

REFERENCE RANGES

Medical Laboratory, Sorrento Mesa 9335 Waples Street, Ste. 150 San Diego, CA 92121

CLIA# 05D107136 CLIA Director: Michael M. Quigley, MD

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 0/1 0.10 - 0.34 Low I 0.35 - 0.69 Low II 0.70 - 3.49 Moderate III 3.50 - 17.49 High IV 17.5 - 49.99 Very High V 50.0 - 99.99 Very High VI ≥100 Very High	Immunoglobulin, Total IgE (TIE)	Age Range Reference Range 0-3 months <9 3-6 months <17 6-9 months <30 9mos -1 yr <39 1-2 yrs <53 2-3 yrs <93 3-4 yrs <128 4-5 yrs <160 5-6 yrs <192 6-7 yrs <224 7-8 yrs <248 8-9 yrs <280 9-10 yrs <304 >10 yrs - <18 yrs * <114 Adult <114 *Comment auto appends: "After the peak at the age of 10 years, serum total IgE levels decline to adult values".
Tryptase	<8.4 ug/L "In patients with systemic mastocytosis levels of tryptase are, in general, persistently elevated above 20 ug/L".		

CODE	ALLERGEN	CODE	ALLERGEN	CODE	ALLERGEN	CODE	ALLERGEN
D1	Dermatophagoides pteronyssinus	F36	Coconut	K82	Latex	T70	Mulberry
D2	Dermatophagoides farinae	F40	Tuna	M1	Penicillium notatum	T72	Palm, queen
E1	Cat dander	F41	Salmon	M2	Cladosporium herbarum	W2	Ragweed (Western)
E5	Dog dander	F80	Lobster	M3	Aspergillus fumigatus	W6	Mugwort (weed)
F2	Milk	F83	Chicken	M6	Alternaria tenuis	W9	English plantain
F3	Cod	F201	Pecan Nut	T1	Box-elder	W10	Lambs Quarter
F4	Wheat	F202	Cashew	T3	Birch	W11	Russian thistle
F9	Rice	F203	Pistachio	T6	Mountain juniper	W13	Cocklebur
F10	Sesame seed	F207	Clam	T7	Oak	W14	Common pigweed
F13	Peanut	F245	Egg (whole)	T8	Elm	W15	Lenscale
F14	Soy	F256	Black Walnut (Food)	T9	Olive tree	W17	Kochia (firebush)
F17	Hazelnut (Filbert)	F290	Oyster	T10	Walnut tree	W18	Sheep Sorrel
F18	Brazil Nut	F338	Scallop	T11	Maple leaf Sycamore		
F20	Almond	F423	Peanut component Ara h2	T18	Eucalyptus		
F23	Crab	G2	Bermuda grass	T19	Acacia		
F24	Shrimp	G5	Rye (perennial)	T20	Mesquite		
F26	Pork	G10	Johnson grass	T14	Cottonwood		
F27	Beef	I6	Cockroach	T18	Eucalyptus		

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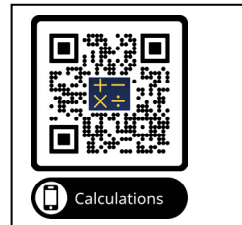
IMMUNOLOGY

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.2505	=/<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.2505	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.2505	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 Pattern	Negative at 1:40 Pattern not present
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) Positive results are reported to San Diego Public Health Department as required by Title 17, CCR Sec.2505	Interpretation <0.35 IU/ml Negative = >0.35 IU/ml Positive CD4 Lymphocyte Reactivity (TB1-NIL) 0.0 to 0.34 IU/ml CD4 and CD8 Lymphocyte Reactivity (TB2-NIL) 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 or scan the QR Code for CBC Ranges

To obtain absolute cell count, multiply the WBC count by the % of differentiated cell (ex. Absolute Neutrophil count = WBC count x % neutrophil), or access the downtime calculation spreadsheet for Calculations.



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	

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		

ROUTINE AND SPECIAL COAGULATION

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE
PROTHROMBIN TIME (Seconds)	10.0-13.1 (≥ 18 Yr) 8.8-12.5 (6 mos to < 18 yr) 8.8-14.7 (0-6 mos)	N/A (≥ 18 Yr) >17 sec (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 (≥ 18 Yr) > 4.0 (< 18 yr)	Anti-thrombin	83 – 128%
ACTIVATED PTT (Seconds)	26-38 (≥ 18 Yr) 25-39 (< 18 Yr) Therapeutic: 53-87 seconds	≥ 90 sec (≥ 18 Yr) >45 sec (6mo to < 18 yr) >49 sec (0-6 mos)	Protein C Activity	70 – 140%
FIBRINOGEN (mg/dl)	187-416 mg / dL (≥ 18 Yr) 150-400 mg/dL (< 18 yr)	<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 on separate report		Factor V Activity	62 – 139%
D-DIMER (DDQ)	< 500 ng/mL FEU (≥ 18 Yr) <= 570 ng/mL FEU (< 18 Yr) 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

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BODY FLUID / URINE / MANUAL TESTS

URINALYSIS	REFERENCE RANGE	TEST	REFERENCE RANGE
Clarity	Clear	PREGNANCY SCREEN, Serum	Negative (for non-pregnant females)
Color	Yellow	PREGNANCY SCREEN, Urine	Negative (for non-pregnant females)
Glucose	Negative (mg/dL)		
Ketones	Negative (mg/dL)	FETAL FIBRONECTIN, Amniotic fluid	Negative
Blood	Negative		
Protein	Negative		
Nitrite	Negative		
Specific Gravity	1.005 – 1.030		
pH	5.0 – 8.5		
Urobilinogen	<2.0 mg/dL		
Leukocyte Esterase	Negative		
WBC	0 – 2 / HPF		
RBC	0 – 2 / HPF		
EPITHELIAL CELLS	None/LPF		
CASTS	None/LPF		
MUCUS	None/LPF		
BACTERIA	None/HPF		
CRYSTALS	None/LPF		

URINE TOXICOLOGY DRUGS OF ABUSE SCREEN	Reference Range	Negative Threshold (cutoff concentration)
THC	Negative	50 ng/ml
PCP	Negative	25 ng/ml
COCAINE	Negative	150 ng/ml
METHAMPHETAMINE	Negative	500 ng/ml
OPIATE	Negative	100 ng/ml
AMPHETAMINE	Negative	500 ng/ml
BENZODIAZEPINE	Negative	150 ng/ml
TCA	Negative	300 ng/ml
METHADONE	Negative	200 ng/ml
BARBITURATE	Negative	200 ng/ml
OXYCODONE	Negative	100 ng/ml

Result comments:

This method provides screening results for medical purposes only. A more specific alternate chemical method must be used for a confirmed analytical result. Clinical considerations and professional judgement should be applied to any drug of abuse result, particularly when screening positive results are used.

Contact laboratory to order confirmatory testing.

*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.

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BODY FLUID / URINE / MANUAL TESTS

SEMEN ANALYSIS	Reference Range	SYNOVIAL FLUID ANALYSIS	Reference Range
*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
Abnormal head (ABHEAD) Other forms (SMNOTH) Immature forms (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	
Sperm Count, Post Vasectomy	No sperm seen on wet mount. The presence of sperm may be below the limit of detection. A concentrating technique was not performed.		