Scripps Medical Laboratory, Sorrento Mesa CLIA# 05D1071362
9535 Waples Street, Ste. 150 San Diego, CA 92121 CLIA Director: Michael M. Quigley, MD

CHEMISTRY TESTS

Basic Metabolic Panel (BMP) – Na, K, Cl, CO2, Ca, ECREA, Glucose, BUN, (Calculated - GFR, Osmolality)
Comprehensive Metabolic Panel (CMPN) – BMP plus ALPI, TBIL, AST, ALTI, Total Protein, (Calculated - GFR, Anion Gap, Osmolality)
Hepatic Function Panel/Liver Function Tests (HPF/LFT) – Albumin, ALPI, TBIL, DBIL, AST, ALTI, Total Protein
Lipid Panel (LPC) – Chol, Trig, HDL, LDL (calculated). LDL Direct performed when requested.
Renal Function Panel (RFP) – BMP plus Albumin, Phosphorous (Calculated - GFR, Osmolality)

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE	CRITICAL VALUE
Sodium (Na)	136 – 146 mmol/L	Adults <120 or > 160 mmol/L Newborn (< = 28 days) 150 mmol/L	**Alkaline Phosphatase (ALPI)**	Over 19 years 38-126 U/L Ages F M 0-14 days 82-249 82-249 15 days -<1yr 122-473 122-473 1- <10yrs 142-336 142-336 10 - <13yrs 128-420 128-420 13- <15 yrs 55-225 115-471 15- <17 yrs 49-166 81-333 17- <19 yrs 43-86 53-149	
Potassium (K)	3.5 – 5.1 mmol/L	< =2.7 mmol/L > = 6.0 mmol/L 8-28 days: 6.0 mmol/L 0 – 7 days: < 2.8 mmol/L > 7.0 mmol/L	**Total Protein (TP)**	6.3 – 8.2 g/dL	
Chloride (Cl)	98 -107 mmol/L		**Total Bilirubin (TBIL)**	0.1 – 1.2 mg/dL	Newborn < 28 days old
Calcium (Ca)	8.4 - 10.3 mg/dL	< 7.0 > 12.0 mg/dL	**Anion Gap, calculated (AGAP)+**	6-14 mmol/L	
Blood Urea Nitrogen (BUN)	7 – 21 mg/dL		**Osmolality, calculated (OSMOC)+**	280 – 305 mOs/Kg H2O	
Glucose (Glu)	ADA decision limits for fasting glucose: 70-99 mg/dL: Normal 100-125 mg/dL: Impaired >125 mg/dL: Diabetes	< 50 mg/dl > 500 mg/dL Newborn < 28 days < 40 mg/dL > 250 mg/dL	**Glomerular Filtration Rate (GFR)+ Non-African GFR African+**	Any result calculated greater than 60 is reported >60 mL/min/1.73m2 MDRD calculation Not reported for <18 years old	
Carbon dioxide (CO2)	22 – 32 mmol/L	< 10 mmol/L > 40 mmol/L	**Cholesterol (CHOL)**	Risk Factor Guidelines: Desirable < 200 mg/dL Borderline High 200-239 mg/dL High >239 mg/dL	
Albumin (ALB)	3.3 - 5.0 g/dL		**Triglyceride (TRIG)**	Normal < 150 mg/dL Borderline high 150-199 mg/dL High 200-499 mg/dL Very high >499 mg/dL	
Alanine Aminotransferase (ALTI)	F: 13-59 U/L M: 16-63 U/L Ages F M 0- <1 yr 13-41 16-41 1- <13 yrs 13-32 16-32 13- <19 yrs 13-29 16-31		**HDL**	Male 30-70 mg/dL Female 30-85 mg/dL Low risk <40mg/dL High risk >59 mg/dL	
Creatinine (ECREA)	F: 0.5 – 1.0 mg/dl M: 0.7 - 1.3 mg/dl		**LDL, Calculated (LDLC)+** Unable to calculate if Triglyceride is >400 mg/dl. Order LDL, Direct	<130 mg/dL Optimal Above optimal 100-129 mg/dL Borderline high 130-159 mg/dL High 160-189 mg/dL Very high >189 mg/dL	
Aspartate Aminotransferase (AST)	Adults > 19 years 15 – 37 U/L F M 0- 14 days 15-185 15-185 15 days -<1yr 15-73 15-73 1- <7 yrs 15-46 15-46 7- <12 yrs 15-37 15-37 12- <19 yrs 15-25 15-36		**LDL, Direct (LIPD)**	<130 mg/dL Optimal Above optimal 100-129 mg/dL Borderline high 130-159 mg/dL High 160-189 mg/dL Very high >189 mg/dL	

+ During downtime, calculate using the Excel spreadsheet available on https://www.testmenu.com/scripps under Downtime Resources

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CHEMISTRY TESTS

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE	CRITICAL VALUE
Alpha 1 antitrypsin (A1AT)	90 – 200 mg/dL		**Iron**	Males: 65 - 175 mcg/dL Females: 50 - 170 mcg/dL	
Ammonia (AMMO)	11-32 umol/L	Newborn < 28 days old > 100 mcmol/L	**Immunoglobulin A (IGA)**	70 – 400 mg/dL	
Amylase (AMY)	30 – 110 U/L		**Immunoglobulin G (IGG)**	700 – 1600 mg/dL	
Antistreptolysin O (ASO)	0 - 408 IU/mL		**Immunoglobulin M (IGM)**	40 – 230 mg/dL	
Apoliporotein B (APOB)	M: 55-140 mg/dL F: 55 - 125 mg/dL		**Iron Binding Capacity Calculated (TIBC)+**	250-450 mcg/dL	
Beta 2 Microglobulin (BMG)	1.0 - 1.7 mg/L				
Bilirubin, Direct (DBIL)	0.0-0.30 mg/dL	>15 mg/dL	**Iron Saturation, Calculated+**	20-50 %	
Bilirubin, Total (TBIL)	0.1 – 1.2 mg/dL	Newborn < 28 days old	**Lactate Dehydrogenase (LDH)**	M: 87-241 U/L F: 84 -246 U/L	
C-Reactive Protein (CRP)	<10mg/L		**Lactic Acid**	0.4 – 2.0 mmol/L	> = 4.0 mmol/L
C-Reactive Protein, High sensitivity (hsCRP)	<3.0 mg/L CRP-hs results may be used to assign risk as follows: 3.0 mg/L highest tertile, highest risk.		**Lipase (LIPL)**	73 – 393 U/L	
C3 Complement	90 - 180 mg/dL		**Magnesium (MG)**	1.6 – 2.6 mg/dL	< 1.0 mg/dl > 4.0 mg/dL Newborn < 28 days < 1.0 mg/dl > 3.0 mg/dL
C4 Complement	10 - 40 mg/dL		**NT- Pro BNP (PBNP)** ++ Biotin interference: Specimens that contain over 100 ng/ml of biotin demonstrate </= 10% change in results (falsely depressed). Results from patients taking biotin supplements or receiving high-dose biotin therapy should be interpreted with caution due to possible interferences with the result.	<75 years old: <125 pg/mL >75 years old: <450 pg/mL	
Ceruloplasmin (CERU)	15 - 41 mg/dL		**Phosphorus (PHOS)**	2.5 – 4.8 mg/dL	< 1.1 mg/dL
CKMB (MMB)	0.5 – 3.6 ng/mL		**Prealbumin (PREAL)**	20.0 – 40.0 mg/dL	
Creatine Kinase Total (CKI)	F: 26-192 U/L M: 39-308 U/L		**Rheumatoid Factor (RF)**	< 15 IU/mL	
Ferritin (FERR) ++ ++ Biotin interference: Specimens that contain over 500 ng/ml of biotin demonstrate </= 10% change in results (falsely depressed). Results from patients taking biotin supplements or receiving high-dose biotin therapy should be interpreted with caution due to possible interferences with the result.	Males 26.0 – 388.0 ng/mL Females 8.0 – 252.0 ng/mL		**Transferrin (TRF)**	200 - 360 mg/dL	
Folate (FOL) ++ ++ Biotin interference: Specimens that contain over 100 ng/ml of biotin demonstrate less </= to 10% change in results (falsely elevated). Results from patients taking biotin supplements or receiving high-dose biotin therapy should be interpreted with caution due to possible interferences with the result.	3.1-17.5 ng/mL		**Troponin (cTNI) ++** ++ Biotin interference: Specimens that contain over 100 ng/ml of biotin demonstrate less than or equal to 10% change in results (falsely depressed). Results from patients taking biotin supplements or receiving high-dose biotin therapy should be interpreted with caution due to possible interferences with the result.	< 0.046 ng/mL	> = 0.100 ng/mL
Gamma Glutamyl Transferase (GGT)	F: 5-55 U/L M: 15-85 U/L		**Uric Acid (URCA)**	Male 3.5 – 7.2 mg/dL Female 2.6 – 6.0 mg/dL	
Haptoglobin (HAPT)	30 – 200 mg/dL		**Uric Acid Rasburicase study (RASBUR)**	Male 3.5 – 7.2 mg/dL Female 2.6 – 6.0 mg/dL	
Homocysteine (HCY)	<60 years: 5 - 15 umol/L >60 years: 5 - 20 umol/L				

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ENDOCRINOLOGY

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
Anti-Thyroglobulin (aTG)	<61 U/mL	**Intact Parathyroid Hormone (IPTH)**	18.5-88.0 pg/mL Serum values Assay limitations listed in https://www.testmenu.com/scripps
Beta-HCG, quantitative (HCG) This Quantitative hCG assay is not FDA approved for use as a tumor marker	Normal (non-pregnant) 0-5 mIU/mL Gestational Age hCG mIU/mL 0.2–1 week 5–50 1–2 weeks 50–500 2–3 weeks 100–5000 3–4 weeks 500–10000 4–5 weeks 1000– 50000 5–6 weeks 10000– 100,000 6–8 weeks 15000– 200,000 2–3 months 10000– 100,000	**Insulin (INS)**	6 - 27 uIU/mL
Cortisol, Random (COR)	Before 10am (CORTAM) 3.7-19.4 mcg/dL After 4pm (CORTPM) 2.9-17.3 mcg/dL	**Luteinizing Hormone (LH)**	Females: Normally Menstruating Follicular phase 1.9-12.5 mIU/mL Midcycle peak 8.7-76.3 mIU/mL Luteal phase 0.5-16.9 mIU/mL Pregnant <0.1-1.5 mIU/mL Postmenopausal 15.9-54.0 mIU/mL Contraceptives 0.7-5.6 mIU/mL Males: 20-70 yrs 1.5 -9.3 mIU/mL >70 yrs 3.1 – 34.6 mIU/mL Children: <0.1 – 6.0 mIU/mL
Cortisol, AM (COR)	Before 10am (CORTAM) 3.7-19.4 mcg/dL After 4pm (CORTPM) 2.9-17.3 mcg/dL	**Progesterone (PRGE)**	Males: 0.3 – 1.2 ng/mL Females: Luteal Phase 3.3-25.6 ng/mL Mid-Luteal Phase 4.4-28.0 ng/mL Post-Menopausal Females 0.0-0.7 ng/mL Pregnant Females: First Trimester 11.2-90.0 ng/mL Second Trimester 25.6-89.4 ng/mL Third Trimester 48.4-422.5 ng/mL DHEAS used as part of in vitro fertilization (IVF) protocols may cause a falsely elevated progesterone result on the Siemens Advia Centaur. Progesterone level used as a criterion for fresh embryo transfer in patients supplemented with DHEAS should be assessed using an alternate assay such as LCMS chromatography.
Cortisol, PM (COR)	Before 10am (CORTAM) 3.7-19.4 mcg/dL After 4pm (CORTPM) 2.9-17.3 mcg/dL	**Prolactin (PRL)**	Males 2.1 - 17.7 ng/mL Females: Nonpregnant 2.8 - 29.2 ng/mL Pregnant 9.7 - 208.5 ng/mL Postmenopausal 1.8 - 20.3 ng/mL
Cortisol, Baseline (COR)	Baseline: >5.0 mcg/dL	**Sex Hormone Binding Globulin (SBG)**	M: 13 – 71 nmol/L F: 18 -114 nmol/L
Cortisol, Post Cortrosyn (COR) **CS30M** **CS45M** **CS60M**	After Cortrosyn: >17 mcg/dL	**T3, total**	60-181 ng/dL
Cortisol, Post Dex (COR)	<5 mcg/dL	**T4, total**	4.7 – 13.3 mcg/dL Newborn patients < 28 days old have code auto appended: NOTE: Reference range not established for patients less than 29 days old. However, total T4 values in newborns can be significantly higher than the adult range of 4.7-13.3 mcg/dL Critical Value: Newborn < 28 days < 5.0 mcg/dl >20.0 mcg/dl
Cortisol, Post Stimulation (COR)	After Cortrosyn: >18 mcg/dL	**Thyroglobulin (TG)**	0.0 - 55.0 ng/mL
C-Peptide (PEP)	0.9 - 7.1 ng/mL	**Thyroid Stimulating Hormone (TSH) ++**	0.358 – 3.800 uIU/mL Critical Value: Newborn < 28 days < 0.1 uIU/mL > 10.0 uIU/mL ++ Biotin interference: Specimens that contain over 100 ng/ml of biotin demonstrate less than or equal to 10% change in results (falsely depressed). Results from patients taking biotin supplements or receiving high-dose biotin therapy should be interpreted with caution due to possible interferences with the result

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
Dehydroepiandrosterone Sulfate/DHEA Sulfate (DHS)	**Males:** Age: 20 - 29 104 - 457 mcg/dL 30 - 39 76 - 334 mcg/dL 40 - 49 55 - 224 mcg/dL 50 - 59 41 - 178 mcg/dL 60 - 69 30 - 130 mcg/dL >69 0 - 95 mcg/dL **Females:** Age: 20 - 29 38 - 321 mcg/dL 30 - 39 0 - 246 mcg/dL 40 - 49 0 - 188 mcg/dL 50 - 59 0 - 144 mcg/dL 60 - 69 0 - 110 mcg/dL >69 0 - 84 mcg/dL Pediatrics - Reference range not established	**Thyroxine, Free (FT4) ++**	0.76 – 1.46 ng/mL ++ Biotin interference: Specimens that contain over 100 ng/ml of biotin demonstrate less than or equal to 10% change in results (falsely elevated). Results from patients taking biotin supplements or receiving high-dose biotin therapy should be interpreted with caution due to possible interferences with the result.
Estradiol (eE2)	Males <39.0 pg/mL Females: Category/Phase Reference Range (pg/mL) Menstruating Females (by day in cycle relative to LH peak) Follicular (-12 to -4 days) 18.9-246.7 pg/mL Midcycle (-3 to +2 days) 35.5-570.8 pg/mL Luteal (+4 to +12 days) 22.4-256.0 pg/mL Postmenopausal (untreated) Not detectable - 44.5 pg/mL Patients being treated with fulvestrant (Faslodexr) may have falsely elevated estradiol results.	**Triiodothyronine, Free (FT3) ++**	2.18 – 3.98 pg/mL ++ Biotin interference: Specimens that contain over 50 ng/ml of biotin demonstrate less than or equal to 10% change in results (falsely elevated). Results from patients taking biotin supplements or receiving high-dose biotin therapy should be interpreted with caution due to possible interferences with the result.
Follicle Stimulating Hormone (FSH)	Males 1.4 - 18.1 mIU/mL Females: Follicular phase 2.5 - 10.2 mIU/mL Midcycle phase 3.4 - 33.4 mIU/mL Luteal 1.5 - 9.1 mIU/mL Pregnant <0.3 mIU/mL	**Testosterone (TESTO)**	Adult Males <50Y (240.24-870.68 ng/dL) Adult Males > = 50Y (220.91-715.81 ng/dL) Adult Females 21- 49 years old 13.84-53.35 ng/dL Adult females ≥50 years old 12.40-35.76 ng/dL
Gestational- Glucose Screen, Pregnancy, 50 gm/ One-Hour Gestational Screen	<140 mg/dL		
Gestational- Glucose Tolerance Test, Pregnancy, 100gm/ Gestational Glucose Tolerance Test	Fasting: <95 mg/dL 1 hour: <180 mg/dL 2 hour: < 155 mg/dL 3 hour: < 140 mg/dL		
Glucose, 2-hour Post Prandial/ Glucose Tolerance Test (Non-Gestational) 75 gm	<140 mg/dL		

++ **Biotin interference:** Specimens that contain the listed concentration of biotin demonstrate less than or equal to 10% change in results. Results from patients taking biotin supplements or receiving high-dose biotin therapy should be interpreted with caution due to possible interferences with the result.

Test	Interference is demonstrated when biotin concentration in sample exceeds:	Less than or equal to 10% change in results
CA 19-9	250 ng/ml	Falsely depressed
Cardiac Troponin (cTNI)	100 ng/ml	Falsely depressed
Digoxin	500 ng/ml	Falsely elevated
Ferritin	500 ng/ml	Falsely depressed
Folate	100 ng/ml	Falsely elevated
FT3	50 ng/ml	Falsely elevated
FT4	100 ng/ml	Falsely elevated
PBNP	100 ng/ml	Falsely depressed
TSH	100 ng/ml	Falsely depressed

HEPATITIS TESTING

Acute Hepatitis Panel: aHAVM, aHBCM, HBSII, aHCV
Obstetric Panel: HBSII, CBC, Rubella IgG, RPR (ABO Rh/Ab Screen done at hospital labs)
Exposure Panel, source: HBSII, aHBCM, aHCV, HIVMS (reflexed from positive rapid HIV at hosp lab)
Exposure Panel, recipient: ALT, **HBSII,** aHBs2, aHBCM, aHCV, HIVCO

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
Hepatitis A Ab total (HAVT) Note: Reactive result will reflex to Hepatitis A Ab, IgM	Non-reactive	**Hepatitis B surface antibody (aHBs2)**	<10.0 mIU/mL Non-Immune to HBV Infection >9.9 mIU/mL Immune to HBV infection
Hepatitis A IgM Antibody (aHAVM) **	Non-reactive	**Hepatitis B surface antigen (HBSII)** **	Non-reactive
Hepatitis B core Ab total (HBcT)	Non-reactive	**Hepatitis B surface antigen confirmatory (CONF)** **	Negative
Hepatitis B core IgM antibody (aHBCM) **	Non-reactive	**Hepatitis C antibody (aHCV)** ** Note: If HCV+RNA panel ordered, reactive or equivocal Hepatitis C Antibody result will reflex to Hepatitis C RNA, Quantitative, PCR	Non-reactive

Interpretive data, test limitations and additional information are available at: https://www.testmenu.com/scripps

IMMUNOASSAYS AND TUMOR MARKERS

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
Anti-thyroid-Peroxidase (aTPO)	<60.1 U/mL	**Anti-Cyclic Citrullinated Peptide (ACCP)**	0.0 – 4.99 U/mL
Alpha-fetoprotein (AFP)	0-15 ng/mL	**Intact Parathyroid Hormone (IPTH)**	18.5-88.0 pg/mL Serum values Assay limitations listed in https://www.testmenu.com/scripps
Anti-Thyroglobulin (aTG)	<61 U/mL	**Prostate Specific Ag (PSA)**	Males 0 – 49 yrs 0.0 – 2.5 ng/mL 50 – 59 yrs 0.0 – 3.5 ng/mL 60 – 69 yrs 0.0 – 4.5 ng/mL >70 yrs 0.0 – 6.5 ng/mL Females < 4.0 ng/mL
CA 27.29 BR assay (BR)	< 38.6 U/mL	**Rubella IGG (RubG)**	≤5.0 IU/mL Negative for IgG antibodies to Rubella virus ≥ 5.0 IU/mL and ≤9.9 Equivocal ≥10.0 IU/mL Positive for IgG antibodies to Rubella virus
Carcinoembryonic Antigen (CEA)	<2.5 ng/mL (adult non-smoker) <5.0 ng/mL (adult smoker)	**Syphilis antibody (SYPH)**** Reactive or equivocal result reflexes to RPR	Non-Reactive No serologic evidence of syphilis. If recent exposure suspected, retest in 2-4 weeks.
Cancer Antigen 125 (CA125)	0-35 U/mL	**Vitamin B12 (VB12)**	211-911 pg/mL
Cancer Antigen 19-9 (CA 19-9) ++ Biotin interference: Specimens that contain over 250 ng/ml of biotin demonstrate less than or equal to 10% change in results (falsely depressed). Results from patients taking biotin supplements or receiving high-dose biotin therapy should be interpreted with caution due to possible interferences with the result.	2 - 37 IU/mL	**Vitamin D (VitD)**	Deficiency < 20 ng/mL Insufficiency 20 - 29.9 ng/mL Optimum Level 30 - 100 ng/mL Possible Toxicity >100 ng/mL No pediatric range established

IMMUNOSUPPRESSANT DRUGS AND OTHER TESTS

TEST Platform: Abbott Architect i1000sr-i2000sr	REFERENCE RANGE	TEST	REFERENCE RANGE
Cyclosporine (CYCLO) ng/ml Methodology: Chemiluminescent microparticle immunoassay (CMIA)	Patient assessment required	**Fecal occult blood (FOB)**	Negative
Mycophenolic Acid (MPA) mcg/ml **Methodology: Particle enhanced turbidimetric inhibition immunoassay (PETINIA)**	Patient assessment required	**Hemoglobin A1C (Glycated Hemoglobin)**	Non-diabetic <6.5 % of total hemoglobin Pre-diabetic 5.7 – 6.4 % of total hemoglobin Diabetic > = 6.5 % of total hemoglobin
Sirolimus (SIRO) ng/ml Methodology: Chemiluminescent microparticle immunoassay (CMIA)	Patient assessment required	**HIV Ag/Ab Architect Combo (HIVCO)** Note: Reactive results are reflexed to HIV1/HIV2 Supplemental Assay and are reported to SDPH as required by Title 17, CCR Sec.2 500	Non-reactive
Tacrolimus (TACRO) ng/ml Methodology: Chemiluminescent microparticle immunoassay (CMIA)	Patient assessment required	**SARS Cov-2 IgG Antibody Method: Abbott Architect** Note: All results are reported to SDPH as required by Title 17, CCR Sec.2 500	Negative

THERAPEUTIC DRUG MONITORING

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE	CRITICAL VALUE
Carbamazepine (CRBM)	4.0 - 12.0 mcg/mL	>12.0 mcg/mL	**Tobramycin, Random (TOBRA)**	No Reference Range	
Digoxin (DIG) ++	< 1.0 ng/mL (therapeutic range)	>2.5 ng/mL	**Tobramycin, Trough**	0.0-1.9 mg/mL	> 3 mg/mL Newborn > 2.5 mg/mL
Lithium (LI)	0.6 – 1.2 mmol/L	> 1.4 mmol/L	**Tobramycin, Peak**	4.0-10.0 mg/mL	> 12 mg/mL Newborn > 15 mg/mL
Gentamicin, Random (GENT)	No Reference Range		**Valproic Acid (VALP)**	50-100 mcg/mL	> 150 mcg/mL
Gentamicin, Trough	0.0-1.9 mcg/mL	> 3 mcg/mL Newborn > 2.5 mcg/mL	**Vancomycin, Random (VANC)**	No Reference Range	
Gentamicin, Peak	4.0-10.0 mcg/mL	> 12 mcg/mL Newborn > 15 mcg/mL	**Vancomycin, Trough**	29D & up 5.0 – 20.0 mcg/mL 0 to ≤ 28 days 5.0 – 10.0 mcg/mL	Adults >25 mcg/mL Newborn > 15 mcg/mL
Phenytoin (PHENY)	10 -20 mcg/mL	> 30 mcg/mL Newborn > 25 mcg/mL	**Vancomycin, Peak**	25.0-40.0 mcg/mL	Adults > 50 mcg/mL Newborn > 45 mcg/mL
Theophylline (THEO)	10-20 mcg/mL	> 25 mcg/mL			

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URINE CHEMISTRY TESTS

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
Urine Amylase (UAMY)	Random: No established range 24 hours: No established range	**Urine Microalbumin 24 hrs (MALB) +**	Microalbumin Quant 0 - 20 mg/24hr Microalb/Creat Ratio 0 - 30 mg/24hr
Urine Calcium (UCA)	Random: No established range 24 hours: 0-300 mg/24 hr	**Urine Phosphorus (UPHOS)**	Random: No established range 24 hours: 0.4-1.3 g/24hr
Urine Creatinine (ECREA)	Random: Male: 40.0 -278.0 mg/dL Female: 29.0 -226.0 mg/dL 24-hour urine: Male: 0.9 - 2.4 g/24 hr Female: 0.7 - 1.6 g/24 hr	**Urine Potassium (UK)+**	Random: No established range 24 hours: 25-125 mmol/24 hr
Creatinine Clearance 24hrs +	Male: 97 -137 mL/min Female: 88- 128 mL/min	**Urine Protein Creatinine Ratio, Random and Timed Urine (PCRT) +**	Random: 0-200 mg/g 24 hours: 0-200 mg/24hr
Urine Chloride (UCL)	Random: No established range 24 hours: 110-250 mmol/L/24hr	**Urine Sodium (UNA)**	Random: No established range 24 hours: 40-220 mmol/L/24hr
Urine Glucose + (UGLU)	Random: No established range 24 hours: No established range	**Urine Total Protein (UCFP)**	Random: 0 - 11 mg/dL 24 hours: 0 - 149 mg/24hr
Urine Magnesium (UMG)	Random: No established range 24 hours: No established range	**Urine Urea (UUREA)**	Random: No established range 24 hours: No established range
Urine Microalbumin Random (MALB)+	Microalbumin Quant. 0 - 20 mg/L Microalb/Creat. Ratio 0 - 30 mg/g	**Urine Uric Acid (UURIC)**	Random: No established range 24 hours: 250 - 750 mg/24hr

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ALLERGENS

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
SPE (Allergy) **Common Aeroallergen Panel** **Common Food Allergen Panel** **Additional Pollen Panel**	Class kU/L Allergen Reactivity 0 <0.10 Absent or ND 0 0.10 - 0.34 Very Low I 0.35 - 0.69 Low II 0.70 - 3.49 Moderate III 3.50 - 17.49 High IV 17.5 - 52.49 Very High V 52.5 - 99.99 Very High VI >=100 Very High	**Immunoglobulin, Total IgE (TIE)**	<88 IU/mL

CODE	ALLERGEN	CODE	ALLERGEN	CODE	ALLERGEN	CODE	ALLERGEN
D1	Dermatophagoides pteronyssinus	**F27**	Beef	**G5**	Rye (perennial)	**T19**	Acacia
D2	Dermatophagoides farinae	**F36**	Coconut	**G10**	Johnson grass	**T20**	Mesquite
E1	Cat dander-epithelium	**F40**	Tuna	**I6**	Cockroach	**T70**	Mulberry
E2	Dog epithelium	**F41**	Salmon	**K82**	Latex	**T72**	Palm
F2	Milk	**F44**	Strawberry	**M1**	Penicillium notatum	**T401**	Pepper tree
F3	Cod	**F79**	Gluten	**M2**	Cladosporium herbarum	**W2**	Ragweed (Western)
F4	Wheat	**F80**	Lobster	**M3**	Aspergillus fumigatus	**W6**	Mugwort (weed)
F8	Corn	**F83**	Chicken	**M6**	Alternaria tenuis	**W9**	English plantain
F9	Rice	**F201**	Pecan Nut	**T1**	Maple	**W10**	Lambs Quarter
F10	Sesame seed	**F202**	Cashew	**T3**	Birch	**W11**	Russian thistle
F13	Peanut	**F203**	Pistachio	**T6**	Mountain Cedar	**W13**	Cocklebur
F14	Soy	**F207**	Clam	**T7**	Oak	**W15**	Scalee
F17	Hazelnut (Filbert)	**F245**	Egg (whole)	**T8**	Elm	**W17**	Kochia
F18	Brazil Nut	**F253**	Pine Nut	**T9**	Olive tree	**W18**	Sorrel
F20	Almond	**F256**	Black Walnut	**T10**	Walnut tree	**W43**	Sagebrush (common)
F23	Crab	**F290**	Oyster	**T11**	Sycamore Maple	**W82**	Careless weed
F24	Shrimp	**F338**	Scallop	**T14**	Cottonwood		
F26	Pork	**G2**	Bermuda grass	**T18**	Eucalyptus		

IMMUNOLOGY

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
LYM Borrelia burgdorferi (Lyme), IgG/IgM Note: Positive results will reflex to Western Blot supplemental assay and are reported to SDPH as required by Title 17, CCR Sec.2 500	=/<0.90 OD Ratio Negative 0.91 to 1.09 OD Ratio Equivocal =/>1.10 OD Ratio Positive	**Rapid Plasma Reagin** **RPR/ RPRT /RPRM** ** Reactive RPR results are reported to San Diego Public Health Department as required by Title 17, CCR Sec.2 500.	Non-Reactive Interpretative comments will be printed on report.
ACLP Anticardiolipin antibodies, IgG and IgM	Cardiolipin IgM <20 MPL Negative 20-29 MPL Low Positive 30-79 MPL Moderate Positive >79 MPL High Positive Cardiolipin IgG <20 GPL Negative 20-29 GPL Low Positive 30-79 GPL Moderate Positive >79 GPL High Positive	**Free light chain/ratio** Kappa Quantitative Free Light Chain Lambda Quantitative Free Light Chain Kappa/Lambda Free Light Chain Ratio (calculated)+	 3.30 – 19.40 mg/L 5.71 – 26.30 mg/L 0.26 – 1.65
CMVG Cytomegalovirus, IgG	=/<0.90 OD Ratio Negative 0.91 to 1.09 OD Ratio Equivocal =/>1.10 OD Ratio Positive	**Cold agglutinin** Titer at 4°C, 22°C, 37°C	Normal = titer of 1:32 or less Elevated = 1:64 or greater
CMVM Cytomegalovirus, IgM	=/<0.90 OD Ratio Negative 0.91 to 1.09 OD Ratio Equivocal =/>1.10 OD Ratio Positive	**Cryoglobulin**	Negative
EBVPL Epstein-Barr Virus Ab Panel without Early Antigen Includes: Viral Capsid Antigen IgG Viral Capsid Antigen IgM Nuclear Ag Antibodies	No detectable antibody to EBV IgG, EBV IgM, EBV EBNA IgG Index Value (IV) =/<0.90 IV Negative 0.91 to 1.09 IV Equivocal =/>1.10 IV Positive	**HIV GEENIUS Supplemental Assay** HIV1-Ab HIV2-Ab Note: Reactive results are reported to SDPH as required by Title 17, CCR Sec.2 500	 Non-Reactive Non-Reactive
HSV1GG HerpeSelect1 ELISA IgG by Focus Technologies	Index Value (IV) =/<0.90 IV Negative No IgG antibodies to HSV-1 0.91 to 1.09 IV Equivocal =/>1.10 IV Positive Presumptive for the presence of IgG antibodies to HSV-1	**ANA Ab by EIA** Antinuclear Antibodies Note: If positive, will reflex to ANA titer and pattern by Immunofluorescent antibody method (ANAH)	Negative
HSV2GG HerpeSelect2 ELISA IgG by Focus Technologies	Index Value (IV) =/<0.90 IV Negative No IgG antibodies to HSV-2 0.91 to 1.09 IV Equivocal =/>1.10 IV Positive Presumptive for the presence of IgG antibodies to HSV-2	**SMRNP Ab** If positive, Smith Antibody will be repeated. RNP antibody will be sent out to ARUP (see RNPAB) **Smith Ab** **Sjogren's Ab (SSA Ab/SSB Ab)** **Scleroderma Ab** **SCL-70**	 Negative
RUBO Measles (Rubeola) IgG	=/<0.90 OD Ratio Negative 0.91 to 1.09 OD Ratio Equivocal =/>1.10 OD Ratio Positive	**ANA Hep2 Cell, Quant**	Negative at 1:40
MUMPSG Mumps IgG	=/<0.90 OD Ratio Negative 0.91 to 1.09 OD Ratio Equivocal =/>1.10 OD Ratio Positive Indicates past or current infection with Mumps Virus or prior vaccination against Mumps Virus.	**DNA Ab** **Liver Kidney Microsomal Ab (LKMA)** **Antimitochondrial Ab (AMITA)** **Anti-smooth muscle Ab (ASMA)**	Negative at 1:10 Negative at 1:20 Negative at 1:20 Negative at 1:20
VRCZ Varicella-Zoster Virus IgG	=/<0.90 OD Ratio Negative for IgG antibodies to VZV. Indicates no current or previous infection with VZV. Non-Immune 0.91-1.09 OD Ratio Equivocal. Should be retested. =/>1.10 OD Ratio Positive for IgG antibodies to VZV. Indicates past or current VZV infection. Immune.	**Protein Electrophoresis, Serum** (Abnormal scan will reflex to Immunofixation)	Total Protein 6.3 - 8.2 g/dL Albumin 3.3 - 4.4 g/dL Alpha 1 0.1 - 0.3 g/dL Alpha 2 0.4 - 1.0 g/dL Beta 0.8 - 1.3 g/dL Gamma 0.8 - 1.7 g/dL See pathologist interpretation
QuantiFERON (QTB) Interpretation CD4 Lymphocyte Reactivity (TB1-NIL) CD4 and CD8 Lymphocyte Reactivity (TB2-NIL)	<0.35 IU/ml Negative = >0.35 IU/ml Positive 0.0 to 0.34 IU/ml 0.0 to 0.34 IU/ml	**Protein Electrophoresis, Urine** (Abnormal scan will reflex to Immunofixation)	See pathologist interpretation

HEMATOLOGY

COMPLETE BLOOD COUNT - Adult Reference Ranges

For reference ranges for other age groups or gender not specified, go to https://www.testmenu.com/scripps and click on Downtime Resources

CBC PARAMETER	UNIT	MALE	FEMALE
WBC	10^3 /ul	3.40 -11.0	3.40 -11.0
RBC	10^6 /ul	4.46 – 5.85	3.98 -5.25
HGB	g/dl	13.0 – 17.1	11.9 – 15.3
HCT	%	39.8 – 51.5	37.3 - 46.7
MCV	fl	81.0 -100.0	
MCH	pg	26.0 -33.0	
MCHC	g/dl	31.0 -36.0	
RDW-CV	%	11.7 – 14.9	
Platelets	10^3 /ul	150 - 425	
MPV	10^3 /ul	9.0 – 12.8	
% Neutrophils	%	38 - 74	
% Lymphocytes	%	16 - 48	
% Monocytes	%	4.9 - 12.5	
% Eosinophils	%	0.4 – 9.5	
% Basophils	%	0.2 – 1.6	
% Band	%	0 - 6	
% Immature Granulocytes (IG)	%	0.0 – 1.2	
NRBC	%	0.0	
Reticulocyte %	%	0.9 – 2.4	
Reticulocyte	10^6 /ul	0.044 – 0.115	
Immature Retic Fraction (IRF) %	%	2.7 - 13.5	
Ret-He	pg	30.1 – 37.3	
Immature Platelet Fraction (IPF) %	%	0.9 – 9.7	
IPF	10^3 /ul	2.8 – 19. 5	
Absolute Neutrophil Count*	10^3 /ul	1.5 – 7.4	
Absolute Lymphocyte Count*	10^3 /ul	0.9 – 3.1	
Absolute Monocytes Count*	10^3 /ul	0.26 – 0.87	
Absolute Eosinophils Count*	10^3 /ul	0.03 - 0.51	
Absolute Basophils Count*	10^3 /ul	0.01 – 0.09	
Absolute Band Count*	10^3 /ul	0.0 - 6.0	
Absolute IG Count*	10^3 /ul	0.00 – 0.10	

*** To obtain absolute cell count, multiply the WBC count by the % of differentiated cell (ex. Absolute Neutrophil count = WBC count x % neutrophil)**

HEMATOLOGY MANUAL TESTS

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
ERYTHROCYTE SED RATE (ESR)	AGE MALE FEMALE ≤ 13 0-10 0-10 mm/hr 14-50 0-15 0-20 mm/hr >50Y 0-20 0-30 mm/hr	**Viscosity, Serum (ratio)**	1.4-1.8
Sickle Cell Screen	Negative	**WBC Smear (MICXS), stool FECAL LEUKOCYTES**	NONE SEEN
Urine Eosinophil	NONE SEEN		

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ROUTINE AND SPECIAL COAGULATION

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE
PROTHROMBIN TIME (Seconds)	10.0-13.1 (>= 18Yr) 8.8-12.5 (6 mos to < 18 yr) 8.8-14.7 (0-6 mos)	N/A (>= 18Yr) >17sec (6 mos to < 18 yr) >19 sec (0-6 mos)	**Activated Protein C (FV Leiden)**	Greater than 2.2 ratio
INR	Therapeutic: 2.0 – 3.0 conventional anticoagulation 2.5-3.5 intensive anticoagulation	>= 4.0 (>= 18Yr) > 4.0 (< 18 yr)	**Anti-thrombin**	83 – 128%
ACTIVATED PTT (Seconds)	26-38 (>= 18Yr) 25-39 (<18yr) Therapeutic: 53-87 seconds	>=90 sec (>= 18Yr) >45 sec (6mo to < 18 yr) >49 sec (0-6 mos)	**Protein C Activity**	70 – 140%
FIBRINOGEN (mg/dl)	187-416 mg / dL (>= 18Yr) 150-400 mg/dL (<18yr)	<100 mg/dL	**Factor II Activity**	79 – 131%
INHIBITOR SCREEN (PT or PTT mixing studies)	PT or PTT – same ranges as above See pathologist interpretation		**Factor V Activity**	62 – 139%
D-DIMER (DDQ)	**< 500 ng/mL FEU** (>= 18Yr) **<= 570 ng/mL FEU** (<18Yr) Manufacturer studies indicate a D-Dimer value <500 ng/mL FEU has a high negative predictive value for DVT or PE in clinically low risk ambulatory patients. A value ≥500 ng/mL FEU warrants further studies to exclude DVT or PE.		**Factor VII Activity**	50 – 129%
PLATELET FUNCTION ASSAY (PFA)	**EPI:** 73-190 seconds EPI result >170 second will reflex to ADP		**Factor VIII Activity**	50 – 150%
	ADP: 65-118 seconds		**Factor IX Activity**	65 – 150%
	See pathologist interpretation		**Factor X Activity**	77 – 131%
			Factor XI Activity	65 – 150 %
			Factor XII Activity	50 – 150%
			Factor XII Activity	50 – 150%
			Factor XIII Screen	Stable

BODY FLUID / URINE/ MANUAL TESTS

URINALYSIS	Reference Range	URINE TOXICOLOGY DRUGS OF ABUSE SCREEN	Reference Range
Clarity	Clear	THC	Negative
Color	Yellow	PCP	Negative
Glucose	Negative (mg/dL)	COCAINE	Negative
Ketones	Negative (mg/dL)	METHAMPHETAMINE	Negative
Blood	Negative	OPIATE	Negative
Protein	Negative	AMPHETAMINE	Negative
Nitrite	Negative	BENZODIAZEPINE	Negative
Specific Gravity	1.005 – 1.030	TCA	Negative
pH	5.0 – 8.5	METHADONE	Negative
Urobilinogen	<2.0 mg/dL	BARBITURATE	Negative
Leukocyte Esterase	Negative	OXYCODONE	Negative
WBC	0 – 2 / HPF	Positive results will not automatically reflex. The provider must order confirmatory test for positive result, if desired. Call the laboratory Customer Services at (858) 554-9552 to add the test.	
RBC	0 – 2 / HPF		
EPITHELIAL CELLS	None/LPF	**PREGNANCY SCREEN,** Serum	Negative (for non-pregnant females)
CASTS	None/LPF	**PREGNANCY SCREEN,** Urine	Negative (for non-pregnant females)
MUCUS	None/LPF		
BACTERIA	None/HPF	**FETAL FIBRONECTIN,** Amniotic fluid	Negative
CRYSTALS	None/LPF		

SEMEN ANALYSIS	Reference Range	SYNOVIAL FLUID ANALYSIS	Reference Range
Post-vasectomy? Y/N *Days of abstinence	2 - 7	**Color**	Yellow, light yellow, straw, colorless
*Volume	> 1.4 ml	**Appearance**	Clear
*Appearance	2 - 3 turbidity, no unusual color	**Volume**	mls
*Liquefaction	Liquefaction < or = 30 min	**Nucleated Cell Count**	0-200/mcl
*1 hr progressive motility %	> 31%	**RBC Count**	<15000/mcl
*Motility	Motility > 4.7 mil/mL	**Glucose**	None established
*Motile sperm/ejaculate	> 7.1 million /ml	**Protein**	None established
*pH	7.2-8.0	**Segmented Cells (% Neutrophils)**	0-25 %
*Viscosity	Pours drop by drop	**Lymphocytes %**	None established
*Agglutination	NONE	**Mononuclear Cells %**	None established
WHO Normal Morphology % Normal	3.9 %	**Crystals**	No crystals
ABHEAD, SMNOTH, IMFORM	No reference range established	* Semen analysis Part I performing labs	
Germ Cells	< 4.00 million / mL	SML Jefferson #05D0691203 205 Vista Way Oceanside, CA 92054 Keith E. Thompson, MD	
Leukocytes	0 - 5 / HPF	SML Rancho Bernardo #05D0571647 15004 Innovation Drive San Diego, CA 92128 Beth Palla, MD	
Sperm Count	>14.9 million /ml	SML Torrey Pines #05D0665463 10666 N. Torrey Pines Road La Jolla, CA 92037 Emma Z. Du, MD	