

Laboratory Tests	Reference Ranges
,25-Dihydroxyvitamin D	See Vitamin D metabolites
(1,25-dihydroxycholecalciferol), serum	
,5-Anhydroglucitol, serum or plasma	Female: 6.8–29.3 μg/mL; male: 10.7–32 μg/ml
7-Hydroxycorticosteroids (Porter-Silber), urine	Female: 2–8 mg/24 hr; male: 3–10 mg/24 hr
7-Hydroxyprogesterone, serum	
Female, follicular	<80 ng/dL
Female, luteal	<285 ng/dL
Female, postmenopausal	<51 ng/dL
Male (adult)	<220 ng/dL
5-Hydroxyvitamin D (25-hydroxycholecalciferol), serum	See Vitamin D metabolites
-Hydroxyindoleacetic acid, urine	2–9 mg/24 hr
'-Nucleotidase, serum	0.3–2.6 (Bodansky) units/dL (0–15 U/L)
-Thioguanine, whole blood	230–400 pmol/8x10 ⁸ RBCs
Absolute basophil count	0–110/µL
bsolute eosinophil count	0–330/µL
Absolute lymphocyte count	1200–4950/μL
Absolute monocyte count	0–660/μL
bsolute neutrophil count (ANC)	2000–8250/μL
cid phosphatase, serum	-
Total	0.5–2.0 (Bodansky) units/mL
Prostatic fraction	0.1–0.4 unit/mL
CTH, plasma	10-60 pg/mL
ctivated partial thromboplastin time	25–35 seconds
DAMTS13 activity	>60%
drenocorticotropic hormone (ACTH), plasma	10-60 pg/mL
lbumin, serum	3.5–5.5 g/dL
lbumin, urine	<25 mg/24 hr
Albumin-to-creatinine ratio, urine	<30 mg/g
ldolase, serum	0.8–3.0 IU/mL
Aldosterone, plasma	
Supine or seated	≤10 ng/dL
Standing	<21 ng/dL
Low-sodium diet (supine)	≤30 ng/dL
ldosterone, urine	5–19 μg/24 hr
Ikaline phosphatase, serum	30–120 U/L
lpha ₁ -antitrypsin (AAT), serum	150–350 mg/dL
lpha ₂ -antiplasmin activity, plasma	75%–115%
lpha-amino nitrogen, urine	100–290 mg/24 hr
Ipha-fetoprotein, serum	<10 ng/mL
mino acids, urine	200–400 mg/24 hr
minotransferase, serum alanine (ALT, SGPT)	10-40 U/L
minotransferase, serum aspartate (AST, SGOT)	10-40 U/L
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ammonia, plasma amylase, serum	40–70 μg/dL 25–125 U/L (80–180 [Somogyi] units/dL)

Androstenedione, serum	Female: 30–200 ng/dL; male: 40–150 ng/dL
Angiotensin-converting enzyme, serum	8–53 U/L
Anion gap, serum	7–13 mEq/L
Antibodies to double-stranded DNA	0–7 IU/mL
Anticardiolipin antibodies	
IgG	<20 GPL
lgM	<20 MPL
Anti-cyclic citrullinated peptide antibodies	<20 units
Antideoxyribonuclease B	<280 units
Anti-F-actin antibodies, serum	≤1:80
Antihistone antibodies	<1:16
Anti-liver-kidney microsomal antibodies (anti-LKM)	<1:20
Antimitochondrial antibodies	≤1:5
Anti–myelin associated glycoprotein antibody	<1:1600
Antimyeloperoxidase antibodies	<1.0 U
Antinuclear antibodies	≤1:40
Anti-phospholipase A2 receptor (PLA2R) antibodies,	Negative: <14 RU/mL
serum	Borderline: 14 – <20 RU/mL
[ELISA]	Positive: ≥20 RU/mL
Anti-RNP antibodies	<20 CU
[by chemiluminescence method] Anti-RNP antibodies	4.0.41
[by multiplex flow immunoassay]	<1.0 AI
Anti-Scl-70 antibodies (topoisomerase 1 antibodies), IgG,	Negative: <1.0 U
serum	[Positive: ≥1.0 U]
Anti–smooth muscle antibodies	≤1:80
Anti-SSA/Ro & anti-SSB antibodies	<20 CU
[by chemiluminescence method] Anti-SSA/Ro & anti-SSB antibodies	<1.0 Al
[by multiplex flow immunoassay]	C1.0 AI
Antistreptolysin O titer	<200 Todd units
Antithrombin activity	80%–120%
	<20 U/mL
Antithyroid peroxidase antibodies	<2.0 U/mL
Anti-tissue transglutaminase antibodies	See Tissue transglutaminase antibody
Apolipoprotein A-1, serum	Female: ≥140 mg/dL
	Male: ≥120 mg/dL
Apolipoprotein B, serum	Desirable: <90 mg/dL
	Borderline high: 90–119 mg/dL
	High: 120–139 mg/dL
Asharial bland and shall a factor	Very High: ≥140 mg/dL
Arterial blood gas studies (patient	
breathing room air): pH	7.38–7.44
PaCO ₂	3842 mm Hg
PaO ₂	75–100 mm Hg
Bicarbonate	23–26 mEq/L
Oxygen saturation	≥95%
Methemoglobin	0.5%–3.0%
Ascorbic acid (vitamin C), blood	0.4–1.5 mg/dL
Ascorbic acid, (vitamin C), blood Ascorbic acid, leukocyte	16.5 ± 5.1 mg/dL of leukocytes
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(1,3)-Beta-D-glucan, serum	<60 pg/mL
Beta-human chorionic gonadotropin (beta-hCG), serum	Female, premenopausal nonpregnant: <1.0 U/L;
	female, postmenopausal: <7.0 U/L; male: <1.4 U/L
Beta-human chorionic gonadotropin (beta-hCG), urine	<2 mIU/24 hr
Beta ₂ -glycoprotein I antibodies:	
IgG	<21 SGU
lgM	<21 SMU
Beta-hydroxybutyrate, serum	<0.4 mmol/L
Beta ₂ -microglobulin, serum	0.54–2.75 mg/L
Bicarbonate, serum	23–28 mEq/L
Bilirubin, serum	
Total	0.3–1.0 mg/dL
Direct	0.1–0.3 mg/dL
Indirect	0.2–0.7 mg/dL
Bleeding time (template)	<8 minutes
Blood urea nitrogen (BUN), serum or plasma	8–20 mg/dL
Bone-specific alkaline phosphatase, serum	Female, premenopausal: 4.5–16.9 μg/L
	Female, postmenopausal: 7.0–22.4 μg/L
	Male, 25 years of age or older: 6.5–20.1 μg/L
B-type natriuretic peptide, plasma	<100 pg/mL
C peptide, serum	0.8–3.1 ng/mL
Calcitonin, serum	Female: ≤5 pg/mL; male: ≤10 pg/mL
Calcium, ionized, serum	1.12–1.23 mmol/L
Calcium, serum	8.6–10.2 mg/dL
Calcium, urine	Female: <250 mg/24 hr; male: <300 mg/24 hr
Carbohydrate antigens, serum	
CA 19-9	0–37 U/mL
CA 27-29	<38.0 U/mL
CA 125	<35 U/mL
Carbon dioxide, serum	23–30 mEq/L
Carboxyhemoglobin, blood	<5%
Carcinoembryonic antigen, plasma	<2.5 ng/mL
Carotene, serum	75–300 μg/dL
Catecholamines, plasma	
Dopamine	<30 pg/mL
Epinephrine	
Supine	<50 pg/mL
Standing	<95 pg/mL
Norepinephrine	
Supine	112–658 pg/mL
Standing	217–1109 pg/mL
Catecholamines, urine	
Dopamine	65–400 μg/24 hr
Epinephrine	2–24 μg/24 hr
Norepinephrine	15–100 μg/24 hr
Total	26–121 μg/24 hr
CD4 T-lymphocyte count	530–1570/μL
Cell count, CSF:	
Leukocytes (WBCs)	0–5 cells/μL
Erythrocytes (RBCs)	0/μL
Ceruloplasmin, serum (plasma)	25–43 mg/dL

Chloride, CSF	120–130 mEq/L
Chloride, serum	98–106 mEq/L
Chloride, urine	
Random ("spot")	mEq/L; varies
24-hour measurement	mEq/24 hr; varies with intake
Cholesterol, serum	
Total	
Desirable	<200 mg/dL
Borderline-high	200–239 mg/dL
High	>239 mg/dL
High-density lipoprotein	
Low	Female: <50 mg/dL; male: <40 mg/dL
Low-density lipoprotein	
Optimal	<100 mg/dL
Near-optimal	100–129 mg/dL
Borderline-high	130–159 mg/dL
High	160–189 mg/dL
Very high	>189 mg/dL
Cholinesterase, serum (pseudocholinesterase)	≥0.5 pH unit/hr
Packed cells	≥0.7 pH unit/hr
Chorionic gonadotropin, beta-human	See Beta-human chorionic gonadotropin (beta-hCG),
(beta-hCG), serum	serum
Chorionic gonadotropin, beta-human	See Beta-human chorionic gonadotropin (beta-hCG),
(beta-hCG), urine	urine
Chromogranin A, serum	<93 ng/mL
Citrate, urine Coagulation factors, plasma	250–1000 mg/24 hr
Factor I (fibrinogen)	200–400 mg/dL
Factor I (Institutiogeri) Factor II (prothrombin)	60%—130%
Factor V (accelerator globulin)	60%–130%
Factor V (accelerator globulin) Factor VII (proconvertin)	60%–130%
Factor VII (proconvertin) Factor VIII (antihemophilic globulin)	50%–150%
Factor IX (plasma thromboplastin component)	60%–130%
Factor X (Stuart factor)	60%–130%
Factor X (Stuart factor) Factor XI (plasma thromboplastin antecedent)	60%–130%
Factor XII (Hageman factor)	60%–130%
Factor XIII	57%–192%
	>1:64 positive
Cold agglutinin titer Complement components, serum	>1.04 positive
C3	100–233 mg/dL
C4	14–48 mg/dL
CH50	110–190 units/mL
Copper, serum	100–200 μg/dL
Copper, urine	0–100 μg/dL 0–100 μg/24 hr
Coproporphyrin, urine	50–250 μg/24 hr
Cortisol, free, urine	4–50 μg/24 hr
Cortisol, plasma	
8 AM	, 5–25 μg/dL
4 PM	5-25 μg/dL <10 μg/dL
1 hour after cosyntropin	≥18 µg/dL
Overnight suppression test (1-mg)	<1.8 μg/dL
Overnight suppression test (1-mg) Overnight suppression test (8-mg)	>50% reduction in cortisol
Cortisol, saliva, 11 PM – midnight	<0.09 µg/dL
Cortison, sanva, II Fivi – Illiunight	νο.ο υ μg/ uL

C-reactive protein, serum	≤0.8 mg/dL
C-reactive protein (high sensitivity), serum	Low cardiovascular risk: <1.0 mg/L;
o reactive protein (ingit sensitively), serain	Average cardiovascular risk: 1.0–3.0 mg/L;
	High cardiovascular risk: >3.0 mg/L
Creatine kinase, serum	
Total	Female: 30–135 U/L; male: 55–170 U/L
MB isoenzymes	<5% of total
Creatine, urine	Female: 0-100 mg/24 hr; male: 0-40 mg/24 hr
Creatinine clearance, urine	90–140 mL/min/1.73 m ²
Creatinine, serum	Female: 0.50–1.10 mg/dL; male: 0.70–1.30 mg/dL
Creatinine, urine	
Random ("spot")	mg/dL; varies
24-hour measurement	15–25 mg/kg body weight/24 hr
D-dimer, plasma	<0.5 μg/mL
Dehydroepiandrosterone sulfate (DHEA-S), serum	Female: 44–332 μg/dL; male: 89–457 μg/dL
Delta-aminolevulinic acid, serum	<20 μg/dL
Dihydrotestosterone, serum	Adult male: 25–80 ng/dL
Dopamine, plasma	<30 pg/mL
Dopamine, urine	65–400 μg/24 hr
D-Xylose absorption	22 22 70
(after ingestion of 25 g of D-xylose)	
Serum	25–40 mg/dL
Urinary excretion	4.5–7.5 g during a 5-hr period
Electrolytes, serum	
Sodium	136–145 mEq/L
Potassium	3.5–5.0 mEq/L
Chloride	98–106 mEq/L
Bicarbonate	23–28 mEg/L
Epinephrine, plasma	
Supine	<110 pg/mL
Standing	<140 pg/mL
Epinephrine, urine	<20 μg/24 hr
Erythrocyte count	4.2–5.9 million/μL
Erythrocyte sedimentation rate (Westergren)	Female: 0–20 mm/hr; male: 0–15 mm/hr
Erythrocyte survival rate (⁵¹ Cr)	T½ = 28 days
Erythropoietin, serum	4–26 mU/mL
Estradiol, serum	
Female, follicular	10–180 pg/mL
Mid-cycle peak	100–300 pg/mL
Luteal	40–200 pg/mL
Postmenopausal	<10 pg/mL
Male	20–50 pg/mL
Estriol, urine	>12 mg/24 hr
Estrogen receptor protein	Negative: <10 fmol/mg protein
Estrone, serum	10–60 pg/mL
Ethanol, blood	<0.005% (<5 mg/dL)
Coma level	>0.5% (>500 mg/dL) ≥0.08%–0.1% (≥80–100 mg/dL)
Intoxication Fuglebulin elet lysis time	2–4 hours at 37.0 C
Euglobulin clot lysis time	
Factor XIII, B subunit, plasma	60–130 U/dL

Fecal weight	Fecal fat	<7 g/24 hr
Ferritin, serum Female: 24–307 ng/mL; male: 24–336 ng/mL Fibrinogen) degradation products <10 μg/mL	Fecal pH	7.0–7.5
Ferritin, serum Female: 24–307 ng/mL; male: 24–336 ng/mL Fibrinogen) degradation products <10 μg/mL	Fecal weight	<250 g/24 hr
Fibroinogen, plasma 200–400 mg/dL	-	-
Fibroblast growth factor-23, serum 30-80 RU/mL 150-450 Ry/mL of packed cells 180-450 Ry/mL 180-450	Fibrin(ogen) degradation products	<10 μg/mL
Folate, red cell Folate, serum Folicie-stimulating hormone, serum Female, folicular/juteal Female, nid-cycle peak Female, postmenopausal Male (adult) Children, Tanner stages 3, 4, 5 Free kappa light chain, serum Free kappa-1o-free lambda light chain ratio, serum Free kappa-1o-free lambda light chain ratio, serum Free kappa light chain, serum Free kappa-1o-free lambda light chain ratio, serum Free kappa-1o-free	Fibrinogen, plasma	200–400 mg/dL
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Glycoprotein α-subunit, serum <1 ng/mL		<u> </u>
Growth hormone, serum At rest Response to provocative stimuli<5 ng/mLHaptoglobin, serum83–267 mg/dLHematocrit, bloodFemale: 37%–47%; male: 42%–50%Hemoglobin A1c4.0%–5.6%Hemoglobin, bloodFemale: 12–16 g/dL; male: 14–18 g/dLHemoglobin fractionation Hb A Hb A2 Hb F1.5%–3.5%Hemoglobin, plasma<5.0 mg/dL	· · · · · · · · · · · · · · · · · · ·	
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Hematocrit, bloodFemale: $37\%-47\%$; male: $42\%-50\%$ Hemoglobin A $_{1C}$ $4.0\%-5.6\%$ Hemoglobin, bloodFemale: $12-16$ g/dL; male: $14-18$ g/dLHemoglobin fractionation Hb A Hb A $_2$ Hb F $96\%-98\%$ $1.5\%-3.5\%$ 41% Hemoglobin, plasma <5.0 mg/dLHeparin-anti-factor Xa assay, plasma $0.3-0.7$ IU/mL [therapeutic range for standard (unfractionated) heparin therapy]Heparin-platelet factor 4 antibody, serumPositive: >0.4 optical density unitHepatic copper $25-40$ μg/g dry weightHepatic iron index <1.0 Histamine excretion, urine $20-50$ μg/24 hrHomocysteine, plasma $<5-15$ μmol/L >6 -Human chorionic gonadotropin (>6 -hCG), serumFemale, premenopausal nonpregnant: <1.0 U/L; female, postmenopausal: <7.0 U/L; male: <1.4 U/L >6 -Human chorionic gonadotropin (>6 -hCG), urine <2 mlU/24 hr		
Hemoglobin A_{1C} 4.0%-5.6%Hemoglobin, bloodFemale: 12-16 g/dL; male: 14-18 g/dLHemoglobin fractionation Hb A Hb A22 Hb F96%-98% 1.5%-3.5% <1%	· ·	
Hemoglobin, blood Hemoglobin fractionation Hb A Hb A Hemoglobin, plasma Hemoglobin, plasma Heparin—platelet factor 4 antibody, serum Hepatic copper Hepatic iron index Hepatic iron index Homogysteine, plasma Homogysteine, plasma B-Human chorionic gonadotropin (β-hCG), serum Female: 12–16 g/dL; male: 14–18 g/dL Female: 12	·	
Hemoglobin fractionation Hb A Hb A Hb A Hb A Hemoglobin, plasma Heparin—anti-factor Xa assay, plasma Heparin—platelet factor 4 antibody, serum Hepatic copper Hepatic iron index Hepatic iron index Homocysteine, plasma B-Human chorionic gonadotropin (β-hCG), serum β-Human chorionic gonadotropin (β-hCG), urine Homocysteine, plasma Hemoglobin fractionated (n.5%—3.5% -1% -1% -1% -1% -1% -1% -1% -		
Hb A96%–98%Hb A21.5%–3.5%Hb F<1%		Female: 12–16 g/dL; male: 14–18 g/dL
Hb A ₂ Hb F 1.5%–3.5% - 1% Hemoglobin, plasma - 5.0 mg/dL Heparin–anti-factor Xa assay, plasma 0.3–0.7 IU/mL [therapeutic range for standard (unfractionated) heparin therapy] Heparin–platelet factor 4 antibody, serum Positive: >0.4 optical density unit Hepatic copper 25–40 μg/g dry weight Hepatic iron index Hepatic iron index - 1.0 Histamine excretion, urine 20–50 μg/24 hr Homocysteine, plasma 5–15 μmol/L β-Human chorionic gonadotropin (β-hCG), serum Female, premenopausal nonpregnant: <1.0 U/L; female, postmenopausal: <7.0 U/L; male: <1.4 U/L β-Human chorionic gonadotropin (β-hCG), urine	-	000/ 000/
Hb F Hemoglobin, plasma 45.0 mg/dL Heparin–anti-factor Xa assay, plasma		
Hemoglobin, plasma <5.0 mg/dL Heparin—anti-factor Xa assay, plasma 0.3—0.7 IU/mL [therapeutic range for standard (unfractionated) heparin therapy] Heparin—platelet factor 4 antibody, serum Positive: >0.4 optical density unit Hepatic copper 25—40 μg/g dry weight Hepatic iron index <1.0 Histamine excretion, urine 20—50 μg/24 hr Homocysteine, plasma 5—15 μmol/L β-Human chorionic gonadotropin (β-hCG), serum Female, premenopausal nonpregnant: <1.0 U/L; female, postmenopausal: <7.0 U/L; male: <1.4 U/L β-Human chorionic gonadotropin (β-hCG), urine <2 mIU/24 hr		
Heparin—anti-factor Xa assay, plasma $0.3-0.7 \text{ IU/mL}$ [therapeutic range for standard (unfractionated) heparin therapy]Heparin—platelet factor 4 antibody, serumPositive: >0.4 optical density unitHepatic copper $25-40 \mu g/g$ dry weightHepatic iron index <1.0 Histamine excretion, urine $20-50 \mu g/24 \text{ hr}$ Homocysteine, plasma $5-15 \mu \text{mol/L}$ β -Human chorionic gonadotropin (β -hCG), serumFemale, premenopausal nonpregnant: $<1.0 \text{ U/L}$; female, postmenopausal: $<7.0 \text{ U/L}$; male: $<1.4 \text{ U/L}$ β -Human chorionic gonadotropin (β -hCG), urine $<2 \text{ mIU/24 hr}$		
Heparin-platelet factor 4 antibody, serum(unfractionated) heparin therapy]Heparin-platelet factor 4 antibody, serumPositive: >0.4 optical density unitHepatic copper $25-40 \mu g/g dry weight$ Hepatic iron index<1.0	- '	<u> </u>
Heparin-platelet factor 4 antibody, serumPositive: >0.4 optical density unitHepatic copper $25-40 \mu g/g dry weight$ Hepatic iron index <1.0 Histamine excretion, urine $20-50 \mu g/24 hr$ Homocysteine, plasma $5-15 \mu mol/L$ β-Human chorionic gonadotropin (β-hCG), serumFemale, premenopausal nonpregnant: $<1.0 U/L$; female, postmenopausal: $<7.0 U/L$; male: $<1.4 U/L$ β-Human chorionic gonadotropin (β-hCG), urine $<2 m U/24 hr$	Heparin–anti-tactor Xa assay, plasma	
Hepatic copper25–40 μg/g dry weightHepatic iron index<1.0	Honorin, platalat factor 4 antihady, sarying	
Hepatic iron index <1.0		
Histamine excretion, urine 20–50 μg/24 hr Homocysteine, plasma 5–15 μmol/L β-Human chorionic gonadotropin (β-hCG), serum postmenopausal: <7.0 U/L; male: <1.4 U/L β-Human chorionic gonadotropin (β-hCG), urine 20–50 μg/24 hr Female, premenopausal nonpregnant: <1.0 U/L; female, postmenopausal: <7.0 U/L; male: <1.4 U/L		
Homocysteine, plasma 5–15 μmol/L β-Human chorionic gonadotropin (β-hCG), serum Female, premenopausal nonpregnant: <1.0 U/L; female, postmenopausal: <7.0 U/L; male: <1.4 U/L β-Human chorionic gonadotropin (β-hCG), urine <2 mIU/24 hr	·	
β-Human chorionic gonadotropin (β-hCG), serum Female, premenopausal nonpregnant: <1.0 U/L; female, postmenopausal: <7.0 U/L; male: <1.4 U/L β-Human chorionic gonadotropin (β-hCG), urine <2 mIU/24 hr		
postmenopausal: <7.0 U/L; male: <1.4 U/Lβ-Human chorionic gonadotropin (β-hCG), urine<2 mIU/24 hr		·
β-Human chorionic gonadotropin (β-hCG), urine <2 mIU/24 hr	p-numan chononic gonadotropin (p-nCG), serum	· · · · · · · · · · · · · · · · · · ·
Hydroxyproline, urine 10–30 mg/sq meter of body surface/24 hr	β-Human chorionic gonadotropin (β-hCG), urine	
	Hydroxyproline, urine	10–30 mg/sq meter of body surface/24 hr

Immature platelet fraction	1%–5% of platelet count
Immune complexes, serum	0–50 μg/dL
Immunoglobulins, serum	υ 30 μg/ αι
IgA	90–325 mg/dL
IgE	<380 IU/mL
	800–1500 mg/dL
IgG	45–1500 mg/dL
IgM	45-150 Hig/dL
Immunoglobulin free light chains, serum	2.2.40.4 //
Kappa	3.3–19.4 mg/L
Lambda	5.7–26.3 mg/L
Kappa-to-lambda ratio	0.26–1.65
Insulin, serum (fasting)	<20 μU/mL
Insulin-like growth factor 1 (IGF-1)	
(somatomedin-C), serum	103. 700 n=/ml
Ages 16–24	182–780 ng/mL
Ages 25–39	114–492 ng/mL
Ages 40–54	90–360 ng/mL
Ages 55 and older	71–290 ng/mL
lodine, urine	
Random ("spot")	μg/L; varies
Iron, serum	50–150 μg/dL
Iron-binding capacity, serum (total)	250–310 μg/dL
Lactate dehydrogenase, serum	80–225 U/L
Lactate, arterial blood	<1.3 mmol/L (<1.3 mEq/L)
Lactate, serum or plasma	0.7–2.1 mmol/L
Lactate, venous blood	0.7–1.8 mEq/L; 6–16 mg/dL
Lactic acid, serum	6–19 mg/dL (0.7–2.1 mmol/L)
Lactose tolerance test, GI	Increase in plasma glucose: >15 mg/dL
Lead, blood	<5.0 μg/dL
Leukocyte count	4000–11,000/μL
Segmented neutrophils	50%–70%
Band forms	0%–5%
Lymphocytes	30%–45%
Monocytes	0%–6%
Basophils	0%–1%
Eosinophils	0%–3%
Lipase, serum	10–140 U/L
Lipoprotein(a), serum	Desirable: <30 mg/dL
Luteinizing hormone (LH), serum	<u> </u>
Female, follicular/luteal	1–12 mIU/mL (1–12 U/L)
Female, mid-cycle peak	9–80 mIU/mL (9–80 U/L)
Female, postmenopausal	>30 mIU/mL (>30 U/L)
Male (adult)	2–9 mIU/mL (2–9 U/L)
Children, Tanner stages 1, 2, 3	<9.0 mIU/mL (<9.0 U/L)
Children, Tanner stages 4, 5	1–15 mIU/mL (1–15 U/L)
Ciniuren, rainier stages 4, 5	1–13 IIIIO/IIII (1–13 O/L)

Luca ula a sula acula acta	
Lymphocyte subsets	200 2245/ 1
CD3	900–3245/μL
CD4	530–1570/μL
CD8	430–1060/μL
CD19	208–590/μL
CD56	40–500/μL
Magnesium, serum	1.6–2.6 mg/dL 14–290 mg/24 hr
Magnesium, urine	-
Mean corpuscular hemoglobin	28–32 pg
Mean corpuscular hemoglobin concentration	33–36 g/dL
Mean corpuscular volume	80–98 fL
Mean platelet volume	7–9 fL
Metanephrines, fractionated, plasma	
Metanephrine	<0.5 nmol/L
Normetanephrine	<0.9 nmol/L
Metanephrines, fractionated, 24-hour urine	
Metanephrine	<400 μg/24 hr
Normetanephrine	<900 μg/24 hr
Methylmalonic acid, serum	0.00–0.40 μmol/L
Myoglobin, serum	<100 μg/L
Norepinephrine, plasma	
Supine	70–750 pg/mL
Standing	200–1700 pg/mL
Norepinephrine, urine	0–100 μg/24 hr
Normetanephrine, fractionated, plasma	<0.9 nmol/L
Normetanephrine, fractionated, 24-hour urine	<900 μg/24 hr
N -telopeptide, urine	Female: 11–48 nmol BCE/mmol creatinine;
· · ·	male: 7–68 nmol BCE/mmol creatinine
<i>N</i> -terminal-pro-B-type natriuretic peptide (NT-pro-BNP),	If eGFR >60 mL/min/1.73 m ²
serum or plasma	18 –49 years of age
	Heart failure unlikely: ≤300 pg/mL
	High probability of heart failure: ≥450 pg/mL
	50–75 years of age
	Heart failure unlikely: ≤300 pg/mL
	High probability of heart failure: ≥900 pg/mL
	Older than 75 years of age Heart failure unlikely: ≤300 pg/mL
	High probability of heart failure: ≥1800 pg/mL
	If eGFR <60 mL/min/1.73 m ²
	18 years of age or older
	High probability of heart failure: ≥1200 pg/mL
Osmolality, serum	275–295 mOsm/kg H ₂ O
Osmolality, urine	38–1400 mOsm/kg H ₂ O
Osmotic fragility of erythrocytes	Increased if hemolysis occurs in over 0.5% NaCl;
<u> </u>	decreased if hemolysis is incomplete in 0.3% NaCl
Osteocalcin, serum	Female: 7.2–27.9 ng/mL; male: 11.3–35.4 ng/mL
Oxalate, urine	<40 mg/24 hr
Oxygen consumption	225–275 mL/min
Oxygen saturation, arterial blood	≥95%
Parathyroid hormone, serum	
C-terminal	150–350 pg/mL
Intact	10–65 pg/mL
Intact (dialysis patients only)	Target: 130–585 pg/mL
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Partial thromboplastin time (activated) 25–35 seconds	Parathyroid hormone-related protein, serum	<1.5 pmol/L
Phenolsulfonphthalein, urine At least 25% excreted by 15 minutes; 40% by 30 minutes; 60% by 120 minutes. Phosphatase (acid), serum 0.5–2.0 (Bodansky) units/ml. Total 0.5–2.0 (Bodansky) units/ml. Phosphatase (alkaline), serum 30–120 U/L Phospholipids, serum (total) 200–300 mg/dt. Phosphorus, serum 3.0–45 mg/dt. Phosphorus, urine 500–1200 mg/24 hr Platelet count 150,000–450,000/μL Platelet function analysis (PFA-100): 60–143 seconds Collagen—epinephrine dosure time 60–143 seconds Collagen—ADP closure time 60–143 seconds Platelet survival rate (⁵¹ Cr) 10 days Potassium, urine mEq/L; varies Random ("spot") mEq/L; varies 24-hour measurement mEq/2 hr; varies with intake Prealbumin, serum 16–30 mg/dt. Pressure (opening) [initial], CSF 70–180 mm CSF (70–180 mm H ₂ O); 7–18 cm H ₂ O Prosecure (opening) [initial], CSF 70–180 mm CSF (70–180 mm H ₂ O); 7–18 cm H ₂ O Procalcitonin, serum 30.10 ng/mL Female, follicular 200 ng/mL Female, follicular	Partial thromboplastin time (activated)	25–35 seconds
A0% by 30 minutes;	pH, urine	4.5–8.0
60% by 120 minutes	Phenolsulfonphthalein, urine	At least 25% excreted by 15 minutes;
Phosphatase (acid), serum		40% by 30 minutes;
Total Prostatic fraction D.1—0.4 unit/mL Phosphatase (alkaline), serum Phosphotipids, serum (total) Phosphorus, urine Phosphorus, urine Platelet count Platelet count Platelet count Platelet count Platelet survival rate (³¹Cr) Patassium, serum Bradem ("spot") Patassium, serum Bressure (opening) [initial], CSF Procalcitioni, serum Progesterone, serum Progesterone, serum Prostate, surine Prostate-specific antigen, serum Protein C activity, plasma Protein C activity, plasma Protein C activity, plasma Protein, CSF total Protein, CSF total Proteins, Serum Protein Cast guize ("south "Cast guize") Proteins, CSF total Proteins, Serum Protein, urine Proteins, serum Proteins, each guize ("south "Cast guize") Proteins, urine Proteins, each guize ("south "Cast guize") Proteins, cSF total		60% by 120 minutes
Prostatic fraction 0.1–0.4 unit/mL Phosphatase (alkaline), serum 30–120 U/L Phospholipids, serum (total) 200–300 mg/dL Phosphorus, serum 3.0–4.5 mg/dL Phosphorus, urine 500–1200 mg/24 hr Platelet count 150,000–450,000/μL Platelet function analysis (PFA-100): 60–143 seconds Collagen—epinephrine closure time 60–143 seconds Polacelet survival rate (*31-cr) 10 days Potassium, serum 3.5–5.0 mEd/L Potassium, urine mEq/L; varies Random ("spot") mEq/24 hr; varies with intake 24-hour measurement mEq/24 hr; varies with intake Prealbumin, serum 16–30 mg/dL Pregnanetriol, urine 0.2–3.5 mg/d4 hr Pressure (opening) [initial], CSF 70–180 mm CSF (70–180 mm H₂O); 7–18 cm H₂O Procalcitonin, serum 50.10 ng/mL Progesterone, serum 60.10 ng/mL Female, follicular 0.02–0.9 ng/mL Female, juteal 2-30 ng/mL Prolacitin, serum 3–20 pmol/L Prolacitin, serum 3–20 pmol/L Prot	Phosphatase (acid), serum	
Phosphatase (alkaline), serum 30–120 U/L Phospholipids, serum (total) 200–300 mg/dL Phosphorus, serum 3.0–4.5 mg/dL Phosphorus, surine 500–1200 mg/24 hr Platelet count 150,000–450,000/μL Platelet function analysis (PFA-100): 60–143 seconds Collagen-epinephrine closure time 60–143 seconds Collagen-ADP closure time 58–123 seconds Platelet survival rate (⁵¹ Cr) 10 days Potassium, serum 3.5–5.0 mEq/L Potassium, serum mEq/L; varies Random ("spot") mEq/L; varies with intake Prealbumin, serum 16–30 mg/dL Presure (opening) [initial], CSF 70–180 mm CSF (70–180 mm H₂O); 7–18 cm H₂O Prosacitionin, serum 50.10 ng/mL Prosesterone, serum 50.10 ng/mL Female, Juteal 2–30 ng/mL Male (adult) 0.12–0.3 ng/mL Prolactin, serum 3–20 pmol/L Prostate-specific antigen, serum q.20 ng/mL Prostate-specific antigen, serum ng/m.; no specific normal or abnormal level Protein C antigen, plasma 75%–130%	Total	0.5–2.0 (Bodansky) units/mL
Phospholipids, serum (total) 200–300 mg/dL Phosphorus, serum 3.0–4.5 mg/dL Phosphorus, urine 500–1200 mg/24 hr Platelet count 150,000–450,000/μL Platelet function analysis (PFA-100): 60–143 seconds Collagen-epinephrine closure time 60–143 seconds Collagen-ADP closure time 58–123 seconds Platelet survival rate (**10 cm) 10 days Potassium, urine mEq/L; varies Random ("spot") mEq/L; varies 24-hour measurement mEq/L; varies with intake Prealbumin, serum 16–30 mg/dL Pregnanetriol, urine 0.2–3.5 mg/24 hr Pressure (opening) [initial], CSF 70–180 mm CSF (70–180 mm H₂O); 7–18 cm H₂O Procalcitonin, serum 50.10 ng/mL Progesterone, serum Female, follicular Female, follicular 0.02–0.9 ng/mL Female, follicular 0.02–0.9 ng/mL Female, follicular 0.02–0.3 ng/mL Prolicular, serum 2–20 ng/mL Prolicular, serum 2–20 ng/mL Prolicular, serum 2–20 ng/mL Protein C acti	Prostatic fraction	0.1–0.4 unit/mL
Phosphorus, serum 3.0-4.5 mg/dL Phosphorus, urine 500-1200 mg/24 hr Platelet count 150,000-450,000/µL Platelet function analysis (PFA-100): 60-143 seconds Collagen-epinephrine closure time 60-143 seconds Platelet survival rate (²¹Cr) 10 days Potassium, serum 3.5-5.0 mEq/L Potassium, urine mEq/L; varies Random ("spot") mEq/L; varies Prealbumin, serum 16-30 mg/dL Prealbumin, serum 16-30 mg/dL Pressure (opening) [initial], CSF 70-180 mm CSF (70-180 mm H₂O); 7-18 cm H₂O Procactitonin, serum s0.10 ng/mL Progesterone, serum 5mg/dL Female, follicular 0.02-0.9 ng/mL Female, follicular 0.02-0.9 ng/mL Female, follicular 0.02-0.9 ng/mL Prolishin, serum 3-20 pmol/L Prolishin, serum 3-20 pmol/L Prolishin, serum q.20 ng/mL Protein C activity, plasma 65%-150% Protein C activity, plasma 70%-140% Protein C activity, plasma 75%-131% <td>Phosphatase (alkaline), serum</td> <td>30–120 U/L</td>	Phosphatase (alkaline), serum	30–120 U/L
Phosphorus, urine 500–1200 mg/24 hr Platelet count 150,000–450,000/μL Platelet function analysis (PFA-100): 60–143 seconds Collagen-App closure time 60–143 seconds Platelet survival rate (5¹Cr) 10 days Potassium, serum 3.5–5.0 mEq/L Potassium, urine mEq/L; varies Random ("spot") mEq/24 hr; varies with intake Prealbumin, serum 16–30 mg/dL Prespanetriol, urine 0.2–3.5 mg/24 hr Pressure (opening) [initial], CSF 70–180 mm CSF (70–180 mm H₂O); 7–18 cm H₂O Prosalcitonin, serum s0.10 ng/mL Progesterone, serum s0.10 ng/mL Female, Iuteal 0.2–0.9 ng/mL Male (adult) 0.12–0.3 ng/mL Proisulin, serum 3–20 pmol/L Prosinsulin, serum 3–20 pmol/L Protain, serum c0 ng/mL Protain C activity, plasma f5%–150% Protein C activity, plasma f5%–150% Protein C activity, plasma f0%–140% Protein S antigen, plasma f0%–140% Protein S antigen, plasma f0%–140%<	Phospholipids, serum (total)	200–300 mg/dL
Platelet count 150,000–450,000/µL Platelet function analysis (PFA-100): Collagen-epinephrine closure time 60–143 seconds Collagen-ADP closure time 58–123 seconds Platelet survival rate (51 Cr) 10 days Potassium, serum 3.5–5.0 mEq/L Potassium, urine Random ("spot") mEq/L; varies Random ("spot") mEq/L; varies with intake Prealbumin, serum 16–30 mg/dL Pregananetriol, urine 0.2–3.5 mg/24 hr Pressure (opening) [initial], CSF 70–180 mm CSF (70–180 mm H ₂ O); 7–18 cm H ₂ O Progesterone, serum 50.10 ng/mL Progesterone, serum -2-30 ng/mL Male (adult) 0.12–0.3 ng/mL Proinsulin, serum 3–20 pmol/L Proinsulin, serum 3–20 pmol/L Prolactin, serum 3–20 pmol/L Prostate-specific antigen, serum ng/mL; no specific normal or abnormal level Protein C activity, plasma 70%–140% Protein C antigen, plasma 70%–140% Protein S antigen, plasma 70%–140% Protein S antigen, plasma 70%–130% Protein S antigen, plasma 70%–130% Protein S antigen, plasma 70%–130% Protein, urine Random ("spot") mg/dL; varies Random ("spot") mg/dL; varies Random ("spot") 24-hour measurement 4.00 mg/24 hr Proteins, CSF total 7-45 mg/dL Proteins, Serum 70tal 5.5–9.0 g/dL	Phosphorus, serum	3.0–4.5 mg/dL
Platelet function analysis (PFA-100): Collagen—epinephrine closure time	Phosphorus, urine	500–1200 mg/24 hr
Collagen—epinephrine closure time Collagen—ADP closure time S8—123 seconds Platelet survival rate (S1Cr) Potassium, serum 3.5—5.0 mEq/L Potassium, urine Random ("spot") 24-hour measurement Prealbumin, serum 16—30 mg/dL Pregnanetriol, urine Pressure (opening) [initial], CSF Procalcitonin, serum Procalcitonin, serum Progesterone, serum Female, follicular Female, luteal Male (adult) Driossulin, serum Prostate-specific antigen, serum Prostate-specific antigen, serum Protein C activity, plasma Protein C antigen, plasma Protein S antigen, plasma Total Protein, urine Random ("spot") 24-hour measurement 60–143 seconds 8–123 seconds 10 days 8–123 seconds 10 days 8–123 seconds 10 days 8–123 seconds 16–10 days 16–10 days	Platelet count	150,000–450,000/μL
Collagen-ADP closure time Platelet survival rate (\$^{51}Cr) Potassium, serum Random ("spot") 24-hour measurement Presibumin, serum 16-30 mg/dL Pregnanetriol, urine Procalcitonin, serum Female, follicular Female, luteal Male (adult) Proissuin, serum Prostate-specific antigen, serum Prostate-specific attigen, plasma Protein C activity, plasma Protein S antigen, plasma Total Proteins, CSF total Proteins, CSF total Proteins, CSF total Proteins, CSF total Proteins, Serum S13 seconds meq/L; varies meq/L; varies meq/L; varies meq/L; varies with intake meq/L; varies meq/L; varies meq/L; varies with intake meq/L; varies with intake meq/L; varies meq/L; varies meq/L; varies with intake meq/L; varies meg/L; varies meg/Li	Platelet function analysis (PFA-100):	
Platelet survival rate (\$^{1}Cr) Potassium, serum 3.5–5.0 mEq/L Potassium, urine Random ("spot") 24-hour measurement Prealbumin, serum Pressure (opening) [initial], CSF Procalcitonin, serum Female, follicular Female, follicular Female, luteal Male (adult) Proinsulin, serum Prostate-specific antigen, serum Protein C activity, plasma Protein S activity, plasma Total Proteins, CSF total Proteins, CSF total Proteins, CSF total Proteins, SEF cMAD mEq/L; varies mEq/L; varies mEq/L24 hr; varies with intake mEq/L24 hr; varies with intake mEq/L24 hr; varies with intake mEq/L2 hr; varies mEq/L2 hr; varies with intake mEq/L2	Collagen–epinephrine closure time	60–143 seconds
Potassium, serum Potassium, urine Random ("spot") 24-hour measurement Prealbumin, serum Pregnanetriol, urine Pressure (opening) [initial], CSF Procalcitonin, serum Progesterone, serum Female, Iuteal Male (adult) Proinsulin, serum Prostate-specific antigen, plasma Protein S antigen, plasma Total Proteins S antigen, plasma Total Proteins, CSF total Proteins, CSF total Proteins, Serum 3.5–5.0 mEq/L mEq/L; varies mEq/24 hr; varies with intake mEq/24 hr; varies andom ("spot") andom mEq/2 hr; protein S artigen, plasma Total Proteins, Serum Total Proteins, Serum Total 5.5–9.0 g/dL	Collagen–ADP closure time	58–123 seconds
Potassium, urine Random ("spot") 24-hour measurement Prealbumin, serum Presburnin, serum Pressure (opening) [initial], CSF Procalcitonin, serum Procalcitonin, serum Progesterone, serum Female, follicular Female, luteal Male (adult) Proinsulin, serum Prostatin, serum Prostatin, serum Prostatin, serum Prostatin, serum Proinsulin, serum Proinsulin, serum Protein C activity, plasma Protein C antigen, plasma Protein C antigen, plasma Protein S antigen, plasma Total Free Random ("spot") 24-hour measurement Proteins, CSF total Proteins, Serum Proteins, SFF total Prot	Platelet survival rate (51Cr)	10 days
Random ("spot") 24-hour measurement Prealbumin, serum 16–30 mg/dL Pregnanetriol, urine Pressure (opening) [initial], CSF Procalcitonin, serum Progesterone, serum Female, Iuteal Male (adult) Proinsulin, serum Proisulin, serum Prostate-specific antigen, serum Protein C activity, plasma Protein S activity, plasma Total Proteins, CSF total Proteins, CSF total Proteins, CSF total Proteins, CSF total Proteins, Serum REq/L; varies mEq/24 hr; varies with intake mEq/L; varies mEq/24 hr; varies with intake mEq/L; varies meq/L; varies with intake mEq/L; varies meq/24 hr Pro-180 mm CSF (70–180 mm H ₂ O); 7–18 cm H ₂ O S-3.5 mg/24 hr Pro-180 mm CSF (70–180 mm H ₂ O); 7–18 cm H ₂ O S-3.5 mg/24 hr Pro-180 mm CSF (70–180 mm H ₂ O); 7–18 cm H ₂ O S-3.5 mg/24 hr Pro-180 mm CSF (70–180 mm H ₂ O); 7–18 cm H ₂ O S-3.5 mg/24 hr Protein S and me H ₂ O); 7–18 cm H ₂ O Male (30–180 mm H ₂ O); 7–18 cm H ₂ O S-3.5 mg/24 hr Protein, urine Random ("spot") 24-hour measurement Proteins, CSF total Proteins, serum Total S.5–9.0 g/dL	Potassium, serum	3.5–5.0 mEq/L
24-hour measurement mEq/24 hr; varies with intake Prealbumin, serum 16–30 mg/dL Pregnanetriol, urine 0.2–3.5 mg/24 hr Pressure (opening) [initial], CSF 70–180 mm CSF (70–180 mm H ₂ O); 7–18 cm H ₂ O Procalcitonin, serum \$0.10 ng/mL Progesterone, serum Female, follicular Female, follicular Female, luteal 2–30 ng/mL Proinsulin, serum 3–20 pmol/L Proinsulin, serum 3–20 pmol/L Prostate-specific antigen, serum ng/mL; no specific normal or abnormal level Protein C activity, plasma 65%–150% Protein C antigen, plasma 70%–140% Protein S activity, plasma 57%–131% Protein S antigen, plasma Total 60%–140% Free 60%–130% Protein, urine Random ("spot") mg/dL; varies 2-4 ng/dL Proteins, SCF total 15–45 mg/dL Proteins, serum Total 5.5–9.0 g/dL	Potassium, urine	
Prealbumin, serum Pregnanetriol, urine Pressure (opening) [initial], CSF Procalcitonin, serum Progesterone, serum Female, follicular Female, luteal Male (adult) Proinsulin, serum Prostate-specific antigen, serum Protein C activity, plasma Protein S activity, plasma Protein S antigen, plasma Total Proteins, CSF total Proteins, CSF total Proteins, Serum Rendom ("spot") 24-hour measurement Proteins, serum Proteins, Serum Proteins, Serum Rendom ("spot") 24-bour measurement Proteins, Serum Proteins, Serum Proteins, Serum Rendom ("spot") 24-bour measurement Total Proteins, Serum Total S.5–9.0 g/dL	Random ("spot")	mEq/L; varies
Pregnanetriol, urine Pressure (opening) [initial], CSF 70–180 mm CSF (70–180 mm H ₂ O); 7–18 cm H ₂ O Procalcitonin, serum Progesterone, serum Female, follicular Female, luteal Male (adult) Proinsulin, serum Prosinsulin, serum Protein C activity, plasma Protein S activity, plasma Protein S antigen, plasma Total Proteins, CSF total Proteins, CSF total Proteins, SERUM Residunce 10.2–3.5 mg/24 hr 70–180 mm CSF (70–180 mm H ₂ O); 7–18 cm H ₂ O 70.9 ng/mL 70.9 ng/mL 70.02–0.9 ng/m	24-hour measurement	mEq/24 hr; varies with intake
Pressure (opening) [initial], CSF 70–180 mm CSF (70–180 mm H ₂ O); 7–18 cm H ₂ O Procalcitonin, serum Progesterone, serum Female, follicular Female, luteal Male (adult) Proinsulin, serum Prostate-specific antigen, serum Protein C activity, plasma Protein S activity, plasma Total Free Random ("spot") 24-hour measurement Proteins, serum Proteins, Serum Proteins, Sertina Proteins, Sertina Random ("spot") 24-hour measurement Total Proteins, serum Total Fine S.5–9.0 g/dL	Prealbumin, serum	16–30 mg/dL
Procalcitonin, serum Progesterone, serum Female, follicular Female, luteal Male (adult) Proinsulin, serum Prostate-specific antigen, serum Protein C activity, plasma Protein S activity, plasma Total Free Random ("spot") 24-hour measurement Proteins, serum Proteins, serum \$ 0.02−0.9 ng/mL 0.02−0.9 ng/	Pregnanetriol, urine	0.2–3.5 mg/24 hr
Progesterone, serum Female, follicular Female, luteal Male (adult) Proinsulin, serum Prostate-specific antigen, serum Protein C activity, plasma Protein S activity, plasma Total Free Random ("spot") 24-hour measurement Proteins, serum Proteins, serum Proteins, cSF total Proteins, serum 0.02-0.9 ng/mL 0.02-0.9 ng/mL 0.12-0.3 ng/m	Pressure (opening) [initial], CSF	70–180 mm CSF (70–180 mm H ₂ O); 7–18 cm H ₂ O
Female, follicular Female, luteal Male (adult) Proinsulin, serum Prostate-specific antigen, serum Protein C activity, plasma Protein S activity, plasma Total Free Random ("spot") 24-hour measurement Proteins, serum 0.02–0.9 ng/mL 2-30 ng/mL 0.12–0.3 ng/mL	Procalcitonin, serum	≤0.10 ng/mL
Female, luteal Male (adult) Proinsulin, serum Proinsulin, serum Prostate-specific antigen, serum Protein C activity, plasma Protein C attivity, plasma Protein S activity, plasma Protein S activity, plasma Total Free Random ("spot") 24-hour measurement Proteins, serum Total Proteins, cSF total Proteins, cSF total Proteins, serum Total Finee S.5–9.0 g/dL	Progesterone, serum	
Male (adult) Proinsulin, serum 3-20 pmol/L Prolactin, serum Prostate-specific antigen, serum Protein C activity, plasma Protein C antigen, plasma Protein S activity, plasma Protein S activity, plasma Frotein S antigen, plasma Total Free Random ("spot") 24-hour measurement Proteins, serum Total Proteins, cSF total Proteins, serum Total S.5-9.0 g/dL	Female, follicular	0.02–0.9 ng/mL
Proinsulin, serum Prolactin, serum Prostate-specific antigen, serum Protein C activity, plasma Protein C antigen, plasma Protein C atabolic rate, urine Protein S activity, plasma Frotein S antigen, plasma Total Free 60%-140% Protein, urine Random ("spot") 24-hour measurement Proteins, cSF total Proteins, serum Total Free 3-20 pmol/L 220 ng/mL 224 hr 226 how-140% 227 how-131% 228 how-140% 229 how-140% 230 ng/d24 hr 240 ng/d24 hr 250 ng/dL 250 ng/dL	Female, luteal	2–30 ng/mL
Prolactin, serum Prostate-specific antigen, serum Protein C activity, plasma Protein C antigen, plasma Protein catabolic rate, urine Protein S activity, plasma Total Free Free Frotein, urine Random ("spot") 24-hour measurement Proteins, CSF total Proteins, serum Total Proteins, serum Total Free S.5-9.0 g/dL	Male (adult)	0.12–0.3 ng/mL
Prostate-specific antigen, serum Protein C activity, plasma 65%—150% Protein C antigen, plasma 70%—140% Protein catabolic rate, urine goal: 1.0—1.2 g/kg/24 hr Protein S activity, plasma 57%—131% Protein S antigen, plasma Total Free 60%—140% Free 60%—130% Protein, urine Random ("spot") 24-hour measurement Proteins, CSF total Proteins, serum Total 5.5—9.0 g/dL	Proinsulin, serum	3–20 pmol/L
Protein C activity, plasma Protein C antigen, plasma Protein catabolic rate, urine Protein S activity, plasma Protein S antigen, plasma Total Free Free Frotein, urine Random ("spot") 24-hour measurement Proteins, CSF total Proteins, serum Total Frotein S antigen Frotein, serum Total Frotein, urine Froteins, Serum Total Froteins, Serum Total Froteins, Serum Total Froteins, Serum Total Froteins Serum Total Froteins Serum Total Froteins Serum Froteins Serum Total Froteins Serum Frotei	Prolactin, serum	<20 ng/mL
Protein C antigen, plasma Protein catabolic rate, urine goal: 1.0–1.2 g/kg/24 hr Protein S activity, plasma Frotein S antigen, plasma Total Free 60%–140% Free 60%–130% Protein, urine Random ("spot") 24-hour measurement Proteins, CSF total Proteins, serum Total 5.5–9.0 g/dL	Prostate-specific antigen, serum	ng/mL; no specific normal or abnormal level
Protein catabolic rate, urine goal: 1.0–1.2 g/kg/24 hr Protein S activity, plasma 57%–131% Protein S antigen, plasma 60%–140% Free 60%–130% Protein, urine Random ("spot") mg/dL; varies 24-hour measurement <100 mg/24 hr Proteins, CSF total 15–45 mg/dL Proteins, serum Total 5.5–9.0 g/dL	Protein C activity, plasma	65%–150%
Protein S activity, plasma Frotein S antigen, plasma Total Free 60%–140% Free 60%–130% Protein, urine Random ("spot") 24-hour measurement Proteins, CSF total Proteins, serum Total 57%–131% 60%–140% 60%–140% 60%–130% 15–45 mg/dL; varies 15–45 mg/dL 5.5–9.0 g/dL	Protein C antigen, plasma	70%–140%
Protein S antigen, plasma Total 60%–140% Free 60%–130% Protein, urine Random ("spot") mg/dL; varies 24-hour measurement <100 mg/24 hr Proteins, CSF total 15–45 mg/dL Proteins, serum Total 5.5–9.0 g/dL	Protein catabolic rate, urine	goal: 1.0–1.2 g/kg/24 hr
Total 60%–140% Free 60%–130% Protein, urine Random ("spot") mg/dL; varies 24-hour measurement <100 mg/24 hr Proteins, CSF total 15–45 mg/dL Proteins, serum Total 5.5–9.0 g/dL	Protein S activity, plasma	57%–131%
Free 60%–130% Protein, urine Random ("spot") mg/dL; varies 24-hour measurement <100 mg/24 hr Proteins, CSF total 15–45 mg/dL Proteins, serum Total 5.5–9.0 g/dL	Protein S antigen, plasma	
Protein, urine Random ("spot") 24-hour measurement Proteins, CSF total Proteins, serum Total Random ("spot") mg/dL; varies <100 mg/24 hr 15–45 mg/dL 5.5–9.0 g/dL	Total	60%–140%
Random ("spot") 24-hour measurement Proteins, CSF total Proteins, serum Total mg/dL; varies <100 mg/24 hr 15–45 mg/dL 5.5–9.0 g/dL	Free	60%–130%
24-hour measurement <100 mg/24 hr Proteins, CSF total 15–45 mg/dL Proteins, serum Total 5.5–9.0 g/dL	Protein, urine	
Proteins, CSF total 15–45 mg/dL Proteins, serum Total 5.5–9.0 g/dL	Random ("spot")	mg/dL; varies
Proteins, serum Total 5.5–9.0 g/dL	24-hour measurement	<100 mg/24 hr
Total 5.5–9.0 g/dL	Proteins, CSF total	15–45 mg/dL
	Proteins, serum	
Albumin 3.5–5.5 g/dL	Total	5.5–9.0 g/dL
	Albumin	3.5–5.5 g/dL

Drotoins corum (continued)	
Proteins, serum (continued)	2 0 2 5 -/4
Globulin	2.0–3.5 g/dL
Alpha1	0.2–0.4 g/dL
Alpha2	0.5–0.9 g/dL
Beta	0.6–1.1 g/dL
Gamma	0.7–1.7 g/dL
Protein-to-creatinine ratio, urine	<0.2 mg/mg
Prothrombin time, plasma	11–13 seconds
Pyruvic acid, blood	0.08–0.16 mmol/L
Red cell distribution width (RDW)	9.0%–14.5%
Red cell mass	Female: 22.7–27.9 mL/kg; male: 24.9–32.5 mL/kg
Renin activity (angiotensin-I radioimmunoassay)	
Peripheral plasma	
Normal diet	
Supine	0.3–2.5 ng/mL/hr
Upright	0.2–3.6 ng/mL/hr
Low sodium diet	
Supine	0.9–4.5 ng/mL/hr
Upright	4.1–9.1 ng/mL/hr
Diuretics + low sodium diet	6.3–13.7 ng/mL/hr
Renal vein concentration	Normal ratio (high:low): <1.5
Reptilase time	10–12 seconds
Reticulocyte count	0.5%–1.5% of red cells
Reticulocyte count, absolute	25,000–100,000/μL
Rheumatoid factor (nephelometry)	<24 IU/mL
Rheumatoid factor, latex test for	≤1:80
Ristocetin cofactor activity of plasma	See von Willebrand factor activity (ristocetin cofactor
instruction delivity of plasma	activity), plasma
Russell viper venom time, dilute	33–44 seconds
Sex hormone-binding globulin	Female, nonpregnant: 18–144 nmol/L;
	male: 10–57 nmol/L
Sodium, serum	136–145 mEq/L
Sodium, urine	
Random ("spot")	mEq/L; varies
24-hour measurement	mEq/24 hr; varies with intake
Specific gravity, urine	1.002-1.030
Sperm density	10–150 million/mL
Sweat test for sodium and chloride	<60 mEq/L
T3 resin uptake	25%–35%
T-lymphocyte count, CD4	530–1570/μL
Testosterone, serum	Female: 18–54 ng/dL; male: 291–1100 ng/dL
Testosterone, bioavailable, serum	Female, age 18–69 yrs: 0.5–8.5 ng/dL
Testosterone, free, serum	Male: 70–300 pg/mL
Thrombin time	17–23 seconds

Thyroid function studies	
T3 resin uptake	25%–35%
Thyroglobulin, serum	<20 ng/mL
Thyroidal iodine (¹²³ I) uptake	5%–30% of administered dose at 24 hours
Thyroid-stimulating hormone (TSH), serum	0.5–4.0 μU/mL (0.5–4.0 mU/L)
Thyroid-stimulating immunoglobulin (TSI)	<130%
Thyroxine-binding globulin, serum	12–27 μg/mL
Thyroxine index, free (estimate)	5–12
Thyroxine (T ₄), serum	
Total	5–12 μg/dL
Free	0.8–1.8 ng/dL
Triiodothyronine (T ₃), serum	-10 1.0, 1.1
Total	80–180 ng/dL
Reverse	20–40 ng/dL
Free	2.3–4.2 pg/mL
	<20 AU
Tissue transglutaminase antibody, IgA [by chemiluminescence method]	<20 AU
Tissue transglutaminase antibody, IgG	<20 AU
[by chemiluminescence method]	20.10
Tissue transglutaminase antibody, IgA	<4.0 U/mL
[by ELISA]	
Tissue transglutaminase antibody, IgG	<6.0 U/mL
[by ELISA]	1.17
Total proteins, CSF	15–45 mg/dL
Transaminase, serum glutamic oxaloacetic (SGOT)	See Aminotransferase, serum aspartate (AST)
Transaminase, serum glutamic pyruvic (SGPT)	See Aminotransferase, serum alanine (ALT)
Transferrin saturation	20%–50%
Transferrin, serum	200-400 mg/dL
Triglycerides, serum (fasting)	-
Optimal	<100 mg/dL
Normal	<150 mg/dL
Borderline-high	150–199 mg/dL
High	200–499 mg/dL
Very high	>499 mg/dL
Troponin I, cardiac, serum	≤0.04 ng/mL
Troponin T, cardiac, serum Troponin T, cardiac, serum	≤0.01 ng/mL
Troponin I, cardiac, serum Troponin I, cardiac, high-sensitivity, plasma	Soluting/mL Female: ≤15 ng/L; male: ≤20 ng/L
Troponin T, cardiac, high-sensitivity, plasma	Female: ≤10 ng/L; male: ≤15 ng/L
Tryptase, serum	<11.5 ng/mL
Urea clearance, urine	10.50.14.5
Standard	40–60 mL/min
Maximal	60–100 mL/min
Urea nitrogen, blood	8–20 mg/dL
Urea nitrogen, urine	12–20 g/24 hr
Uric acid, serum	3.0–7.0 mg/dL
Uric acid, urine	250–750 mg/24 hr
Uroporphyrin, urine	10–30 μg/24 hr
Vanillylmandelic acid, urine	<9 mg/24 hr
Venous oxygen content, mixed	14–16 mL/dL

7.32–7.41
42–53 mm Hg
35–42 mm Hg
24–28 mEq/L
65%–75%
1.4–1.8 cp
32.5–78.0 μg/dL
20–43 μg/dL
200–800 pg/mL
15–60 pg/mL
30–60 ng/mL
5.5–17.0 mg/L
2.9–16.6 mg/L
Female: 43 mL/kg body weight;
male: 44 mL/kg body weight
Female: 20–30 mL/kg body weight;
male: 25–35 mL/kg body weight
50%–150%
50%–150%
75–140 μg/dL

Revised - January 2025