

Clinical Tests Reference Ranges

Items	Reference ranges		Units	Test Equipment and Analysis Method		Mesurement Facility		
	Male	Female						
Biochemistry								
Protein,Total	6.7-8.3		g/dL	Canon Medical Systems Corporation TBA-1500FR	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	0.4-1.5		mg/dL		Enzymatic assay			
Bilirubin,Direct	0.0-0.2		mg/dL		Enzymatic assay			
Bilirubin,Indirect	0.4-1.3		mg/dL					
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	44-132		U/L		Enzymatic assay			
Blood urea nitrogen	8.0-20.0		mg/dL		Urease-LEDH 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 Electorode)			
Chloride	98-108		mEq/L		ISE(Ion Selective Electorode)			
Potassium	3.5-5.0		mEq/L		ISE(Ion Selective Electorode)			
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			
HCO ₃ ⁻	22.6-31.4		mmol/L		Enzymatic assay			
HbA1c(NGSP)	4.6-6.2		%		Enzymatic assay			
Hematology								
White blood cell count	3300- 9000		/ μ L	Sysmex Corporation Sysmex XR-1000	Flow Cytometry method	HAKATA CLINIC		
Red blood cell count	430- 570	380- 500	× 10 ⁴ / μ L		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 ⁴ / μ L		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	%					
	Neutrophils absolute count		× 10 ² / μ L					
	Lymphocytes absolute count		× 10 ² / μ L					
	Monocytes absolute count		× 10 ² / μ L					
Eosinophils absolute count		× 10 ² / μ L						
Basophils absolute count		× 10 ² / μ L						
Reticulocytes absolute count			× 10 ⁴ / μ L					
Urinalysis								
Color				Eye sight				
Specific gravity	1.006-1.030			Refractometer method				
pH	5.0-7.5			Siemens Healthcare Diagnostics Corporation Clinitek Advantus	Testing paper			
Glucose	(-)							
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				
Pregnancy test				Immuno-chromatography				
Cotinine test	(-)			Immuno-chromatography				
Coaglation tests								
Prothrombin time;seconds	9.4-12.5		sec	Sysmex Corporation Sysmex CS-1600	Coagulometric mesurements			
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			

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Items		Reference ranges		Units	Test Equipment and Analysis Method		Mesurement Facility
		Male	Female				
Immunology							
Syphilis test,RPR		(-)			Canon Medical Systems Corporation	Latex agglutination nephelometry	HAKATA CLINIC
Syphilis test,TP antibody		(-)			TBA-1500FR	Latex agglutination nephelometry	
HBs antigen		(-)		Abbott Japan Corporation ARCHITECT	CLIA		
HCV antibody,2nd generation		(-)			CLIA		
HIV antigen and antibody		(-)			CLIA		
HBs antibody		(-)			CLIA		
HBc antibody		(-)			CLIA		
HCG		≤5.00		mIU/mL	CLIA		
Others							
Breath alcohol test		0.00		mg/L	Semiconductor sensor		
Occult blood,Fecal		(-)			Immuno-chromatography		
SARS-CoV-2		NEGATIVE			BECKMAN COULTER GeneXpert	RT-PCR method	
SARS-CoV-2 Agtest		(-)			Immuno-chromatography		
eGFR	Male :			mL/min/1.73m ²	194*Cre ⁻¹ *age ^{-0.287}		
	Female :				194*Cre ⁻¹ *age ^{-0.287} *0.739		
eGFR(EPI2021-J)	Male :			mL/min/1.73m ²	142*(Cre/0.9) ^{-0.302} *0.9938 ^{age} *0.813 (Cr≤0.9)		
					142*(Cre/0.9) ^{-1.2} *0.9938 ^{age} *0.813 (Cr>0.9)		
	Female :			mL/min/1.73m ²	142*(Cre/0.7) ^{-0.241} *0.9938 ^{age} *1.012*0.813(Cr≤0.7)		
					142*(Cre/0.7) ^{-1.2} *0.9938 ^{age} *1.012*0.813 (Cr>0.7)		
eGFR(EPI2021)	Male :			mL/min/1.73m ²	142*(Cre/0.9) ^{-0.302} *0.9938 ^{age} (Cr≤0.9)		
					142*(Cre/0.9) ^{-1.2} *0.9938 ^{age} (Cr>0.9)		
	Female :			mL/min/1.73m ²	142*(Cre/0.7) ^{-0.241} *0.9938 ^{age} *1.012 (Cr≤0.7)		
					142*(Cre/0.7) ^{-1.2} *0.9938 ^{age} *1.012 (Cr>0.7)		
GFR(MDRDJ)	Male :			mL/min/1.73m ²	175*Cre ⁻¹ *1.154*age ^{-0.203} *0.808		
	Female :				175*Cre ⁻¹ *1.154*age ^{-0.203} *0.742*0.808		
GFR(MDRD)	Male :			mL/min/1.73m ²	175*Cre ⁻¹ *1.154*age ^{-0.203}		
	Female :				175*Cre ⁻¹ *1.154*age ^{-0.203} *0.742		
CCR (Cockcroft-Gault)	Male :			mL/min	(140-age)*weight/(72*Cre)		
	Female :				(140-age)*weight/(72*Cre)*0.85		
Ca(Alb/adjust) Payne's formula				mg/dL	Ca+(4-ALB)		
Ca(Alb/adjust) KDOQI-2 formula				mg/dL	Ca+0.8×(4.0-ALB)		

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