, disodium salt (MADBS) to produce a chromophore which is read spectrophotometrically 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	OSLWMC Reference Range Study effective 12.11.2013, Pediatric Reference Ranges, Sodin, 1999	1.5-3.0	1.5-6.0
Uric Acid, 24Hr	URIC, 24	Calculation: (URIC/100) X (VOL/1000)	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	URICR	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	225.1 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	AE: 10.0-20.0 (Therapeutic Range)	225.1 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)	VANCFK	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	AE: 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 immunoassay using direct chemiluminescent technology	Siemens	pg/mL	19+ years: 211-911	N/A	Atellica IM Vitamin B12 Package Insert 10995437_EN Rev. 02-2019-08; Pediatric Reference Ranges, Sodin, 1999	45-2,000	45-20,000
ADAMTS13 Activity and IgG	AT13A	FT 13A	Activity: VersaMax plate reader Technoscreen kit	Activity: %	Activity: ≥40%	N/A	Technoscreen kit	Activity: 2-100%	Activity: 2-100%

Antibodies			IgG Antibodies: VersaMax plate reader, Technosym kit	IgG Antibodies: Uml.	IgG Antibodies: 212.0 Uml.		IgG Antibodies: 6.0-104.0 Uml.	IgG Antibodies: 6.0-104.0 Uml.	
Alternative Activation Pathway	Ib Complement	ELISA	VersaMax Plate Reader, Quidel kit	ng/mL	695-1,974	N/A	Biomarker Reference Lab	See Quidel kit values (lot number specific)	
EM Platelet (Electron Microscopy)	Tissue Exam	Whole mount	N/A	d/pjt	3.68-6.24	N/A	OM Journal articles; lab derived	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)	
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 isohemolysin 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 isohemolysin 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 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 assay values (lot number specific)	
Anti Xa DOAC (Apiraban)	Apiraban, DOAC, Eliquis	Chromogenic measurement system consisting of a beam of monochromatic light at 405 nm.	Stago	ng/mL		N/A	1. Package insert: Apixaban; Diagnostica Stago. Revised January 2015. 2. Hurst KV, O'Callaghan JM, Hants 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 patients 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. Pharmacol 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, Curran 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 the ISTH. J Thromb Haemost 2016;14:1308-1313.	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		N/A	1. Package insert: Rivaroxaban; Diagnostica Stago. Revised December 2014. 2. Mueck W, Stampfuss J, Kabitz 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/CPMP_Product_Information_humans/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; 365:838-847. 7. Siegal DM, Curran JT, Connolly SJ, et al. Andexanet alfa for reversal of factor Xa inhibitor activity. N Engl J Med 2015; 373:2413-2424. 8. Martin K, Beyer-Westendorf J, Davidson BL, et al. Use of the direct oral anticoagulants in obese patients: guidance from the SSC of the ISTH. J Thromb Haemost 2016;14:1308-1313.	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 collection)	N/A	Chest, vol. 119, issue 1, January 2001, pp. 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 collection)	N/A	Chest, vol. 119, issue 1, January 2001, pp. 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 isohemolysin 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 isohemolysin 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 I	Beta2 GP1 Domain I, B2GP1 Dm1, B2GP1 Domain I, B2GP1 Dm1	Chemiluminescent two-step immunoassay with paramagnetic microparticles as the solid phase, and a derivative of isohemolysin 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	HSDDH	Immuno-turbidimetric - 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, Fibrinogen, D-Dimer, PTT/T 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	
Dilute Russell Venom Time	DRVVT	Mechanical Clot Detection	Stago	Ratio	Screen ratio: <1.10 Normalized ratio: <1.21	N/A	OSU/WMC, in-house reference range study performed yearly	N/A	
Factor II Activity	Prothrombin Activity, F2	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 assay values (lot number specific)	
Factor IX Activity	Christmas Factor, F9	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 assay values (lot number specific)	
Factor IX Inhibitor	Factor IX Antibody, F9C9AB	Mechanical Clot Detection Bethesda Assay	Stago	Bethesda units	Negative (0.0 Bethesda units)	N/A	N/A	0.0 - dilute to endpoint	
Factor V Activity	Labile Factor, F5	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 assay values (lot number specific)	
Factor VII Activity	F7	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 assay values (lot number specific)	
Factor VIII Activity	Anti Hemophilic Factor, F8	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 assay values (lot number specific)	
Factor VIII Inhibitor Assay	Factor VIII Antibody	Mechanical Clot Detection Bethesda Assay	Stago	Bethesda units	Negative (0.0 Bethesda units)	N/A	N/A	0.0 - dilute to endpoint	
Factor X Activity	Stuart Prower Factor, F10	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 assay values (lot number specific)	
Factor XI Activity	Hemophilic C, F11	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 assay values (lot number specific)	
Factor XIII Activity	Fibrin Stabilization Factor, F13	Solubility	N/A	N/A	Present	N/A	N/A	Present	
Fibrinogen, Clottable	FB				220-410	<75	OSU Lab Normal Range Study (05/2003)		
Fibrinogen, Obstetrical	FB, OB	Mechanical Clot Detection	Stago	mg/dL	First Trimester: 144-410 mg/dL Second Trimester: 291-538 mg/dL Third Trimester: 373-619 mg/dL 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.	<200	Reference: Abbas-Ghanayem M, Greer IG, 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 collection)	N/A	Chest, vol. 119, issue 1, January 2001, pp. 64S-75S.	0.10-0.80 0.10-1.60	
Heparin Platelet Factor 4 (HIT Screen) With Reflex To SRA	PF4GP	ELISA, IgG	Innoco	O.D. % Heparin Inhibition	O.D. <0.400 Heparin Inhibition -50%	N/A	Innoco LIFE CODES# PF4 IgG Assay Package Insert	0.000-3.000 0.000-3.000	

Hexagonal PI, Neutralization	Hexagonal PI Neutralization; STACLOT-LA	Mechanical Clot Detection	Stago	sec	<9.7	N/A	OSUWMC, in-house reference range study performed yearly	N/A	>9.0
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 Range: Standard Therapy 2.0-3.0 High Dose 2.5-3.5	INR >4.9	OSUWMC in-house reference range, verified yearly	0.5 - 15.1	0.5 - 15.1
Lupus Anticoagulant	Lupus Workup Package includes PT, INR, TT, DRVVT Screen, PTT-LA, Mixing Studies, DRVVT Confirm and/or Hexagonal Phase Phenological 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	Born method of Turbidimetric Aggregation with simultaneous measurement of ATP release by Platelet Lumin Aggregometry	Chrono-Log	% Aggregation	ADP 5 µmol/L 67 - 92 ADP 10 µmol/L 73 - 91 Arachidonic Acid 0.05 mmol/L 72 - 91 Collagen 2 µg/ml 80 - 96 Collagen 5 µg/ml 71 - 92 Epiandrosterone 2 µmol/L 64 - 105 Ristocetin 0.2 mg/ml 0 - 6 Ristocetin 1.25 mg/ml 70 - 105 Thrombin 10 µmol/L 73 - 112	N/A	OSUWMC In-house Reference Range Study (02-2023)	N/A	N/A
Platelet Function Test	Platelet Function Assay, PFA	Instrument PFA100 Closure Time: The time measured from the start of the test until a platelet to close aperture after exposure to agonist	Siemens	sec	Collagen/Epiandrosterone 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 in a self-contained test device	Verify Now	PRU	194 - 418	N/A	Accometrics, 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 Unicablator 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 Unicablator assayed values (lot number specific)	10 - 300
PT	Protine-INR	Mechanical Clot Detection	Stago	sec	11.9 - 14.2	N/A	OSUWMC in-house reference range, verified yearly	7.0 - 109.0	7.0 - 109.0
PT and PT Mixing Study	Prothrombin Time Mixing Study	Mechanical Clot Detection	Stago	sec	N/A	N/A	N/A	See PT Test	See PT Test
PT Mix w/ Normal Plasma	Protine Mixing Study	Mechanical Clot Detection	Stago	sec	N/A	N/A	N/A	See PT Test	See PT Test
PTT	APTT	Mechanical Clot Detection	Stago	sec	24.0-34.3	Input: >15.0 Output: >60.0	OSUWMC, in-house reference range study performed yearly	20.0 - 180.0	20.0 - 180.0
PTT Mix w/ Normal Plasma	Partial Thromboplastin Time	Mechanical Clot Detection	Stago	sec	Heparin Therapeutic Range (OTR): 77.0 - 91.0	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	≤43.2	N/A	OSUWMC, in-house reference range study performed yearly	20.0-180.0	20.0-180.0
Ristocetin Co-factor	Von Willebrand Factor Activity	Platelet Agglutination Light Transmittance Aggregometry	Helena	% Activity	40-200	N/A	OSU Normal Range Study	See Helena SAMP 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	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 Ag + Factor VIII	Von Willebrand Workup Includes: PTT, Factor VIII, VWF Antigen, Ristocetin Co-factor, 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	Calculations: BANDS(Segs)/BANDS	N/A	%	N/A	20-25 (Neutros)	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	0.00	0.00
Basophils %	N/A	Flow Cytometry / Manual differential	Symex	%	N/A	N/A	N/A	0.0-100.0	0.0-100.0
Basophils Absolute	N/A	Calculation	Symex	x10 ⁹ /uL	≥18 years Male: 0.00-0.09 Female: 0.00-0.15	N/A	OSU Internal Normal Range Study, October 2018 Soklin, Steven J. <i>Practical Reference Intervals</i> . 7th ed., AACCPress, 2011.	Electronic: 0.04-440.00 Manual: 0.00-440.00	Electronic: 0.04-440.00 Manual: 0.00-440.00
Basophils Relative (CSF)	Spinal fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0.00	0-100
Blast Absolute	N/A	Calculation	N/A	x10 ⁹ /uL	All ages: 0.00	N/A	N/A	0.00-440.00	0.00-440.00 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	0.00	0-100
Blasts Relative (FluId)	Body fluid cell differential	Manual Differential	N/A	%	N/A	N/A	N/A	0.00	0-100
Body Fluid Cell Count	N/A	Hemocytometer Counts / Irs instrument	CCL-Irs 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 / Irs instrument / Manual Differential	CCL-Irs 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, EDPF, Platelet	CBC, Electronic Diff with Platelets	See individual analytes	Symex	Varies	Varies	Varies	Varies	Varies	Varies
CBC, Platelets	Complete Blood Count, Hemogram	See individual analytes	Symex	Varies	Varies	Varies	Varies	Varies	Varies
Cell Count & Diff (CSF; CSF Differential/Path Interpretation)	Spinal Fluid Cell Count and Differential	Hemocytometer Counts / Irs instrument / Manual Differential	CCL-Irs RRL: N/A	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests	See individual tests
Crytals, Fluid	N/A	Unstained spinal 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 / Irs instrument	CCL-Irs 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	Symex	%	N/A	N/A	N/A	0.0-100.0	0.0-100.0
Eosinophils Absolute	N/A	Calculation	Symex	x10 ⁹ /uL	≥18 years Male: 0.00-0.48 Female: 0.00-0.42	N/A	OSU Internal Normal Range Study, October 2018 Soklin, Steven J. <i>Practical Reference Intervals</i> . 7th ed., AACCPress, 2011.	Electronic: 0.04-440.00 Manual: 0.00-440.00	Electronic: 0.04-440.00 Manual: 0.00-440.00

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%, Reti, RF and RET-HE	Flow Cytometry, Calculation	Symex	Varies	Varies	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 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	-OR- x10 ⁹ /uL	All ages: 0.00	N/A	N/A	0.00-440.00	0.00-dilute to obtain numeric result
Hematocrit	HCT	Cumulative Pale Height Detection	Symex	%	≥18years: Male: 39.6-48.8 Female: 34.9-44.3	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	0.1-75.0	0.1-dilute to obtain numeric result
Hematocrit, Fluid	Fluid HCT, Fluid PCV	Manual Spin Hemocrit	N/A	%	N/A	N/A	N/A	5.0-60.0	5.0-60.0
Hemoglobin	HGB	Photometrically measured	Symex	g/dL	≥18years: Male: 13.4-16.8 Female: 11.4-15.2	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	0.2-26.0	0.2-dilute to obtain numeric result
Immature Granulocytes %	N/A	Flow Cytometry	Symex	%	N/A	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	0.0-100.0	0.0-100.0
Immature Granulocytes Absolute	IG	Calculation	Symex	x10 ⁹ /uL	≥18 years Male: ≥0.07 Female: ≥0.08	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	Electronic: 0.04-440.00	Electronic: 0.04-dilute to obtain numeric result
Immature Platelet Fraction	IPF	Calculation	Symex	%	≥18 years: Male: 0.0-9.0 Female: 0.0-8.6	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	0.0-100.0	0.0-100.0
Immature Reticulocyte Fraction	IRF	Calculation	Symex	%	≥18 years: Male: 0.2-16.3 Female: 1.1-16.2	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 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. Kjeldberg, Knight 1993	0-100	0-100
Lymphocytes %	N/A	Flow Cytometry/ Manual differential	Symex	%	N/A	N/A	N/A	0.0-100.0	0.0-100.0
Lymphocytes Absolute	N/A	Calculation	Symex	-OR- x10 ⁹ /uL	≥18 years: Male: 0.83-3.57 Female: 1.16-3.51	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 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	-OR- x10 ⁹ /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	No parasitic organism seen, including plasmodium organisms / Positive for Plasmodium species
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 Reti	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 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	0.25-30.00	0.25-30.00
MCH	Red Cell Indices	HGB x 10 RBC	Symex	pg	≥18 years: Male: 26-33.3 Female: 25.9-33.9	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	N/A	N/A
MCHC	Red Cell Indices	HGB x 100/HCT	Symex	g/dL	≥18 years: Male: 31.9-36.5 Female: 31.4-35.9	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	N/A	N/A
MCV	Red Cell Indices	HCT x10 RBC	Symex	fL	≥18 years: Male: 79.0-98.5 Female: 79.6-97.7	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 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 ⁹ /uL	≥18 years Male: ≥0.07 Female: ≥0.08	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	0.00-440.00	0.00-dilute to obtain numeric result
Monocytes %	N/A	Flow Cytometry/ Manual differential	Symex	%	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. Kjeldberg, 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	Symex	-OR- x10 ⁹ /uL	≥18 years: Male: 0.24-0.93 Female: 0.22-0.87	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 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.	Symex	fL	≥18 years: Male: 8.7-12.3 Female: 8.5-12.2	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	N/A	N/A
Mylocytes	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	-OR- x10 ⁹ /uL	≥18 years Male: ≥0.07 Female: ≥0.08	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	0.00-440.00	0.00-dilute to obtain numeric result
Neutrophils %	N/A	Flow Cytometry/ Manual differential	Symex	%	N/A	N/A	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	0.0-100.0	0.0-100.0
Neutrophils Relative (CSF)	Spinal fluid cell differential	Manual Differential	N/A	%	<3m: 0.8 >3m: 6-6	N/A	Body Fluids 3rd ed. Kjeldberg, 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	Symex	/100 WBC	≥18 years: ≥0.2	N/A	Symex XN-9000 IFU (North American Edition) Code No. AC79819 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 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	-OR- x10 ⁹ /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	-OR- x10 ⁹ /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	Symex	x10 ⁹ /uL	≥18 years: Male: 146-377	<30 and >1,000	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	5-5,000	5-dilute to obtain numeric result
Platelet Count - fluorescent	N/A	Flow Cytometry	Symex	-OR- x10 ⁹ /uL	≥18 years: Male: 146-377	<30 and >1,000	OSU Internal Normal Range Study, October 2018 Sollin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	5-5,000	5-dilute to obtain numeric result
Prothrombin	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 % K/dL	All ages: 0.00	N/A	N/A	0.00-440.00	0.00-dilate to obtain numeric result
Promyelocytes	N/A	Manual Differential	N/A	% K/dL	N/A	N/A	N/A	0.0-100.0	0.0-100.0
Promyelocytes Absolute	N/A	Calculation	N/A	x10 ³ /uL % K/dL	≥18 years Male: 0.07 Female: 0.08	N/A	OSU Internal Normal Range Study, October 2018 Sohlin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	0.00-440.00	0.00-dilate to obtain numeric result
RBC (CSF)	Spinal fluid cell count	Hemocytometer Counts / Iris instrument	CCL: Iris RRL: JWC/N/A	/uL	All Ages <3	N/A	Body Fluids 3rd ed. Kjellberg, Knight 1993	3.50,000	3-dilate 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-dilate to endpoint
RDW	Red Cell Indices	Derived from RBC histogram. Representative of CV% of the histogram.	Symex	%	≥18 years: Male: 10.9-14.3 Female: 10.8-14.9	N/A	OSU Internal Normal Range Study, October 2018 Sohlin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	N/A	N/A
Red Blood Cell Count	RBC	Electronic Resistance Detection	Symex	x10 ³ /uL % K/dL	Male: 4.35-5.83 Female: 3.91-5.04	N/A	OSU Internal Normal Range Study, October 2018 Sohlin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	0.05-8.60	0.05-dilate to obtain numeric result
Retc Absolute	N/A	Calculation: Ret% x RBC	Symex	x10 ³ /uL % K/dL	Automated: ≥18 years: Male: 0.0317-0.1377 Female: 0.0224-0.1142 Manual: ≥18 years: Male: 0.0317-0.1377 Female: 0.0224-0.1142	N/A	OSU Internal Normal Range Study, October 2018 Sohlin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	Electronic: 0.0100-0.7200 Manual: 0.0100-0.4576 0.0000-8.6000	Electronic: 0.0100-dilate to obtain numeric result Manual: 0.0100-dilate to obtain numeric result Manual: 0.0000-dilate to obtain numeric result
Retc Count	N/A	Flow Cytometry	Symex	%	≥18 years: Male: 0.68-2.64 Female: 0.74-2.54	N/A	OSU Internal Normal Range Study, October 2018 Sohlin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	0.25-30.00	0.25-30.00
Retc HGB Equivalent	RET-HG	Calculation	Symex	pg	≥18 years: Male: 29-98.7 Female: 28.8-39.9	N/A	OSU Internal Normal Range Study, October 2018 Sohlin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	N/A	N/A
Sedimentation Rate, Automated	ESR	Westergren	Mechatronics	mm/hr	Male: >85V: <30 50-85V: <20 0-49V: <15 Female: >85V: <42 50-85V: <30 0-49V: <20	N/A	McPherson, R.A., & Pinkas, M.R. (2017). Henry's Clinical Diagnosis and Management by Laboratory Methods (2nd ed.). St. Louis, MO: Elsevier Inc. pg. 532	1-140	1-140
Segs + Bands Absolute	ANC	Calculation: WBC x (NE% + Bands%)	Symex	x10 ³ /uL % K/dL	≥18 years: Male: 1.57-6.19 Female: 1.64-7.28	N/A	OSU Internal Normal Range Study, October 2018 Sohlin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	Electronic: 0.04-440.00 Manual: 0.00-440.00	Electronic: 0.04-dilate to obtain numeric result Manual: 0.00-dilate 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 FJI, Synovial Fluid	Synovasure Alpha Defensin Lateral Flow Test	Qualitative, visually read immunochromatographic assay for the detection of human host response proteins, Alpha Defensin 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	Negative	N/A	Package Insert	N/A	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: JWC/N/A	/uL	<1Y: <31 1-4Y: <21 ≥5Y: <6	≥41	Body Fluids 3rd ed. Kjellberg, Knight 1993	3-2,500	3-dilate 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-dilate to endpoint
White Blood Count	WBC	Flow Cytometry	Symex	x10 ³ /uL % K/dL	≥18 years: Male: 3.73-10.10 Female: 3.99-11.19	<1.50 and >35.00 Orology: <0.50 and >35.00	OSU Internal Normal Range Study, October 2018 Sohlin, Steven J. <i>Pediatric Reference Intervals</i> . 7th ed., AACCPress, 2011.	0.30-440.00	0.30-dilate 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: All Labs Urine Particle Counter-LF5000: CCL: James Lab, RRL: JWC/N/A Urine Particle Counter-Q200: CCL: James Lab, RRL: JWC/N/A	CCL: Siemens or Beckman James Lab, RRL: Symex MMMP, SSCBC, JWC/N/A	N/A	Absent	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	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, Ringrad 1995	N/A	Negative, Trace, Small, Moderate, Large
Appearance	Clarity	CCL: measuring the transmission and scattering of light that passes through the specimen. All labs: Visual	CCL: Siemens Clinitek Novus James, RRL, MMMP, SSCBC, JWC/N/A	N/A	Clear	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	Clear, Cloudy, Turbid
Color	N/A	Manual and reflectance spectrophotometer	CCL: Siemens Clinitek Novus James, RRL, MMMP, SSCBC, JWC/N/A	N/A	Yellow	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	Yellow, Orange, Red, See Comment
Crystals - Urine	N/A	Microscopic Examination of Urine Sediment: All Labs Urine Particle Counter-Q200: CCL: James Lab, RRL: JWC/N/A	CCL: Beckman RRL, James, MMMP, SSCBC, JWC/N/A	N/A	N/A	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	When reported: Present
Glucose Urine	N/A	Glucose oxidase catalyzes the breakdown of glucose into gluconic acid and hydrogen peroxide. CCL: James Lab, RRL, JWC: 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 oxidation coupling of 4-amino-antipyrine and 4-methylcatechol by hydrogen peroxide. 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, Ringrad 1995	N/A	Negative, 100, 250, 500, 21000
Hyaline Cast	N/A	Microscopic Examination of Urine Sediment: All Labs Urine Particle Counter-Q200: CCL: James Lab, RRL: JWC/N/A	CCL: Beckman RRL, James, MMMP, SSCBC, JWC/N/A	spf	0-2	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	When reported: 0-2 spf 3-5 spf 6-10 spf 11-20 spf >20 spf
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, Ringrad 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, Ringrad 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, Ringrad 1995	N/A	Negative, Reflexed to Scandout

Nitrites Urine	N/A	At the acid pH of the reagent area, nitrite in the urine reacts with p-aminic acid to form a Diazotium compound which couples with 1,2,3,4-tetrahydrobenzothiazol-3-ol to produce a pink color.	Siemens Clinic	NA	Negative	Manufacturer's sensitivity is 0.06-0.1 mg/dL, nitrite ion	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	Negative, Positive
Occult Blood, Fecal-Immunological	FOB	Immunosay utilizing rabbit polyclonal antibodies to detect presence of hemoglobin in feces.	GC- Auto SENSOR ID	N/A	Negative	N/A	N/A	N/A	N/A	Negative, Positive
Occult Blood, Gastric	Gastrocuel	Developing solution (stabilized mixture of hydrogen peroxide and deamated alcohol) creates a reaction between hemoglobin and gastric to produce a blue color.	Gastrocuel Beckman	N/A	Negative	N/A	N/A	N/A	N/A	Negative, Positive
Occult Blood, Stool	Occult Blood, Fecal Hemocuel	Developing solution (stabilized mixture of hydrogen peroxide and deamated alcohol) creates a reaction between hemoglobin and gastric to produce a blue color.	Hemocuel Beckman	N/A	Negative	N/A	N/A	N/A	N/A	Negative, Positive
Other Casts	N/A	Microscopic Examination of Urine Sediment: All Labs Urine Particle Counter- Q220: CCL	CCL- Beckman RRL, James, MMMP, SSCBC, JWC: N/A	/pf	N/A	N/A	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	When reported: 0-2/pf 3-5/pf 6-10/pf 11-20/pf >20/pf
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 Clinic	N/A	5.0-7.0	N/A	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	CCL, RRL, James: 5.0 - 29.0 SSCBC, MMMP: 5.0 - 28.5 JWC: 5.0 - 28.5
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 Clinic	mg/dL	Negative	Manufacturer's sensitivity is 15-30mg/dL albumin	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	Negative, Traces, 30mg/dL, 100mg/dL, >300mg/dL
RBC Casts	RBC Casts	Microscopic Examination of Urine Sediment: All Labs Urine Particle Counter- Q220: CCL	CCL- Beckman RRL, James, MMMP, SSCBC, JWC: N/A	/pf	Absent	Any seen	Any seen	Urinalysis and Body Fluid, Ringrad 1995	N/A	When reported: 0-2/pf 3-5/pf 6-10/pf 11-20/pf >20/pf
RBC Urine	N/A	Microscopic Examination of Urine Sediment: All Labs Urine Particle Counter-LE5000: CCL, James Lab, RRL Urine Particle Counter- Q220: CCL	CCL- Synex or Beckman James Lab, RRL, Synex, MMMP, SSCBC, JWC: N/A	/pf	0-2	N/A	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	0-2/pf 3-5/pf 6-10/pf 11-25/pf >25/pf
Renal Tubular Cells	N/A	Microscopic Examination of Urine Sediment: All Labs Urine Particle Counter- Q220: CCL	CCL- Beckman RRL, James, MMMP, SSCBC, JWC: N/A	/pf	Absent	N/A	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	When Reported 0-2/pf 3-5/pf (+) 6-10/pf (2-) 11-20/pf (3-) >20/pf (4+)
Specific Gravity Urine	N/A	CCL, James Lab, RRL: Fiber optic refractive index method All Labs: pKa change of precasted polyelectrolyte in relation to ionic concentration	Siemens Clinic	N/A	1.001-1.035	N/A	N/A	Urinalysis and Body Fluid, Ringrad 1995	RRL, James, SSCBC, MMMP, JWC Clinick Advantus>Status: ≤1.005 ; 1.010, 1.015, 1.020, 1.025, ≥1.030	RRL, James, SSCBC, MMMP, JWC Clinick Advantus>Status: ≤1.005 ; 1.010, 1.015, 1.020, 1.025, ≥1.030
Squamous/Epithelial Cells	N/A	Microscopic Examination of Urine Sediment: All Labs Urine Particle Counter-LE5000: CCL, James Lab, RRL Urine Particle Counter- Q220: CCL	CCL- Synex or Beckman James Lab, RRL, Synex, MMMP, SSCBC, JWC: N/A	/pf	0-2/pf 3-5/pf (1+)	N/A	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	0-2/pf 3-5/pf (1+) 6-10/pf (2-) 11-20/pf (3-) >20/pf (4+)
Trichomonas	N/A	Microscopic Examination of Urine Sediment: All Labs Urine Particle Counter- Q220: CCL	CCL- Beckman RRL, James, MMMP, SSCBC, JWC: N/A	N/A	Absent	N/A	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	When reported: Absent, Present
Urinalysis	UA with Microscopic	Various	Siemens Clinic, Synex and/or Beckman	N/A	Various	Various	Various	Various	Various	Various
Urinalysis Reflex to Culture	UTI workup for general resolution	Various	Siemens Clinic, Synex and/or Beckman	N/A	Various	Various	Various	Various	Various	Various
Urine Dipstick with Reflex Microscopy	UASR	Various	Siemens Clinic, Synex and/or Beckman if it is Positive	N/A	Various	Various	Various	Various	Various	Various
Urobilinogen Urine	N/A	Ehrlich Reaction, in which p-diethylamino benzaldehyde in conjunction with a color enhancer reacts with urobilinogen in a strongly acid medium to produce a pink-red color.	Siemens Clinic	EU:u/L	0.2, 1.0	N/A	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	0.2, 1.0, 2.0, 4.0, ≥8.0
WBC Casts	N/A	Microscopic Examination of Urine Sediment: All Labs Urine Particle Counter- Q220: CCL	CCL- Beckman RRL, James, MMMP, SSCBC, JWC: N/A	/pf	Absent	Any seen	Any seen	Urinalysis and Body Fluid, Ringrad 1995	N/A	0-2/pf 3-5/pf 6-10/pf 11-20/pf >20/pf
WBC/Renal Tubular Epithelial Cast	N/A	Microscopic Examination of Urine Sediment: All Labs Urine Particle Counter- Q220: CCL	CCL- Beckman RRL, James, MMMP, SSCBC, JWC: N/A	/pf	Absent	Any seen	Any seen	Urinalysis and Body Fluid, Ringrad 1995	N/A	When reported: 0-2/pf 3-5/pf 6-10/pf 11-20/pf >20/pf
WBC Urine	N/A	Microscopic Examination of Urine Sediment: All Labs Urine Particle Counter-LE5000: CCL, James Lab, RRL Urine Particle Counter- Q220: CCL	CCL- Synex or Beckman James Lab, RRL, Synex, MMMP, SSCBC, JWC: N/A	/pf	0-5	N/A	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	0-5/pf 6-10/pf 11-20/pf >20/pf
Yeast /Fung	N/A	Microscopic Examination of Urine Sediment: All Labs Urine Particle Counter- Q220: CCL	CCL- Beckman RRL, James, MMMP, SSCBC, JWC: N/A	N/A	Absent	N/A	N/A	Urinalysis and Body Fluid, Ringrad 1995	N/A	Absent, Present
Acetone, Blood	N/A	GC-FID	Agilent GC	mg/dL	<10	≥10	N/A	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	Amikacin	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, Urine, Confirmation	Amphetamine, methamphetamine, adderal	LC/MS/MS	Agilent QQQ 6420	ng/mL	< 25 ng/mL	N/A	N/A	Amphetamine: 25-5000 ng/mL, Methamphetamine: 25-5000 ng/mL, Amphetamines Interpretation: Positive or None Detected (Positive if 1 or more drugs detected)	25-25000 ng/mL	
Amphetamine / Methamphetamine	Amphetamines Screen - Urine	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Amphetamines Assay	Negative / Presumptive Positive / Presumptive Positive, Confirmation to follow.	Negative	N/A	N/A	Cutoff: 500 ng/mL	N/A	
Amphetamine/Methamphetamine, Meconium	Amphetamines Screen - Meconium	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Amphetamines Assay	Negative / Presumptive Positive, Confirmation to follow.	Negative	N/A	N/A	Cutoff: 1000 ng/g	N/A	
Amphetamines, Meconium, Confirmation	N/A	LC/MS/MS	SCIEX 3200 QTRAP	None Detected / Positive	None Detected	N/A	N/A	Cutoff Amphetamine: 100 ng/g Methamphetamine: 100 ng/g	N/A	
Barbiturates	Barbiturates Screen - Urine	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Barbiturate Assay	Negative / Presumptive Positive / Presumptive Positive, Confirmation to follow.	Negative	N/A	N/A	Cutoff: 200 ng/mL	N/A	
Barbiturates Screen, Serum	N/A	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Thermo Scientific DRI Barbiturate Serum Test Assay	Negative / Presumptive Positive	Negative	N/A	N/A	Cutoff: 1000 ng/mL	N/A	
Barbiturates, Meconium	N/A	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Barbiturate Assay	Negative / Presumptive Positive	Negative	N/A	N/A	Cutoff: 400 ng/g	N/A	
Barbiturates, Umbilical Cord	N/A	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Barbiturate Assay	Negative / Presumptive Positive	Negative	N/A	N/A	Cutoff: 200 ng/mL	N/A	
Benzodiazepines	Benzodiazepines Screen - Urine	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Benzodiazepine Assay	Negative / Presumptive Positive / Presumptive Positive, Confirmation to follow.	Negative	N/A	N/A	Cutoff: 200 ng/mL	N/A	
Benzodiazepines, Meconium	N/A	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Benzodiazepine Assay	Negative / Presumptive Positive, Confirmation to follow.	Negative	N/A	N/A	Cutoff: 400 ng/g	N/A	
Benzodiazepine Confirmation, Meconium	N/A	LC/MS/MS	SCIEX 3200 QTRAP	None Detected / Positive	None Detected	N/A	N/A	Cutoff Alprazolam: 25 ng/g alpha-hydroxyalprazolam: 125 ng/g 7-aminoclonazepam: 50 ng/g Diazepam: 120 ng/g Mida-zolam: alpha-hydroxymida-zolam Nordiazepam: 50 ng/g Lorazepam: 200 ng/g Oxazepam: 100 ng/g Temazepam: 50 ng/g	N/A	

Benzodiazepines, Urine, Confirmation	N/A	LCMSMS	SCEIX 3200 QTRAP	None Detected; 7-Aminoclonazepam; 7-Aminoflunitrazepam; Alpha-hydroxyalprazolam; Alprazolam; Chlorazepate; Clonazepam; Diazepam; Flunitrazepam; Flurazepam; Lorazepam; Midazolam; Nordazepam; Oxazepam; Temazepam; Triazolam	None Detected	N/A	N/A	Cutoff 7-Aminoclonazepam: 200 ng/mL 7-Aminoflunitrazepam: 25 ng/mL Alpha-hydroxyalprazolam: 400 ng/mL Alpha-hydroxymidazolam: 200 ng/mL Alprazolam: 50 ng/mL Chlorazepate: 50 ng/mL Clonazepam: 200 ng/mL Diazepam: 100 ng/mL Flunitrazepam: 100 ng/mL Flurazepam: 50 ng/mL Lorazepam: 100 ng/mL Midazolam: 200 ng/mL Nordazepam: 100 ng/mL Oxazepam: 200 ng/mL Temazepam: 100 ng/mL Triazolam: 100 ng/mL	N/A
Buprenorphine	Buprenorphine Screen - Urine	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Buprenorphine Assay	Negative / Presumptive Positive / Presumptive Positive. Confirmation to follow.	Negative	N/A	N/A	Cutoff: 5 ng/mL	N/A
Buprenorphine, Meconium	Substance	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Buprenorphine Assay	Negative / Presumptive Positive	Negative	N/A	N/A	Cutoff: 10 ng/g	N/A
Buprenorphine/Norbuprenorphine - Urine, Confirmation	Substance, Buprenorphine metabolite	LCMSMS	Agilent QQQ 6420	ng/mL	< 5.0 ng/mL	N/A	N/A	Buprenorphine: 5.0 - 5,000.0 ng/mL Norbuprenorphine: 5.0 - 5,000.0 ng/mL	Buprenorphine: 5.0 - 25,000.0 ng/mL Norbuprenorphine: 5.0 - 25,000.0 ng/mL
Cannabinoids (Marijuana)	THC Screen - Urine	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Cannabinoid Assay	Negative / Presumptive Positive / Presumptive Positive. Confirmation to follow.	Negative	N/A	N/A	Cutoff: 50ng/mL	N/A
Cannabinoids, Meconium	THC Screen meconium, marijuana screen	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Cannabinoid Assay	Negative / Presumptive Positive	Negative	N/A	N/A	Cutoff: 100 ng/g	N/A
Cannabinoids, Umbilical Cord	THC Screen meconium, marijuana screen	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Cannabinoid Assay	Negative / Presumptive Positive	Negative	N/A	N/A	Cutoff: 20 ng/mL	N/A
Carboxy THC, Urine, Confirmation	N/A	GC-MS	Agilent GC/MS	ng/mL	< 5.0 ng/mL	N/A	N/A	5.0-500.0 ng/mL	5.0-500.0 ng/mL
Cocaine	Cocaine Screen - Urine	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Cocaine Metabolite Assay	Negative / Presumptive Positive / Presumptive Positive. Confirmation to follow.	Negative	N/A	N/A	Cutoff: 150 ng/mL	N/A
Cocaine Confirmation, Urine	N/A	LCMSMS	Agilent QQQ 6420	ng/mL	< 25 ng/mL	N/A	N/A	Benzoylcocaine: 25-5,000 ng/mL Cocaine: 25-5,000 ng/mL	Benzoylcocaine: 25-25,000 ng/mL Cocaine: 25-25,000 ng/mL
Cocaine, Meconium	Coke	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Cocaine Metabolite Assay	Negative / Presumptive Positive. Confirmation to follow.	Negative	N/A	N/A	Cutoff: 300 ng/g	N/A
Cocaine, Meconium, Confirmation	N/A	LCMSMS	SCEIX 3200 QTRAP	None Detected / Positive	None Detected	N/A	N/A	Cutoff Cocaine: ng/g Benzoylcocaine: 50 ng/g	N/A
Creatinine	Creatinine - Urine Adulteration Screen	Kinetic modified Jaffe	Beckman Coulter DxC700A1; Creatinine	mg/dL	≥20.0	N/A	SAMSHA	1.0-300.0 mg/dL	1.0-300.0 mg/dL
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, HbH	CSAN2	Chemiluminescent microparticle immunoassay	Abbott	ng/mL	Therapeutic Range: 320 - 960	N/A	OSU pharmacy	30-1,500	30-3,000
Drugs Detected, Umbilical Cord	Drug screen umbilical cord	LCMSMS	SCEIX 3200 QTRAP	6-Monocetylmorphine Or 7-Aminoclonazepam Or Alpha-hydroxyalprazolam Or Alprazolam Or Amphetamine Or Benzoyllecgonine Or Buprenorphine Or Cocaine Or Codeine Or Cotinine Or Diazepam Or Dihydrocodeine Or Diphenhydramine Or EDDP-methadone Or Ephedrine/Pseudoephedrine Or Fentanyl Or Gabapentin Or Hydrocodone Or Hydromorphone Or Lidocaine Or Methadone Or Methamphetamine Or Midazolam Or Morphine Or Naloxone Or Naloxone Or Norbuprenorphine Or Nordazepam Or Nortofentanyl Or Norethynone Or Oxazepam Or Oxycodone Or Oxycodone Or Promethazine Or Serrraline Or Temazepam Or Tramadol Or Zolpidem	Negative	N/A	N/A	Cutoff (ng/g): 6-Monocetylmorphine (34), 7-Aminoclonazepam (18), Alpha-hydroxyalprazolam (44), Alprazolam (11), Amphetamine (18), Benzoyllecgonine (9), Buprenorphine (18), Cocaine (3), Codeine (44), Cotinine (6), Diazepam (11), Dihydrocodeine (11), Diphenhydramine (11), EDDP-methadone (18), Ephedrine/Pseudoephedrine (9), Fentanyl (13), Gabapentin (22), Hydrocodone (11), Hydromorphone (22), Lidocaine (4), Methadone (6), Methamphetamine (18), Midazolam (11), Morphine (40), Naloxone (9), Naloxone (18), Norbuprenorphine (13), Nordazepam (11), Nortofentanyl (11), Norethynone (44), Oxazepam (27), Oxycodone (11), Oxycodone (27), Promethazine (6), Serrraline (18), Temazepam (44), Tramadol (6), Zolpidem (2).	N/A
Ethanol (Alcohol), Urine	Alcohol-Ethyl	Enzymatic	Beckman Coulter DxC700A1; Emit II Plus Ethyl Alcohol Assay	mg/dL	<10	N/A	N/A	10-600 mg/dL	10-600 mg/dL
Alcohol (Ethanol), Blood	Ethanol, Alcohol-Ethyl	Enzymatic	Beckman Coulter DxC700A1; Emit II Plus Ethyl Alcohol Assay	mg/dL	<10	≥300	N/A	10-600 mg/dL	10-600 mg/dL
Ethyl Alcohol, Blood, Quantitative Confirmation	Alcohol-Ethyl, ETOH	GC-FID	Agilent GC	mg/dL	<10	≥200	N/A	10-400 mg/dL	10-400
Ethylene Glycol, Blood, Quantitative Confirmation	N/A	GC-FID	Agilent GC	mg/dL	<10	≥10	N/A	10-250 mg/dL	10-250
Ethylene Glycol, Blood, Screen with Reflex to Confirmation	Ethylene Glycol Level	Enzymatic UV	Beckman Coulter DxC700A1; Galciken Diacetyl Ethylene Glycol Reagent Kit	None Detected, Presumptive Positive. Confirmation to follow.	None Detected	≥ 10 mg/dL	N/A	Cutoff 10 mg/dL	N/A
Everolimus, Trough (Pre Drug Level)	Afinitor Zoroxo	Particle-enhanced turbidimetric immunoassay	Beckman	ng/mL	Therapeutic range not established	N/A	Microgenics Corp. Thermo Scientific QMS Everolimus #U1	2.0-20.0	2.0-40.0
Fentanyl	N/A	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; ARK Fentanyl II Assay	Negative / Presumptive Positive / Presumptive Positive. Confirmation to follow.	Negative	N/A	N/A	Cutoff: 1 ng/mL	N/A
Fentanyl, Meconium	N/A	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; ARK Fentanyl II Assay	Negative / Presumptive Positive. Confirmation to follow.	Negative	N/A	N/A	Cutoff: 2 ng/g	N/A
Fentanyl, Meconium, Confirmation	N/A	LCMSMS	SCEIX 3200 QTRAP	None Detected / Positive	None Detected	N/A	N/A	Cutoff Fentanyl: 25 ng/g Norfentanyl: 25 ng/g	N/A
Fentanyl, Urine, Confirmation	Fentanyl Urine Confirmation	LCMSMS	Agilent QQQ 6420	ng/mL	<2.5 ng/mL	N/A	N/A	Fentanyl: 2.5-5,000 ng/mL Norfentanyl: 2.5 - 5,000 ng/mL	Fentanyl: 2.5-25,000 ng/mL Norfentanyl: 2.5-25,000 ng/mL
Gentamicin Level, Peak (Post Drug Level)	N/A	Enzyme immunoassay	Beckman	mg/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	mg/mL	<1 year: <1.6 >1 year: <1.0 (Therapeutic Range)	<1 year: 21.6 >1 year: >1.0	OSU Pharmacy	0.3-10.0	0.3-20.0
Hemoglobin A1C	HAICT	Turbidimetric immunoassay	Beckman	%	4.7-5.6	N/A	Textbook	4.0-15.0	4.0-15.0
Immunoglobulin	γ-globulin	GC-FID	Agilent GC	mg/dL	<10	≥10	N/A	10-400 mg/dL	10-400
Lidocaine Level	N/A	Enzyme immunoassay	Beckman	mg/mL	Therapeutic Range: 1.5-5.0	≥6.0	OSU Pharmacy	0.5-12.0	0.5-36.0
Methadone	Methadone Screen- Urine	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Methadone Assay	Negative / Presumptive Positive / Presumptive Positive. Confirmation to follow.	Negative	N/A	N/A	Cutoff: 300ng/mL	N/A
Methadone, Meconium	N/A	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Methadone Assay	Negative / Presumptive Positive. Confirmation to follow.	Negative	N/A	N/A	600 ng/g cutoff	N/A
Methadone, Meconium, Confirmation	N/A	LCMSMS	SCEIX 3200 QTRAP	None Detected / Positive	None Detected	N/A	N/A	Cutoff Methadone: 50 ng/g EDDP: 25 ng/g	N/A
Methadone Confirm, Urine	N/A	LCMSMS	Agilent QQQ 6420	ng/mL	< 25 ng/mL	N/A	N/A	Methadone: 25-5,000 ng/mL EDDP: 25-5,000 ng/mL	Methadone: 25-25,000 ng/mL EDDP: 25-25,000 ng/mL
Methanol, Blood	Alcohol-Methyl	GC-FID	Agilent GC	me/dL	<10	≥10	N/A	10-400 mg/dL	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 multiplied immunoassay	Beckman Coulter DxC700A1; Thermo Scientific DRI Cotinine Assay	Negative / Positive	Negative	N/A	N/A	Cutoff: 500ng/mL	N/A
Opiate	Opiate Screen - Urine	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Opiate Assay	Negative / Presumptive Positive / Presumptive Positive. Confirmation to follow.	Negative	N/A	N/A	Cutoff Clinical: 300ng/mL Workplace: 2000 ng/mL	N/A
Opiate, Meconium	Morphine screen, Codeine screen, Heroin screen	Enzyme multiplied immunoassay	Beckman Coulter DxC700A1; Emit II Plus Opiate Assay	Negative / Presumptive Positive. Confirmation to follow.	Negative	N/A	N/A	Cutoff: 600 ng/g	N/A
Opioids, Meconium, Confirmation	N/A	LCMSMS	SCEIX 3200 QTRAP	None Detected / Positive	None Detected	N/A	N/A	Cutoff 6-Monocetylmorphine: 500 ng/g Codeine: 500 ng/g Dihydrocodeine: 100 ng/g Hydrocodone: 75 ng/g Hydromorphone: 100 ng/g Morphine: 100 ng/g	N/A
Opioids, Urine, Confirmation	N/A	LCMSMS	Agilent QQQ 6420	ng/mL	6-Monocetylmorphine < 5 ng/mL, Codeine, Morphine, Hydrocodone, Hydromorphone, and Tramadol < 25 ng/mL	N/A	N/A	6-Monocetylmorphine 5-5,000 ng/mL Codeine 25-5,000 ng/mL Morphine 25-5,000 ng/mL Hydrocodone: 25-5,000 ng/mL Hydromorphone 25-5,000 ng/mL Tramadol 25-5,000 ng/mL	6-Monocetylmorphine 5-25,000 ng/mL Codeine 25-25,000 ng/mL Morphine 25-25,000 ng/mL Hydrocodone: 25-25,000 ng/mL Hydromorphone 25-25,000 ng/mL Tramadol 25-25,000 ng/mL

Oxidants	Oxidant-Urine Adherence Screen	Cobalamin	Beckman Coulter DxC700AI; Sereck SVT Oxidant Reagent	Negative / Positive	Negative	N/A	N/A	Cutoff: 50 mg/mL	N/A	
Oxidants Confirmation	N/A	Cobalamin	Sereck Diagnostic AdulCheck 6	Negative / Positive	Negative	N/A	N/A	Cutoff: 5 mg/dl. Oxidants	N/A	
Oxydone	Oxydone Screen- Urine	Enzyme multiplied immunoassay	Beckman Coulter DxC700AI; Thermo Scientific DRI Oxydone	Negative / Presumptive Positive / Presumptive Positive. Confirmation to follow.	Negative	N/A	N/A	Cutoff: 100ng/mL	N/A	
Oxydone, Urine, Confirmation	N/A	LCMSMS	Agilent QQQ 6420	ng/mL	< 25 ng/mL	N/A	N/A	Oxydone: 25-5,000 ng/mL. Oxymorphine: 25-5,000 ng/mL. Noroxydone: 25-25,000 ng/mL.	Oxydone: 25-25,000 ng/mL. Oxymorphine: 25-25,000 ng/mL. Noroxydone: 25-25,000 ng/mL.	
Oxydone, Meconium	Oxycotin	Enzyme multiplied immunoassay	Beckman Coulter DxC700AI; Thermo Scientific DRI Oxycotin	Negative / Presumptive Positive	Negative	N/A	N/A	Cutoff: 200 ng/g	N/A	
Pentobarbital Level	Nembutal	Gas chromatography	Agilent GC	ug/mL		Intracranial pressure therapy: 30-40	OSU Pharmacy	5-50	5-50	
pH	pH - Urine Adherence Screen	Cobalamin	Beckman Coulter DxC700AI; Sereck SVT pH Reagent	N/A	4.5-9.0	N/A	SAMSHA	3.0-9.0	3.0-9.0	
pH Confirmation	pH - Urine Adherence Confirmation	pH meter	Coring	N/A	4.5-9.0	N/A	SAMSHA	3.0-11.0	3.0-11.0	
Phencyclidine	PCP Screen - Urine	Enzyme multiplied immunoassay	Beckman Coulter DxC700AI; Emit II Plus Phencyclidine Assay	Negative / Presumptive Positive / Presumptive Positive. Confirmation to follow.	Negative	N/A	N/A	Cutoff: 25ng/mL	N/A	
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	
Sirolimus (Rapamycin) Level, Random	Rapamycin	Chemiluminescent microparticle immunoassay	Abbott	ng/mL		None Marrow Transplant: 4.8-12.0 Therapeutic: 5.0-30.0	OSU Pharmacy	2.0-30.0	2.0-60.0	
Specific Gravity	N/A	Refractometry	Reichert Technologies TS Meter D Clinical Refractometers	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		None Marrow Transplant: 4.8-12.0 Therapeutic: 5.0-15.0	OSU Pharmacy	2.0-30.0	2.0-60.0	
Toxicology Diversion Screen	N/A	LCMSMS	SCEX 3200 QTRAP		Negative	N/A	N/A		Cutoff (ng/mL): 6 Monoacetylmorphine 300,7 Aminohindraperone 25,7 Aminoclozapem 50, Alphahydroxyalprazolam 200, Alprazolam 50, Amphetamine 250, Benzoylecgonine 50, Buprenorphine 500, Chlordiazepoxide 50, Clonazepam 200, Cocaine 25, Cocodine 200, Diazepam 100, Dihydrocodeine 100, EDDP/methadone 100, Fentanyl 25, Flunitrazepam 100, Fluazepam 50, Hydrocodone 100, Hydromorphone 200, Ketamine 25, Lorazepam 100, Meperidine 50, Methadone 50, Methamphetamine 50, Morphine 200, Naluphine 50, Norbuprenorphine 300, Norfentanyl 100, Norfentanyl 100, Noroxycodone 100, Propoxyphene 50, Oxazepam 200, Oxycodone 100, Oxymorphone 200, Propoxyphene 100, Temazepam 100, Tramadol 50, Triazolam 100, Valproic Acid 100, Hydroxyvalproic Acid 100.	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	IDX: Chemiluminescent microparticle immunoassay	TOX: Abbott RRL; Beckman	mg/mL	50-120 (Therapeutic Range)	>150	Applied Clinical Pharmacokinetics, 2001 Clinical Pharmacokinetics, 1995-29442-50	4-150	4-750	
Cytogenetic Studies	Cytogenetics, karyotype Chromosome Analysis	Manual	N/A	N/A	See report	N/A	N/A	See report	N/A	
MDS FISH Panel	Panel Components: DIS2/D5S71.1, 5p15.2, 8q13.3, D7Z1/D7S486, 7 centromere, 7q31, DIS2/D20S108.8 centromere / 20q12	Fluorescent in situ Hybridization (FISH)	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)	ABL2 rearrangement, ABL2, Abelson gene-2, 1q25.2	Fluorescent in situ Hybridization (FISH)	N/A	%	N/A	N/A	N/A	N/A	N/A	
CG 9q34.11-q14.13 (ABL1)	ABL1 rearrangement, ABL1, Abelson gene 1, CG 9q34.11-q14.13	Fluorescent in situ Hybridization (FISH)	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 cent, D9Z4, 9p11-q11	Fluorescent in situ Hybridization	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 cent, D7Z1, 7p11.1-q11.1	Fluorescent in situ Hybridization	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)	7q-, -7, 7q31, 7 centromere, D7Z1, 7p11.1-q11.1, D7S486, 7q1	Fluorescent in situ Hybridization (FISH)	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 cent, 15 centromere, D15Z4, 15p11.1-q11.1	Fluorescent in situ Hybridization	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)	20q-, -8, 8 centromere, CEP 8, D8Z2, 8p11.1-q11.1 & D20S108, 20q12	Fluorescent in situ Hybridization	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	Panel Components: ATM, 11q22.3, TP53, 17p13.1, D12Z3, 12 centromere, D13S19, 13q14.3	Fluorescent in situ Hybridization	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)	REL, 2p16.1, DIRC1, 2q32.1	Fluorescent in situ Hybridization	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 (SEC3-MYB)	SEC3, 6q21, myeloblastosis, MYB, 6q23	Fluorescent in situ Hybridization	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)	CDKN2A, cyclin dependent kinase inhibitor 2A, 9 cent, 9 centromere, D9Z4, 9p11-q11	Fluorescent in situ Hybridization	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-D13S19/LAMP1)	12-13, 12 centromere, trisomy 12, del 13, 13p-, D12Z3, 12p11.1-q11.1, D13S19, 13q14.3, LAMP1, 13q34	Fluorescent in situ Hybridization	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	Panel Components: CDKN2C, 1p32.3, CKS1B, 1q21, CEP 7, 7p11.1-q11.1, CEP 9, 9p11-q11, CEP15, 15p11.1-q11.1, ATM, 11q22.3, TP53, 17p13.1, RB1, 13q14.2, LAMP1, 13q34, IGHCCND1, 14q32.3, 11q13, RB1, 13q14.2, LAMP1, 13q34	Fluorescent in situ Hybridization	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)	1p-, 1q, CDKN2C, 1p36.3, CKS1B, 1q21	Fluorescent in situ Hybridization	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)	BCL6 rearrangement, B-cell lymphoma 6, BCL6, 3q27	Fluorescent in situ Hybridization	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A	
CG 5p33.3-5p15.2 (CSF1R-D8S21D8S721)	5p-Sq-, -5, Sq-, D8S21D8S721, 5p15.2, CSF1R, 5q33.3, colony stimulating factor	Fluorescent in situ Hybridization	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)	MYC rearrangement, CMYC, MYCC, MYC, 8q24	Fluorescent in situ Hybridization	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)	ATM-TP53, ATM, 11q22.3, TP53, 17p13.1	Fluorescent in situ Hybridization	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)	ETV6-RUNX1 translocation, q(12.21), TEL-AML1, ETV6, 12p13, RUNX1, 21q22	Fluorescent in situ Hybridization	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)	13q-, del 13, -13, RB1, 13q14.2, LAMP1, 13q34	Fluorescent in situ Hybridization	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)	translocation (11;14), q(11.34), Mantle cell lymphoma FISH, MCL FISH, CCND1, cyclin D1, 11q13, IGH, 14q32.3	Fluorescent in situ Hybridization	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 (DRZ2-MYC)	8 centromere, -8, DRZ2, 8p11.1-q11.1, MYC single color, 8q24	Fluorescent in situ Hybridization	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 MYC - DZ2	NMYC amp, NMYC, neuroblastoma, MYCN, 2p24.1, 2 centromere, 2p11.1-q11.1	Fluorescent in situ Hybridization	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)	NUP98 rearrangement, nucleophosin 98, NUP98, 11p15.4	Fluorescent in situ Hybridization	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 (P2R8)	P2R8 rearrangement, P2R8, P2Y receptor, parainfectin 8, P2R8, Xp22.33-Yp11.32	Fluorescent in situ Hybridization	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 (PBI1-TCF3)	PBI1-TCF3 translocation, t(1;19), pre-B-cell leukemia transcription factor 1, PBI1, 1q23, transcription factor 3, TCF3, 19p13.3	Fluorescent in situ Hybridization	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)	PDGFRB rearrangement, platelet derived growth factor beta, PDGFRB, 5q32	Fluorescent in situ Hybridization	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)	t(15;17), PML-RARA, APL FISH, promyelocytic leukemia, PML, 15q24, retinoic acid receptor alpha, RARA, 17q21	Fluorescent in situ Hybridization	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)	RARA rearrangement, retinoic acid receptor alpha, RARA, 17q21	Fluorescent in situ Hybridization	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)	RUNX1 rearrangement, runt-related transcription factor 1, AML1, acute myeloid leukemia marker 1, RUNX1, 21q22.2	Fluorescent in situ Hybridization	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 8p11.3-21q22 (RUNX1T1-RUNX1)	RUNX1T1-RUNX1 translocation, t(8;21), ETO-AML1, ETO, eight-twenty-one, RUNX1T1, 8q21.3, runt-related transcription factor 1, RUNX1, 21q22	Fluorescent in situ Hybridization	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-PDGFRB-KIT)	PDGFRB rearrangement, 4q incisor, CHIC2, placlet derived growth factor alpha, SCFD2-LNX-PDGFRB, 4q12	Fluorescent in situ Hybridization	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)	TCL1 rearrangement, inv(14), T-cell leukemia/lymphoma protein 1, TCL1, 14q32	Fluorescent in situ Hybridization	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)	TRB rearrangement, TCRCB, T-cell receptor beta, TRB, 7q34	Fluorescent in situ Hybridization	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, opposite sex BMT FISH, X centromere, Xp11.1-q11.1, Yq-12q12	Fluorescent in situ Hybridization	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 (DZ1-CUX1-CU1)	7q-, 7, centromere, DZ1, 7p11.1-q11.1, CUX1, cut like homeobox 1, CUP, CUX1, 7q22, CUX1, cutline 1, 7q36	Fluorescent in situ Hybridization	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)	ALK rearrangement, anaplastic lymphoma kinase, ALK, 2p23	Fluorescent in situ Hybridization	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)	BCL3 rearrangement, B-cell leukemia-lymphoma 3, BCL3, 19q13	Fluorescent in situ Hybridization	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)	BCR-ABL1, t(9;22), Philadelphia chromosome, Phi- FISH, Abelson 1, ABL1, 9q34, breakpoint cluster region, BCR, 22q11.2	Fluorescent in situ Hybridization	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)	BIRC3-MALT1 translocation, t(11;18), AP2-MLT, baculoviral IAP repeat containing 3, BIRC3, 11q21, mucosa-associated lymphoid tissue lymphoma translocation protein 1, MALT1, 18q21	Fluorescent in situ Hybridization	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)	CBFB, core binding factor beta rearrangement, inv(16), t(16;16), 16q22	Fluorescent in situ Hybridization	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)	CBFB-MYH11, inv(16), t(16;16), inverted 16, translocation 16;16, myosin heavy chain 11, MYH11, 16p13, core binding factor, CBFB, 16q22	Fluorescent in situ Hybridization	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 (DZ1-DYZ1)	4 centromere, CEP4, 4 cen, +4, 4p11-q11, 10 centromere, CEP10, 10 cen, +10, 10p11.1-q11.1	Fluorescent in situ Hybridization	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)	CRLF2 rearrangement, cytokine receptor like factor 2, CRLF2, Xp22.33-Yp11.32	Fluorescent in situ Hybridization	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CG 6p22-9q24 (DEK-NUP214)	DEK-NUP214 translocation, DEK, 6p22.3, nucleophosin 214, NUP214, 9q24	Fluorescent in situ Hybridization	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-DSS2-DSS72)	5p-, 5q-, +5, DSS2-DSS72, 5p15.2, EGR1, early growth response 1, 5q11	Fluorescent in situ Hybridization	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)	ETV6 rearrangement, ETV6 variant transcription factor 6, TEL, ETV6, 12p13	Fluorescent in situ Hybridization	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)	EWSR1 rearrangement, Ewing's sarcoma, EWS, EWS-FLI1, EWSR1, 22q12	Fluorescent in situ Hybridization	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-DKZ1)	FGFR1 rearrangement, fibroblast growth factor receptor 1, FGFR1, 8p11.2, 8 centromere, 8p11.1-q11.1	Fluorescent in situ Hybridization	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)	FOXO1 rearrangement, FKHR, Foxhead box O, alveolar rhabdomyosarcoma, 13q14	Fluorescent in situ Hybridization	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)	IGH rearrangement, immunoglobulin heavy locus, IGH, 14q32.3	Fluorescent in situ Hybridization	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-CND3)	IGH-CND3 translocation, t(6;14), IGH, 14q32.3, CND3, cyclin D1, 6p21	Fluorescent in situ Hybridization	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)	IGH-BCL2 translocation, t(14;18), IGH, 14q32.3, B-cell leukemia/lymphoma 2, BCL2, 18q21.3	Fluorescent in situ Hybridization	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-FGR3)	IGH-FGR3 translocation, t(4;14), IGH, 14q32.3, FGR3, fibroblast growth factor 3, 4p16	Fluorescent in situ Hybridization	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)	IGH-MAF translocation, t(14;16), IGH, 14q32.3, muscibuphosphorote fibrosarcoma, Maf, c-MAF, 16q23	Fluorescent in situ Hybridization	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)	IGH-MAFB translocation, t(14;20), IGH, 14q32.3, leucine zipper transcription factor beta, MAFB, 20q12	Fluorescent in situ Hybridization	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/DKZ2)	IGH-MYC translocation, t(8;14), Burkitt lymphoma FISH, IGH, 14q32.3, MYC, 8q24, 8 centromere, 8p11.1-q11.1	Fluorescent in situ Hybridization	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)	IGK rearrangement, Immunoglobulin kappa, IGK, 2p11.2	Fluorescent in situ Hybridization	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)	JAK2 rearrangement, JTK10, Janus kinase 2, JAK2, 9p24	Fluorescent in situ Hybridization	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)	KMT2A rearrangement, MLL, mixed lineage leukemia, lysine methyltransferase 2A, KMT2A, 11q23	Fluorescent in situ Hybridization	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)	MECOM rearrangement, EVI1, MDS1 and EVI1 complex locus, MECOM, 3q26.2	Fluorescent in situ Hybridization	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
Pediatric MDS FISH Panel	Panel Components: DSS23-DSS721 CSF1R, 5p15.2 / 5q33-34, DZ1-D75486, 7 centromere / 7q31, DKZ2 - 8 centromere	Fluorescent in situ Hybridization (FISH)	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
Pediatric MDS w/ EGRI FISH Panel	Panel Components: DSS23-DSS721 EGRI, 5p15.2 / 5q1, DZ1-D75486, 7 centromere / 7q31, DKZ2 - 8 centromere	Fluorescent in situ Hybridization (FISH)	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
MDS w/ EGRI FISH Panel	Panel Components: DSS23-DSS721 EGRI, 5p15.2 / 5q1, DZ1-D75486, 7 centromere / 7q31, DKZ2-D208108, 8 centromere / 20q12	Fluorescent in situ Hybridization (FISH)	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A

MPD FISH Panel	Panel Components: PDGFRB bs, 4q12 PDGFRB bs, 5q22 FGFR1 bs, 8p12 JAK2 bs, 9p24 BCR/ABL1, 22q11.2q9q34	Fluorescent in situ Hybridization (FISH)	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
CLL Extended FISH Panel	Panel Components: ATM, 11q22.3 TP53, 17p13.1 D12Z3, 12 centromere D18S18, 14q14.3 MYC bs, 8q24 CDKN2A, 9p21	Fluorescent in situ Hybridization (FISH)	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
Myeloma IGH Reflex FISH Panel	Panel Components: IGH/FR3, 14q32.3q16 IGH/MAF, 14q32.3/q23 IGH/MAFB, 14q32.3/q212	Fluorescent in situ Hybridization (FISH)	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
Eosinophil AEL-CEL FISH Panel	Panel Components: PDGFRB bs, 4q12 PDGFRB bs, 5q22 FGFR1 bs, 8p12 ETV6 bs, 12p13	Fluorescent in situ Hybridization (FISH)	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
NHL B-Cell FISH Panel	Panel Components: BCL6 bs, 3q27 MYC bs, 8q24 IGH/BC12, 14q32.3/18q21	Fluorescent in situ Hybridization (FISH)	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
NHL T-Cell FISH Panel	Panel Components: TDB bs, 9q24 TCL1 bs, 14q32.1/32.2	Fluorescent in situ Hybridization (FISH)	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
ALL FISH Panel	Panel Components: 4 centromere 10 centromere BCR/ABL1, 22q11.2q9q34 KMT2A bs, 11q23 ETV6/BLNK1, 12p12/12q22	Fluorescent in situ Hybridization (FISH)	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
AML FISH Panel	Panel Components: MECOM bs, 3q26 RUNX1/RUNX1, 8q21.3/21q22 KMT2A bs, 11q23 PML/RARA, 15q24/17q21 CBFB bs, 16q22 TP53/CEP 17, 17p13.1/17 centromere	Fluorescent in situ Hybridization (FISH)	N/A	%	See report or contact lab at 614-293-9898 for current reference range	N/A	N/A	N/A	N/A
17p13.1, 17p11.1-q11.1 (TP53-D17Z1)	TP53, nmor protein 53, del(17p-17, 17p13.1), CEP17, 17 centromere, 17p11.1-17q11.1, D17Z1	Fluorescent in situ Hybridization (FISH)	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	Bacter/Bruker Dahnolics 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
Actinomycetes 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
Anaerobic ID	Anaerobic Identification	Culture	Bruker Dahnolics MicroFlex	N/A	N/A	N/A	N/A	N/A	N/A
Anaerobic Culture	Anaerobic Culture	Culture; Susceptibility testing performed based on established lab guidelines	Bruker Dahnolics 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 Detected / Detected
Autoclave Spore Check	Autoclave Spore Check Assay	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	Negative, Positive
Beta Strep, Vaginal Screen	Group B Streptococcus Testing by PCR	Concentration in LHM 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 LHM 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	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 Dahnolics 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 Dahnolics 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 Virmo/Bruker Dahnolics 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 Dahnolics MicroFlex, BioMerieux Virmo, Vitek	N/A	No growth	N/A	N/A	N/A	N/A
Blood Product Protocol	N/A	Culture	BioMerieux Virmo	N/A	Negative	Growth	N/A	N/A	N/A
Blood, Transfusion Reaction	Transfusion Reaction, Blood Product Culture	Culture	BioMerieux Virmo	N/A	Negative	Growth	N/A	N/A	N/A
BMT/CDP	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 Dahnolics 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 2 Step	N/A	Rapid membrane enzyme immunoassay	Techlab	N/A	Negative	N/A	Package insert	N/A	Negative / Positive
Candida auris Screen by PCR	Candida auris Screen	Real-Time PCR	DiaSorin	N/A	Not Detected	Detected	PI Literature	N/A	Not Detected / Detected
CAFD Fluid Bacterial Culture	N/A	Culture; Susceptibility testing performed based on established lab guidelines	Vitek/Bruker Dahnolics 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 Dahnolics 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 NAAAT Testing	TMA - transcription-mediated amplification	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 Dahnolics 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/line	N/A	N/A	N/A
H. Pylori Urea Breath Test	UBT for H. pylori; BreathID	Infrared Spectrophotometry	Meridian BreathID Smart	N/A	Cut-off value is 5 for adults 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 (log IU/mL)	<10 (<1.00)	N/A	Validation/ Package Insert	10-1,000,000,000 (1.00-9.00)	10-1,000,000,000 (1.00-9.00)
Hepatitis C by PCR, Quant	HCV Viral Load	Real-Time PCR	Abbott	IU/mL (log IU/mL)	<12 (<1.08)	N/A	Validation/ Package Insert	12-100,000,000 (1.08-8.00)	12-100,000,000 (1.08-8.00)
HBV Viral Load RNA PCR Quant	HBV Viral Load	Real-Time PCR	Abbott	copies/mL (log copies/mL)	<40 (<1.60)	N/A	Validation/ Package Insert	40-10,000,000 (1.60-7.00)	40-10,000,000 (1.60-7.00)
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	Influenza A Only: Detected, Indeterminate, Not Detected

Influenza A/B Rapid Molecular	Rapid Flu	Isothermal Nucleic Acid Amplification	Abbot	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	IM Integrated Cycler	N/A	Not Detected	N/A	Validation	N/A	Detected / Not Detected
Lactoferrin, Qualitative, Stool	Fecal Leukocytes, Stool for WBC	Immunochromatographic	Alere LEI/EO EZ VLE	N/A	Negative	N/A	Package Insert	N/A	Negative / Positive
Legionella Culture	N/A	Culture	Bruker Dalonics MicroFlex	N/A	Collect time is required for each specimen submission.	N/A	N/A	N/A	N/A
Legionella Envision	Environmental Culture for Legionella	Culture	Bruker Dalonics 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 Dalonics MicroFlex	N/A	normal flora	N/A	N/A	N/A	N/A
M Tuberculosis Complex by PCR	TB PCR, M.Tb, M. tuberculosis	Real-Time PCR	GeneXpert	N/A	Not Detected	Detected	Package Insert / Reference Materials	N/A	Not Detected / Detected
Macronucleic: 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	OKP	Real-Time PCR	BD MAX	N/A	Negative	N/A	Package insert; Microbiology Reference material	N/A	Negative / Positive
Neisseria-gonorrhoeae Screen	QC 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	Culture	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Yeast Identification	Culture	Bruker Dalonics MicroFlex	N/A	N/A	N/A	N/A	N/A	N/A
Outside: Microbiological ID	Mycobacterium Identification	Culture	Bruker Dalonics MicroFlex	N/A	Negative	N/A	N/A	N/A	N/A
	Plasmodium Exam	Microscopic exams	N/A	N/A	Negative	N/A	N/A	N/A	N/A
Plasmodium/Aeromonas Screen, Stool	Aeromonas / Plasmodium Screen	Culture	Vitek/Bruker Dalonics MicroFlex	N/A	Negative	N/A	N/A	N/A	N/A
POC1 Chlamydia trachomatis and Neisseria gonorrhoeae (CTNG)	bix io GC and Chlamydia	PCR	Bix 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 Dalonics 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	AE 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)	Abbott 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, Step A	Molecular in vitro diagnostic test utilizing isothermal nucleic acid amplification	Abbot	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	Rapid COVID	Isothermal Nucleic Acid Amplification	Abbot	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	DiSorin	N/A	Not Detected	N/A	N/A	N/A	Detected / Not Detected
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 Dalonics MicroFlex	N/A	Negative	N/A	N/A	N/A	N/A
Screen: MRSA: Babi	NIIC/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 Dalonics 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 Dalonics MicroFlex	N/A	N/A	N/A	N/A	N/A	N/A
Upper Respiratory Culture, Bacterial	Throat Culture, RESN	Culture	Bruker Dalonics 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
Varicella Zoster By PCR, Skin	VZV/PCR	Real Time PCR	DiSorin	N/A	Not Detected	N/A	Package Insert / Literature	N/A	Detected / Not Detected
ABO / Rh(D) Typing	Blood Type, ABORH	Agglutination	Manual: N/A Automated: Orho	N/A	N/A	A, B, O, or AB and Rh positive or Rh Negative	N/A	N/A	N/A
ABORH Type Confirmation	Confirmatory Type	Agglutination	Manual: N/A Automated: Orho	N/A	N/A	A, B, O, or AB and Rh positive or Rh negative	N/A	N/A	N/A
ABORH Not Valid for Transfusion	Blood Type, ABOD	Agglutination	Manual: N/A Automated: Orho	N/A	N/A	A, B, O, or AB and Rh positive or Rh negative	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: Orho	N/A	Negative / Positive	N/A	N/A	N/A	N/A
Antibody Titer (LAB275)	ABTTT	Agglutination	N/A	N/A	Reciprocal of serial dilution	N/A	Allotransfusion 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
Autohemolysis, 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, Hechtick 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: Orho	N/A	A, B, O, or AB and Rh positive or Rh Negative	N/A	N/A	N/A	N/A
Elate	Elate, 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
RHD/C Evaluation	RhD/C 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: Orho	N/A	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
Type and Screen-Not for Transfusion	N/A	Agglutination	Manual: N/A Automated: Orho	N/A	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
Type and Screen - Preadmission	N/A	Agglutination	Manual: N/A Automated: Orho	N/A	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
AFP Tumor Marker	APFTMR, AFP	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	ng/mL	<8.1	N/A	Siemens AFP Package Insert 10995310, EN Rev. 03, 2020-02	2.2-1,000.0	2.2-1,000,000.0
Aldosterone	ALDOS	Chemiluminescent Immunoassay	DiaSorin Liaison XL	ng/dL	Urealyt (serum) <29.20 Serpine (serum)-23.20 Urealyt (EDTA)-35.30 Serpine (EDTA) <23.60	N/A	Package insert	4.00-100.00	4.00-5,000.00
ANA Multiplex Screen	N/A	Multiplex flow immunoassay	Beplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
ANA Multiplex Sera With Reflex	N/A	Multiplex flow immunoassay	Beplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
ANA Screen IFA	ANAB	Indirect Immunofluorescence Antibody	Werfer/ Inova	N/A	Negative	N/A	INOVA IFU 2018 Revision 7	N/A	Negative / Positive
ANA Titer	N/A	Indirect Immunofluorescence Antibody	Werfer/ 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, aTPO	Chemiluminescent Immunoassay	Siemens Atellica IM	I.U/mL	<60.0	N/A	Siemens Anti-Thyroid Peroxidase Package Insert 10995250, EN Rev. 02, 2019-07	28.0-1,300.0	28.0-130,000.0
Anti Mitochondrial Antibody	AMA	Indirect Fluorescent Antibody	Werfer/ 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	Werfer/ 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	Werfer/ 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	Werfer/ 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 J AB	Anti-PR3	Multiplex ImmunoFlow Assay	Beplex 2200	N/A	Negative is Normal	N/A	Instructions for use manual	N/A	Negative / Positive
Anti-Scleroderma Ab (Scl70)	SCL70	Multiplex flow immunoassay	Beplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
Anti Immune Abs, Multiplex	IBP/AB	Multiplex flow immunoassay	Beplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
Beta 2 Microglobulin Serum	B2M	Turbidimetry	The Binding Site Optite	mg/L	0.80-2.34	N/A	Package insert (Insert Code: BSM&L-DPT-A, Version: 09b, August 2018)	0.30-20.00	0.30-40.00

BKR Free Testosterone	N/A	Calculation	Siemens Atellica IM	TESTT = ng/dL	Male TESTT = 2.29-20.70 Female TESTT = 0.60-1.08	N/A	Siemens Atellica IM Reference Interval Verification Study 2021	N/A	N/A
Calcitonin	CALCT, CALCT	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	pg/mL	Male: <13.38 Female: <8.93	N/A	Siemens Calcitonin Package Insert RPR1193R01 EN Rev. 01, 2019/04	1.89-1,800.00	1.89-180,000.00
Centromere B Antibody	CENT	Multiple flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
Chromatin Antibody	N/A	Multiple flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
CMV IgG Ab	CMVG	Chemiluminescent immunoassay (CLIA)	DiAsorin Liaison XL	U/mL	Negative is Normal	N/A	Package insert	N/A	Negative / Indeterminate / Positive
CMV IgM Ab	CMVM	Chemiluminescent immunoassay (CLIA)	DiAsorin Liaison XL	U/mL	Negative is Normal	N/A	Package insert	N/A	Negative / Indeterminate / Positive
C-Peptide	CPEP, CjS	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	ng/mL	0.81-3.85	N/A	Siemens C-Peptide Package Insert 10997742_EN Rev. 03, 2021-06	0.05-25.00	0.05-5,000.00
C-Peptide Tolerance (Part of the Insulin Glucose Tolerance Battery): 5 Minutes	CPASM	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	ng/mL	0.81-3.85	N/A	Siemens C-Peptide Package Insert 10997742_EN Rev. 03, 2021-06	0.05-25.00	0.05-5,000.00
C-Peptide Tolerance (Part of the Insulin Glucose Tolerance Battery): 0 Minutes	CPZER0	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	ng/mL	0.81-3.85	N/A	Siemens C-Peptide Package Insert 10997742_EN Rev. 03, 2021-06	0.05-25.00	0.05-5,000.00
C-Peptide Tolerance (Part of the Insulin Glucose Tolerance Battery): 2 Minutes	CFEP2M	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	ng/mL	0.81-3.85	N/A	Siemens C-Peptide Package Insert 10997742_EN Rev. 03, 2021-06	0.05-25.00	0.05-5,000.00
C-Peptide Tolerance (Part of the Insulin Glucose Tolerance Battery): 5 Minutes	CFEP5M	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	ng/mL	0.81-3.85	N/A	Siemens C-Peptide Package Insert 10997742_EN Rev. 03, 2021-06	0.05-25.00	0.05-5,000.00
C-Peptide Tolerance (Part of the Insulin Glucose Tolerance Battery): 10 Minutes	CF10M	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	ng/mL	0.81-3.85	N/A	Siemens C-Peptide Package Insert 10997742_EN Rev. 03, 2021-06	0.05-25.00	0.05-5,000.00
C-Peptide Tolerance (Part of the Insulin Glucose Tolerance Battery): 30 Minutes	CF30M	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	ng/mL	0.81-3.85	N/A	Siemens C-Peptide Package Insert 10997742_EN Rev. 03, 2021-06	0.05-25.00	0.05-5,000.00
Cryptosporal Antigen	CRAG	Lateral Flow Assay	Immuno-Mycologics Inc.	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
Cryptosporal Antigen, CSF	CFRAG	Lateral Flow Assay	Immuno-Mycologics Inc.	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
DHEA-Sulfate	DHEAS, DHEAS	Chemiluminescent Immunoassay	Siemens Atellica IM	ng/dL	Female: 25.90-460.20 Male: 34.50-568.90	N/A	Siemens DHEA-S Package Insert 1200382_EN Rev. 06, 2021-03	3.00-1,500.00	3.00-3,000.00
DS DNA Ab, Quant	N/A	Multiple flow immunoassay	Bioplex 2200	IU/mL	Negative: <4 Indeterminate: 5-9 Positive: >10	N/A	Package insert	1-300	1,30,000
dDNA Antibody	N/A	Multiple flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Indeterminate / Positive
EBV VCA IgG Ab	EBVG	Multiple flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert	N/A	Negative / Indeterminate / Positive
EBV VCA IgM Ab	EBVM	Multiple flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert	N/A	Negative / Indeterminate / Positive
ENA Battery	ENAB	Multiple flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
ISSA, SSI, Sm, RNP	N/A	Photometric	HemoCue	mg/dL	<5.0	N/A	HemoCue Operating Manual	30.0-2,100.0	30.0-Dilute to endpoint
Free Hemoglobin, Plasma	N/A	Photometric	HemoCue	mg/dL	<5.0	N/A	Operators Manual	30.0-2,100.0	30.0-Dilute to endpoint
GFPD, Qualitative	GFPD	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
GIBM IgG Ab Panel	N/A	Multiple Flow Immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Bio-Rad IU Vasculitis Revision 665-0516E	N/A	Negative / Positive
Growth Hormone	GRHR	CLIA	DiAsorin Liaison XL	ng/mL	Female: <6.88 Male: <1.23	N/A	Package insert [LIAISON® IGH (IREF) 310340], EN - 2001057-01A, 06, 2016-10]	0.05-160.00	0.05-160.00
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	ng/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	Absorbed HGB Detection, HEPB	HPLC	Variant II	%	Hemoglobin A: >95.0 Hemoglobin A2: 2.1-3.1 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)	HAADG	Competitive Direct Chemiluminescent Immunoassay	Siemens Atellica IM	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
Hep B Core Ab, Total (IgG+IgM)	HBCBG	2-Step Antigen Sandwich Immunoassay	Siemens Atellica IM	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
Hep B Surf Ab Neutralization	HBBAGN	Specific Neutralization	Siemens Atellica IM	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
Hepatitis A IgM Ab	HAADM	2-Step IgM Capture Immunoassay	Siemens Atellica IM	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 Atellica IM	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
Hepatitis B Surface Antibody	HBSAB	Sandwich Direct Chemiluminescent Immunoassay	Siemens Atellica IM	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
Hepatitis B Surface Antibody	HBSAG	Sandwich Direct Chemiluminescent Immunoassay	Siemens Atellica IM	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
Hepatitis B Antibody	HBBB	Chemiluminescent Immunoassay	DiAsorin Liaison XL	N/A	Nonreactive is Normal	N/A	Package Insert	N/A	Nonreactive / Reactive
Hepatitis C Antibody	HCCB	Sandwich 2-Step Immunoassay	Siemens Atellica IM	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
Hepatitis C Antibody	HCCAB	Indirect Sandwich Immunoassay	Siemens Atellica IM	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
HIV 1 and 2 Antibodies	HIV	Sandwich 2-Step Immunoassay	Siemens Atellica IM	N/A	Nonreactive is Normal	N/A	Package Insert	N/A	Nonreactive / Reactive
HIV-1/HIV-2 Differentiation	HIV1/2c	Immunochemotransorbic Assay	Bio-Rad Genie	N/A	Nonreactive is Normal	N/A	Package Insert	N/A	Nonreactive / Reactive
HPV, High Risk, DNA	High Risk HPV with Genotyping	PCR	Roche Cobas s 480	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
HSV 1 And 2 IgG Antibody	HSV1/2	Multiple flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Textbooks: HSV-1&2 IgG procedure, Package Insert	N/A	Negative / Indeterminate / Positive
HSV IgM Antibody	HSVIM	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 and serum total protein	Capillary Electrophoresis	Sebu Capillary 3	N/A	N/A	N/A	Package Insert	N/A	N/A
Immunoglobulin IgE	IgE, Total	3-site Sandwich Direct Chemiluminescent Immunoassay	Siemens Atellica IM	IU/mL	<165.3	N/A	Reference Range Study 11.3.2016	2.5-3000.0	2.5-3000.0
Insulin	IRI	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	uIU/mL	3.0-25.0	N/A	Siemens Insulin Package Insert 10997752_EN Rev. 05, 2021-06	0.5-300.0	0.5-1,500.0
Insulin Tolerance (Part of the Insulin Glucose Tolerance Battery): 5 Minutes	INSUL1	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	uIU/mL	3.0-25.0	N/A	Siemens Insulin Package Insert 10997752_EN Rev. 05, 2021-06	0.5-300.0	0.5-1,500.0
Insulin Tolerance (Part of the Insulin Glucose Tolerance Battery): 0 Minutes	INSUL2	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	uIU/mL	3.0-25.0	N/A	Siemens Insulin Package Insert 10997752_EN Rev. 05, 2021-06	0.5-300.0	0.5-1,500.0
Insulin Tolerance (Part of the Insulin Glucose Tolerance Battery): 2 Minutes	INSUL3	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	uIU/mL	3.0-25.0	N/A	Siemens Insulin Package Insert 10997752_EN Rev. 05, 2021-06	0.5-300.0	0.5-1,500.0
Insulin Tolerance (Part of the Insulin Glucose Tolerance Battery): 5 Minutes	INSUL4	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	uIU/mL	3.0-25.0	N/A	Siemens Insulin Package Insert 10997752_EN Rev. 05, 2021-06	0.5-300.0	0.5-1,500.0
Insulin Tolerance (Part of the Insulin Glucose Tolerance Battery): 10 Minutes	INSUL5	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	uIU/mL	3.0-25.0	N/A	Siemens Insulin Package Insert 10997752_EN Rev. 05, 2021-06	0.5-300.0	0.5-1,500.0
Insulin Tolerance (Part of the Insulin Glucose Tolerance Battery): 30 Minutes	INSUL6	Two-Site Sandwich Immunoassay Chemiluminescent	Siemens Atellica IM	uIU/mL	3.0-25.0	N/A	Siemens Insulin Package Insert 10997752_EN Rev. 05, 2021-06	0.5-300.0	0.5-1,500.0
Insulin-like Growth Factor 1	Somatostatin C, IGF1	One-step sandwich chemiluminescent immunoassay	DiAsorin Liaison XL	ng/mL	Age Dependent	N/A	Package Insert	10.0-1,000.0	10.0-1,000.0
Intact PTH (Intact parathyroid hormone)	Intact PTH, RPTX	Two-site sandwich immunoassay	Siemens Atellica IM	ng/mL	14.0-72.0	N/A	Atellica product insert (PTH) REV. 4, 2020/11	6.3-2,000.00	6.3-160,000.0
IgG Antibody	ANA Screen	Multiple 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 OSI Study	2.6-127.0	0.6-63,500.0
Kappa Lambda Ratio	Immunoglobulin Free Chains	Turbidimetry	The Binding Site OptiLite	N/A	0.4-1.72	N/A	2017 OSI 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 OSI Study	5.2-139.0	1.3-139,000.0
Legionella Serogroup 1 Urinary Antigen	Legionella Urinary Ag	EIA	Biax Kit	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
Lyme Ab	N/A	Chemiluminescent Immunoassay	DiAsorin Liaison XL	N/A	Negative is Normal	N/A	Package Insert	N/A	Negative / Positive
M Tuberculosis By Quantiferon	QFT, M. Tuberculosis Antigen	Direct, sandwich Chemiluminescent immunoassay	DiAsorin Liaison XL	N/A	N/A	N/A	Package Insert	N/A	Negative / Positive / Indeterminate
Monoclonal Prot Immuno, Serum	Serum Monoclonal Protein	Capillary Electrophoresis	Sebu Capillary 3	N/A	Negative is Normal	N/A	Package Insert	N/A	N/A
Mumps IgG Ab, Immune Status	Mumps Ab, IgG	Multiple flow immunoassay	Bioplex 2200	N/A	Positive	N/A	BioPlex200 MMRV IgG Procedure March 2010	N/A	Negative-The absence of detectable IgG class antibodies to mumps, mumps, mumps
Mycoplasma Antibodies	N/A	Multiple 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 and serum total protein	Capillary Electrophoresis	Sebu Capillary 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 Inset	PTH	Two-site sandwich immunoassay	Siemens Atellica IM	ng/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. Cryptosporal Antigens, Blood	N/A	Lateral Flow Assay	Immuno-Mycologics Inc.	N/A	Negative is Normal	N/A	Package Insert	N/A	1.2 - >12560
Quantitative RPR	N/A	Macroscopic non-epitopeal Recalculation	ASI	Nonreactive / Reactive	Nonreactive is Normal	N/A	Package insert	N/A	1:1 - >12048
Renin	Renin, Direct	Chemiluminescent Immunoassay	DiAsorin Liaison XL	pg/mL	Urine: <40.4-2.2-22.2 >40.3-6-81.6 Serum: <41.2-2.3-3.2 >40.2-5-45.1	N/A	Package insert	2.1-300.0	2.1-3,000.0
Ribosomal P Antibody	RIBOP1	Multiple flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
RNP Antibody	RNP1	Multiple flow immunoassay	Bioplex 2200	N/A	Negative is Normal	N/A	Package insert, textbook	N/A	Negative / Positive
RPR	Rapid Plasma Reagin	Macroscopic non-epitopeal Recalculation	ASI	Nonreactive / Reactive	Nonreactive is Normal	N/A	Package insert	N/A	1:1 - >12048

MPL Mutation Analysis	TPOR, CD110, THPOB	Prosequencing	Quagen	%	0	N/A	Validation	2%	5%
MYCF FISH	MYC - FISH	Fluorescent In Situ Hybridization	Biowave	N/A	Negative	N/A	N/A	N/A	Positive/Negative
MYD88 Mutation Analysis, Quant	N/A	Allele-specific digital droplet polymerase chain reaction (AS-dPCR)	BioRad	%	<0.1%, Not Detected	N/A	Validation	0-100	Detected/Not detected
Myotonic Dystrophy	DMPK Gene	Polymerase chain reaction, fluorescent capillary fragment analysis	Applied Biosystems GeneAmp PCR System + Genetic Analyzer	Repeats	<34 Negative	N/A	Gene Reviews	5-1500	>51500 Negative; Premutation; Full Mutation
NPM1 Mutation Analysis, Quant	incolophomim, NPM exon 12 mutation	Allele-specific digital droplet polymerase chain reaction (AS-dPCR)	BioRad	%	<0.1%, Not Detected	N/A	Validation	0-100	Detected/Not detected
NRAS Mutation	NRAS codon 12, 13, 61	Prosequencing	Applied Biosystems GeneAmp PCR system + Quagen Pyromark	N/A	Not detected	N/A	N/A	0-100	Detected/Not detected
NTRK Fusion Panel	NTRK1, NTRK2, NTRK3	Next generation sequencing	N/A	N/A	Not Detected	N/A	Validation	N/A	Detected/Not detected
FISH, NUTM1 Rearrangement	NUT1, Midline Carcinoma	Fluorescent In Situ Hybridization	Biowave	N/A	Negative	N/A	N/A	N/A	Positive/Negative
Oral Rinse Sample (Molecular)	NGS normal, molecular normal, comprehensive genome panel	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pancreatic Fluid, Mutation Analysis, Report	cyst fluid mutation analysis	Next Generation Sequencing	Ion GeneStudio	N/A	Not Detected	N/A	N/A	0-100	Detected, Not Detected
Prothrombin A2028G Mutation	G20210A, Prothrombin Mutation	Fluorescent capillary fragment analysis, restriction fragment length polymorphism	Applied Biosystems GeneAmp PCR system + Genetic Analyzer	N/A	Not detected	N/A	Gene Reviews	N/A	Not Detected, Heterozygous positive, Homozygous positive
PML-RARA, APL, Quant PCR	15:17, PML, APL, retinoic acid	Real-time PCR	ABI Fast 7500	NCN = % PML-RARA/ABL1	0.001 Diagnostic (0.001 MRD)	N/A	Blood samples with no history of AML-M3	NCN > 1	Not Detected, DETECTED, long form transcript, DETECTED, short form transcript
RET Rearrangement	RET FISH - FISH	Fluorescent In Situ Hybridization	Biowave	N/A	Negative	N/A	N/A	N/A	Positive/Negative
ROSL Rearrangement	ROSL - FISH	Fluorescent In Situ Hybridization	Biowave	N/A	Negative	N/A	N/A	N/A	Positive/Negative
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	Not Detected	N/A	Gene Reviews	N/A	Detected/Not detected
Spinal Musc Atrophy Dosage-Carrier Study	SMA Carrier test, SMA compound heterozygote testing, SMN1 gene	Allele-specific digital droplet polymerase chain reaction (AS-dPCR)	Biorad	N/A	SMN1: 2-5 copies SMN2: 0-5 copies SMN CIS: Not detected	N/A	Gene Reviews	SMN1/SMN2: 0.5 copies SMN CIS: 0-5 copies	SMN1/SMN2: 0.5 copies SMN CIS: Detected/Not Detected
Spinal Muscular Atrophy - Diagnostic	Werdnig-Hoffman, Kugelberg-Welander, SMN1 gene	Allele-specific digital droplet polymerase chain reaction (AS-dPCR)	Biorad	N/A	SMN1: 2-5 copies SMN2: 0-5 copies	N/A	Gene Reviews	SMN1/SMN2: 0-5 copies	SMN1/SMN2: 0-5 copies
Tumor Hotspot Mutation Panel	Solid Tumor Mutation Panel (Cancer Hotspot)	Next Generation Sequencing	Ion Torrent S5	N/A	Not Detected	N/A	N/A	0-100	Detected/Not detected
FISH, SSH (SY1) Rearrangement, Sign-out	SYT-FISH, SS18-FISH	Fluorescent In Situ Hybridization	Biowave	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	Polyclonal pattern	N/A	N/A	N/A	Polyclonal pattern, Predominantly polyclonal pattern with minimal skewing, Monoclonal/Monoclonal on polyclonal background, oligoclonal with dominant peaks, Oligoclonal with multiple peaks, Bifurcated, Low clonal on polyclonal background, low levels of amplification seen with adequate controls, Low levels of amplification seen with suboptimal controls, No amplification, Poor quality or limited nucleic acid
UBA1 M41T Mutation Detection	UBE1, UBE1X, POC20, CFAP124, AIS9T	Allele-specific digital droplet polymerase chain reaction (AS-dPCR)	BioRad	%	<0.1%, Not Detected	N/A	Validation	0-100	Detected/Not detected
FBIH, XY, Sign-out	XY FISH - FISH	Fluorescent In Situ Hybridization	Biowave	N/A	Negative	N/A	N/A	N/A	Positive/Negative
CD46	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD47	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
AlphaBeta	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD3	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD37a	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD10	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD103	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD107a	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD107b	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD117	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD11b	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD11c	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD123	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD127	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD13	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD134	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD138	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD14	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD15	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD155b	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD159a	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD16	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD16+CD56+CD3+CD17-	Flow Cytometry	Navios Flow Cytometer	% / ABS	53.23.0%	1,619 ABS/mm ³	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16+CD56+CD3+CD17+	Flow Cytometry	Navios Flow Cytometer	% / ABS	57.2.82.8%	570,249 ABS/mm ³	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16+CD56+CD3+CD17-	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+CD17+	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+CD17-	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+CD17+	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+CD17-	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+CD17+	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+CD17-	Flow Cytometry	Navios Flow Cytometer	% / ABS	0.0-1.0%	0.36 ABS/mm ³	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD16+CD56+CD3+CD17+	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+CD17-	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+CD17+	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+CD17-	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	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD19	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD19	Flow Cytometry	Navios Flow Cytometer	% / absolute	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+CD8-	Flow Cytometry	Navios Flow Cytometer	% / ABS	3.6-20.3%	0.557 ABS/mm ³	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD19+CD8+CD86-	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+CD8+	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+CD8+CD86+	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-	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+CD8+	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	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD194	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD2	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD2	Flow Cytometry	Navios Flow Cytometer	% / absolute	70.0-92.0%	81,324 ABS/mm ³	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD20	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD20	Flow Cytometry	Navios Flow Cytometer	% / absolute	2.0-21.0%	17,750 ABS/mm ³	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD22	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD23	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD25	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD25	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD26	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD27	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD28	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD29	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD294	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	N/A	0.0-100.0%
CD3	Flow Cytometry	Navios Flow Cytometer	% / absolute	59.0-92.0%	490,234 ABS/mm ³	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3	Flow Cytometry	Navios Flow Cytometer	% / absolute	59.0-92.0%	490,234 ABS/mm ³	N/A	OSU Flow Lab established	N/A	0.0-100.0%
CD3	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+CD56+CD63+	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+CD56+CD69+	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%

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%	N/A	N/A	N/A	0.0-100.0%
CD8+CD3+	T Suppressor	Flow Cytometry	Navios Flow Cytometer	%	91.1428 ABS/mm ³	N/A	N/A	N/A	0.0-100.0%
CD8+CD3+	T Suppressor	Flow Cytometry	Navios Flow Cytometer	%/absolute	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% 0.341 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%
CD139	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
CD139	N/A	Flow Cytometry	Navios Flow Cytometer	%	N/A	N/A	N/A	N/A	0.0-100.0%
SARS-CoV-2 Nucleocapsid (N) Protein Antibody	SARS-CoV-2, COVID-19 IgG(N)	ELISA	Eptope Diagnostic (KIT) "DSX" (Plate Reader)	Detected / Not Detected	Not Detected	N/A	N/A	N/A	Detected / Not Detected
FM7	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%
uIgT	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	%	0.80.5.29%	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	%	1.12.8.03%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb16	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.40.1.60%	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	%	0.58.5.21%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb19	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	4.03.22.48%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb20	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.00.0.73%	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	%	1.90.9.89%	N/A	Beckman Coulter-verified	N/A	0.00-100.00%
Vb23	TCR VbETA	Flow Cytometry	Navios Flow Cytometer	%	0.28.4.76%	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	%	0.76.3.36%	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%