

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-2000FR	Biuret method	FUKUOKA MIRAI HOSPITAL				
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							
γ -Glutamyltransferase		≤80	≤30	U/L		IFCC standardised method					
Leucine aminopeptidase		45-81	37-61	U/L		JSCC standardised method					
Cholinesterase		234-493	200-452	U/L		L-leusyl-p-nitroanilid method					
Creatine kinase		60-270	40-150	U/L		JSCC standardised method					
Amylase		44-132		U/L		JSCC standardised method					
Blood urea nitrogen		8.0-20.0		mg/dL		Enzymatic assay					
Creatinine		0.61-1.04	0.47-0.79	mg/dL		Urease-LEDH method					
Uric acid		3.8-7.0	2.5-7.0	mg/dL		Enzymatic assay					
Sodium		137-147		mEq/L		Enzymatic assay					
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		ISE(Ion Selective Electorode)					
Inorganic Phosphate		2.5-4.5		mg/dL		Arsenazo III method					
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					
Cholesterol, HDL		40-85	40-95	mg/dL		Enzymatic assay (Direct method)					
Triglyceride(s)		30-149		mg/dL		Enzymatic assay (Direct method)					
Glucose		70-109		mg/dL		Enzymatic assay(Free glycerol remove method)					
C-Reactive protein		≤0.30		mg/dL		Enzymatic assay					
HCO ₃ ⁻		22.6-31.4		mmol/L		Latex agglutination nephelometry					
						Enzymatic assay					
Hematology											
White blood cell count		3300- 9000		/ μ L	Sysmex Corporation Sysmex XR-1000	Flow Cytometry method		FUKUOKA MIRAI HOSPITAL			
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		FUKUOKA MIRAI HOSPITAL				
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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Immunology							
Syphilis test,RPR		(-)			Latex agglutination nephelometry		HAKATA CLINIC
Syphilis test,TP antibody		(-)			Latex agglutination nephelometry		
HBs antigen		(-)			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		FUKUOKA MIRAI HOSPITAL
Occult blood,Fecal		(-)			Immuno-chromatography		
SARS-CoV-2		NEGATIVE			BECKMAN COULTER GeneXpert	RT-PCR method	
eGFR	Male :			mL/min/1.73m ²	194*Cre ^{-1.094} *age ^{-0.287}		
	Female :				194*Cre ^{-1.094} *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 ^{-1.154} *age ^{-0.203} *0.808		
	Female :				175*Cre ^{-1.154} *age ^{-0.203} *0.742*0.808		
GFR(MDRD)	Male :			mL/min/1.73m ²	175*Cre ^{-1.154} *age ^{-0.203}		
	Female :				175*Cre ^{-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)		

Effective Date 01 Feb. 2026

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