

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	HAKATA CLINIC	
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		
Bilirubin,Indirect		0.2-1.0		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		40-122		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		HAKATA CLINIC	
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	HAKATA CLINIC	
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	(-)			Canon Medical Systems	Latex agglutination nephelometry	HAKATA CLINIC
Syphilis test,TP antibody	(-)			TBA-1500FR	Latex agglutination nephelometry	
HBs antigen	(-)				CLIA	
HCV antibody,2nd generation	(-)				CLIA	
HIV antigen and antibody	(-)			Abbott Japan Corporation	CLIA	
HBs antibody	(-)			ARCHITECT	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 ^{-1.094*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)		HAKATA CLINIC
		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)		HAKATA CLINIC
		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}}		HAKATA CLINIC
	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}}		HAKATA CLINIC
	Female:			175*Cre ^{-1.154*age^{-0.203*0.742}}		
CCR (Cockcroft-Gault)	Male:		mL/min	(140-age)*weight/(72*Cre)		HAKATA CLINIC
	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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SOUSEIKAI HAKATA CLINIC