

 Pakistan National Accreditation Council	ACCREDITATION DOCUMENT	F-06/02 Issue Date: 18/08/2020 Rev. No: 09 LAB 014
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Accreditation No: ML 014

Awarded to

**Clinical Laboratories
Dr. Ziauddin Hospital, North Campus Block-B
North Nazimabad, Karachi, Pakistan**

The scope of accreditation is in accordance with the standard specifications outlined in the following page(s) of this document. The accredited scope shall be visible and legible in areas such as customer service, sample-receiving section etc and shall not mislead its users.

The accreditation was first time granted on **24-06-2019** by Pakistan National Accreditation Council.

The laboratory complies with the requirements of **ISO 15189:2012**.

The accreditation requires regular surveillance, and is valid until **21-06-2025**.

The decision of accreditation made by Pakistan National Accreditation Council implies that the organization has been found to fulfill the requirements for accreditation within the scope.

The organization however, itself is responsible for the results of performed tests.

PAKISTAN NATIONAL ACCREDITATION COUNCIL

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Director General

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Testing Laboratory.

Accreditation Scope of Clinical Laboratories Dr. Ziauddin Hospital, North Campus
Block-B North Nazimabad, Karachi, Pakistan

Permanent laboratory premises

Materials/Products tested	Testing field (e.g. environmental testing or mechanical testing)	Types of test/ Properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/ Internal method reference
Chemical Pathology			
BLOOD	Chemical Pathology	ANTI HBS mIU/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	(AFP) ALPHA FETOPROTEIN ng/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	CA-125 U/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	CARBAMIZAPINE µg/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	CEA ng/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	CORTISOL µg/dl	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	C-PEPTIDE ng/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	DIGOXIN	Parameters on

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		ng/ml	CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	ESTRADIOL pg/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	FSH mIU/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	HBsAg	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	HIV Ag-Ab Combo	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	HOMOCYSTEINE μmol/L	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	INSULINE μ IU/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	LH mIU/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	PHENYTOIN μg/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	PROGESTERONE ng/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	PROLACTIN ng/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)

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BLOOD	Chemical Pathology	Total PSA ng/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	VANCOMYCINE µg/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	VALPROIC ACID µg/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	25-OH VIT D ng/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	hs Troponin-I ng/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	Total β-hCG mIU/ml	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	Anti-HBC	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	Anti-HCV	Parameters on CHEMILUMINESCENT (CMIA) (Abbott immunoassay)
BLOOD	Chemical Pathology	ACTH pg/ml	Parameters on Chemiluminescent (CEIA) Immulite
BLOOD	Chemical Pathology	D-DIMER ng/FEU/ml	Parameters on Chemiluminescent (CEIA) Immulite
BLOOD	Chemical Pathology	GROWTH HORMONE (hGH) ng/ml	Parameters on Chemiluminescent (CEIA) Immulite
BLOOD	Chemical Pathology	PTH intact pg/ml	Parameters on Chemiluminescent

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			(CEIA) Immulite
BLOOD	Chemical Pathology	FOLIC ACID ng/ml	parameters on Chemiluminescent (CEIA) Immulite
BLOOD	Chemical Pathology	VITAMIN-B 12 pg/ml	parameters on Chemiluminescent (CEIA) Immulite
BLOOD	Chemical Pathology	SODIUM m.Eq/L	parameters on DIRECT ISE Easylyte
BLOOD	Chemical Pathology	POTASSIUM m.Eq/L	parameters on DIRECT ISE Easylyte
BLOOD	Chemical Pathology	CHLORIDE m.Eq/L	parameters on DIRECT ISE Easylyte
BLOOD	Chemical Pathology	CK-MB MASS ng/ml	parameters on Electrochemiluminescence Cobas e-601
BLOOD	Chemical Pathology	Free T3 pg/ml	parameters on Electrochemiluminescence Cobas e-601
BLOOD	Chemical Pathology	Free T4 ng/dl	parameters on Electrochemiluminescence Cobas e-601
BLOOD	Chemical Pathology	TOTAL IgE IU/ml	parameters on Electrochemiluminescence Cobas e-601
BLOOD	Chemical Pathology	TOTAL TESTOSTERONE ng/dl	parameters on Electrochemiluminescence Cobas e-601
BLOOD	Chemical Pathology	T3 ng/ml	parameters on Electrochemiluminescence Cobas e-601
BLOOD	Chemical Pathology	T4 µg/dl	parameters on Electrochemiluminescence Cobas e-601
BLOOD	Chemical Pathology	TSH µIU/ ml	parameters on Electrochemiluminescence Cobas e-601
BLOOD	Chemical Pathology	ALBUMINg/dl	parameters on PHOTOMETRY Cobas c- 501
BLOOD	Chemical Pathology	ALP U/L	parameters on PHOTOMETRY Cobas c- 501

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BLOOD	Chemical Pathology	ALT U/L	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	AST U/L	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	AMYLASE U/L	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	BILIRUBIN TOTAL mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	BILIRUBIN DIRECT mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	CHOLESTEROL mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	CO2 TOTAL m.Eq/L	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	CPK U/L	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	CRP mg/L	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	CREATININE mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	FERRITIN ng/ml	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	GGT U/L	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	GLUCOSE mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	HDL mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	IRON	parameters on

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		ugm/dl	PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	LACTIC ACID mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	LDH U/L	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	LDL mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	LIPASE U/L	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	MAGNESIUM mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	PHOSPHORUS mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	TOTAL CALCIUM mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	TOTAL PROTEIN g/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	TRIGLYCERIDES mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	UIBC ug/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	UREA mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	URIC ACID mg/dl	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	AMMONIA μmol/L	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	GLYCATED HB (HbA1c)	parameters on PHOTOMETRY Cobas c-

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		%	311
BLOOD	Chemical Pathology	IgA	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	IgG	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	IgM	parameters on PHOTOMETRY Cobas c-501
BLOOD	Chemical Pathology	OSMOLARITY mOsm/kg	parameters on Osmomat 3000
BLOOD	Chemical Pathology	Protein Electrophoresis	parameters on Helena
Materials/Products tested	Testing field (e.g. environmental testing or mechanical testing)	Types of test/ Properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/ Internal method reference
Haematology & Blood Bank			
Blood	Hematology	Hemoglobin (Hb)	Non-cyanide hemoglobin analysis method by Spectrophometry Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Red blood cell count (RBC count)	Hemodynamically focused DC detection method. Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Total Leucocyte count (TLC count)	Flowcytometry using semiconductor laser Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Platelet count	Hemodynamically focused DC detection method. Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Hematocrit (HCT)	Summation of RBC pulse height method. Sysmex XN-1000 Sysmex XN-L350

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Blood	Hematology	Mean Corpuscular Volume (MCV)	Calculated Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Mean Corpuscular Hemoglobin (MCH)	Calculated Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Mean Corpuscular Hemoglobin Concentration (MCHC)	Calculated Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Red Cell Distribution width (RDW)	Calculated Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Differential Leucocyte Count	
Blood	Hematology	Neutrophil	Flowcytometry using semiconductor laser Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Lymphocyte	
Blood	Hematology	Monocyte	
Blood	Hematology	Eosinophil	
Blood	Hematology	Basophil	
Blood	Hematology	Nucleated RBCs	Flowcytometry using semiconductor laser Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Absolute Leucocyte Count	
Blood	Hematology	Absolute Neutrophil Count	Calculated Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Absolute Lymphocyte Count	Calculated Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Absolute Monocyte Count	Calculated Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Absolute Eosinophilic count	Calculated Sysmex XN-1000 Sysmex XN-L350

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Blood	Hematology	Absolute Basophilic count	Calculated Sysmex XN-1000 Sysmex XN-L350
Blood	Hematology	Morphology	Microscopy
Blood	Hematology	Erythrocyte Sedimentation Rate (ESR)	Infrared emitter / receiver gives sedimentation value / HUMA S Rate 24 PT
Blood	Hematology	Reticulocyte Count	Manual Method using Supravital staining of slides followed by Microscopic counting
Blood	Hematology	Sickling Test	Manual Method
Blood	Hematology	Peripheral Smear Morphology	Microscopy
Blood	Hematology	Malarial Parasite	Microscopy
Body Fluids	Hematology	Morphology	Microscopy
Bone marrow aspirate	Hematology	Morphology	Microscopy
Blood	Blood Bank	Prothrombin time (PT)	Optical clot detection by light absorbance / Sysmex CA 600 coagulation analyzer
Blood	Blood Bank	Activated Partial Thromboplastin time (APTT)	
Blood	Blood Bank	Fibrinogen level	
Blood	Blood Bank	Blood Group	antigen-antibody reaction detection by red cell agglutination in test tube

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Blood	Blood Bank	Red cell Alloantibody Screening	antigen-antibody reaction detection by red cell agglutination in test tube
Blood	Blood Bank	Cross Match	antigen-antibody reaction detection by red cell agglutination in test tube
Blood	Blood Bank	Direct coomb's test	antigen-antibody reaction detection by red cell agglutination in test tube
Blood	Blood Bank	Red cell antigen phenotyping	antigen-antibody reaction detection by red cell agglutination in test tube
Blood	Blood Bank	Red cell alloantibody Titer	antigen-antibody reaction detection by red cell agglutination in test tube
Body Fluids	Special Hematology	RBC Count	Flowcytometry using semiconductor laser Sysmex XN-1000
Body Fluids	Special Hematology	WBC Count	Flowcytometry using semiconductor laser Sysmex XN-1000
Fibrinogen / Fibrin Degradation Production	Blood Bank		Microscopic examination of agglutination (Late particles coated with monoclonal anti FDP antibodies Plasma Kit)

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Materials/Products tested	Testing field (e.g. environmental testing or mechanical testing)	Types of test/ Properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/ Internal method reference
Microbiology			
Tracheal Aspirates	Microbiology	· Routine Culture and sensitivity	Manual Culture Method
Bronchial Alveolar lavage			
CVP TIP			
Umbilical TIP			
D/L TIP			
Tracheal TIP			
Sputum			
Tissue			
Liver abscess			
Pus swab			
Ear swab			
Lymph nodes			
Nasal Swab			
Eye swab			
High Vaginal swab			
Urethral swab			
IUCD			
Prostatic fluid			
Throat Swab			
Sterile Body Fluids			
Blood and Bone marrow	Microbiology	· Blood and Bone marrow Culture & Sensitivity	BACTAC 9240 / Manual Culture Method

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Urine	Microbiology	· Urine Culture and Sensitivity (MSU)	Manual Culture Method
Urine	Microbiology	· Urinary Catheter sample	Manual Culture Method
Stool	Microbiology	· Stool Culture and Sensitivity	Manual Culture Method
Sterile Body Fluids	Microbiology	· AFB Smear	· Microscopy Ziehl Neelson Staining
Pus			
Tracheal Aspirate			
Bronchial Alveolar lavage			
Sputum			
Tissue			
Liver abscess			
Lymph nodes			
Tracheal secretions in Tips			
CSF	Microbiology	· India Ink	· Microscopy
CSF	Microbiology	· General Microscopy	· Microscopy
Urine	Microbiology	· General Microscopy	· Microscopy
Blood	Microbiology	· General Microscopy	· Microscopy
Tissue	Microbiology	· General Microscopy	· Microscopy
Stool	Microbiology	· General Microscopy	· Microscopy

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Stool	Microbiology	· Stool Detail Report	· Microscopy
Stool	Microbiology	· Stool for Cyclospora and Cryptosporidium	· Microscopy Modified Acid Fast Staining
Materials/Products tested	Testing field (e.g. environmental testing or mechanical testing)	Types of test/ Properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/ Internal method reference
Molecular Genetics			
Blood	Molecular Genetics	HCV Qualitative	Rotor gene Q PCR Real time PCR
Materials/Products tested	Testing field (e.g. environmental testing or mechanical testing)	Types of test/ Properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/ Internal method reference
Histopathology			
Biopsy sample	Histopathology	H & E Staining	Processor, Microtome, Cryotome, Embedding, Microscope, Refrigerator, Incubator, Water Bath.

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