

Clinical Tests Reference Ranges

Items	Reference ranges		Units	Test Equipment and Analysis Method	Measurement Facility	
	Male	Female				
Biochemistry						
Protein,Total	6.7-8.3		g/dL	Beckman Coulter, Inc. AU5800	Biuret method	
Albumin	3.8-5.2		g/dL		Improved BCP method	
Albumin/Globulin Ratio	1.1-2.0					
Asparate aminotransferase	10-40		U/L		JSCC standardised method	
Alanine aminotransferase	5-45		U/L		JSCC standardised method	
Lactate dehydrogenase	124-222		U/L		IFCC standardised method	
Bilirubin,Total	0.2-1.2		mg/dL		Enzymatic assay	
Bilirubin,Direct	0.0-0.2		mg/dL		Enzymatic assay	
Alkaline phosphatase	38-113		U/L		IFCC standardised method	
γ-Glutamyltransferase	≤80	≤30	U/L		JSCC standardised method	
Leucine aminopeptidase	45-81	37-61	U/L		L-leusyl-p-nitroanilid method	
Cholinesterase	234-493	200-452	U/L		JSCC standardised method	
Creatine kinase	60-270	40-150	U/L		JSCC standardised method	
Amylase	40-122		U/L		Enzymatic assay	
Blood urea nitrogen	8.0-20.0		mg/dL		Urease-GIDH method	
Creatinine	0.61-1.04	0.47-0.79	mg/dL		Enzymatic assay	
Uric acid	3.8-7.0	2.5-7.0	mg/dL		Enzymatic assay	
Sodium	137-147		mEq/L		ISE(Ion Selective Eelectrode)	
Chloride	98-108		mEq/L		ISE(Ion Selective Eelectrode)	
Potassium	3.5-5.0		mEq/L		ISE(Ion Selective Eelectrode)	
Calcium	8.4-10.4		mg/dL		Arsenazo III method	
Inorganic Phosphate	2.5-4.5		mg/dL		Enzymatic assay	
Magnesium	1.9-2.5		mg/dL		Enzymatic assay	
Cholesterol,Total	120-219		mg/dL		Enzymatic assay	
Cholesterol,LDL	65-139		mg/dL		Enzymatic assay (Direct method)	
Cholesterol,HDL	40-85	40-95	mg/dL		Enzymatic assay (Direct method)	
Triglyceride(s)	30-149		mg/dL		Enzymatic assay(Free glycerol remove method)	
Glucose	70-109		mg/dL		Enzymatic assay	
C-Reactive protein	≤0.30		mg/dL		Latex agglutination nephelometry	
Bilirubin,Indirect	0.2-1.0		mg/dL			
HCO3-	22.6-31.4		mmol/L		Enzymatic assay	
Hematology						
White blood cell count	3300-9000		/μL		Sysmex Corporation XN-1000	Flow Cytometry method
Red blood cell count	430-570	380-500	×10 ¹² /μL			DC detection method
Hemoglobin	13.5-17.5	11.5-15.0	g/dL			SLS-Hb method
Hematocrit	39.7-52.4	34.8-45.0	%			DC detection method
Mean corpuscular volume	85-102		fL			
Mean corpuscular hemoglobin	28.0-34.0		pg			
Mean corpuscular hemoglobin concentration	30.2-35.1		%			
Platelet count	14.0-34.0		×10 ¹⁰ /μL			DC detection method
Reticulocytes	4-19		%	Flow Cytometry method		
Differential white blood cell count	Neutrophils	40.0-75.0	%	Flow Cytometry method		
	Lymphocytes	18.0-49.0	%			
	Monocytes	2.0-10.0	%			
	Eosinophils	0.0-8.0	%			
Basophils	0.0-2.0		%			
Urinalysis						
Color				Eye sight		
Specific gravity	1.006-1.030			Refractometer method		
pH	5.0-7.5					
Glucose	(-)			Siemens Healthcare Diagnostics Corporation Clinitek Advantus	Testing paper	
Protein	(-)					
Occult blood	(-)					
Ketone bodies	(-)					
Bilirubin	(-)					
Urobilinogen	(++)					
Nitrite	(-)					
Leukocytes	(-)					
Turbidity						Eye sight
Sedimentary test,Erythrocytes			/HPF			Microscopic
Sedimentary test,Leukocytes			/HPF			
Sedimentary test, Squamous epithelial cells			/HPF			
Drug testing,Urine	(-)			Gold colloids particle immunoassay		
Methadone test	(-)			Immuno-chromatography		
Pregnancy test				Immuno-chromatography		
Cotinine test	(-)			Immuno-chromatography		
Others						
Breath alcohol test	0.00		mg/L	Semiconductor sensor		
Occult blood,Fecal	(-)			Immuno-chromatography		
Coagulation tests						
Prothrombin time:seconds	9.4-12.5		sec	IL JAPAN Corporation ACL TOP300	Coagulometric measurements	
Prothrombin time:Activity	70-100		%			
Prothrombin time:INR	0.85-1.15					
Activated partial thromboplastin time	25.0-36.0		sec			
Fibrinogen	155-415		mg/dL		clotting method adding thrombin	
Immunology						
Syphilis test,RPR	(-)			Beckman Coulter, Inc. AU5800	Latex agglutination nephelometry	
Syphilis test,TP antibody	(-)			AU5800	Latex agglutination nephelometry	
HBs antigen	(-)			Abbott Japan Corporation	CLIA	
HCV antibody,2nd generation	(-)			ARCHITECT2000	CLIA	
HIV antigen and antibody	(-)				CLIA	
SARS-CoV2	Negative			Tosoh Corporation TRCReady-80	TRC	