



NIGERIAN INSTITUTE OF MEDICAL RESEARCH

**HUMAN
VIROLOGY
LABORATORY**

***Client Information
Handbook***

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We wish to intimate you of the laboratory support services available at the **Human Virology Laboratory (HVL)**.

HVL is the only clinical diagnostic laboratory that is certified in Nigeria as it was adjudged to conform to the requirements of NIS ISO 9001:2008. In an effort to satisfy our customers and provide reliable results for better patient management, the laboratory is also ASLM certified by African Society of Laboratory medicine and is currently in the process of obtaining the ISO 15189 accreditation.

HVL provides support services for monitoring HIV patients, some other molecular diagnostic assays conducted in HVL include viral load, for hepatitis B and C virus and human papilloma virus. This laboratory operates only during working days from 8.00am to 4.00pm as such; our doors are closed during the weekends and public holidays. Our pricelist which contains our test menu is shown below. Also included is our requirement for samples collection, storage, transportation and turnaround time.

■ HVL COMPREHENSIVE PRICE LIST ■

S/N	TESTS	PRICE (₦)
1	HBsAg	2,500.00
2	HBcIgm	5,500.00
3	HBeAg	5,500.00
4	HBeAb	5,500.00
5	HCV Ab	2,500.00
6	HIV-1 Viral Load	30,000.00
7	Hepatitis B Viral Load	40,000.00
8	Hepatitis C Viral Load	50,000.00
9	HCV Genotyping	25,000.00
10	ALT	600.00
11	AST	600.00
12	Bilirubin-Direct	600.00
13	Bilirubin-Total	800.00
14	Alkaline Phosphatase	600.00
15	Albumin	600.00
16	Protein	600.00

S/N	TESTS	PRICE (₦)
17	Electrolyte	2,500.00
18	Total Cholesterol	1,000.00
19	HDL-Cholesterol	1,000.00
20	LDL-Cholesterol	1,000.00
21	Triglyceride	1,000.00
22	HIV DNA PCR	25,000.00
23	HIV Confirmation	7,000.00
24	CD4 Count	6,000.00
25	Provision of panel for HIV proficiency testing	6,000.00
26	Human Papilloma Virus (HPV) Screening & Genotyping	20,000.00
27	Quality Management System Training	150,000.00
28	HIV-1 Resistance Testing	45,000.00

NB: Emergency/urgent laboratory investigation will attract a different price. Training on CD4 Count and HIV-1 Viral Load is available upon request.

NIMR CLINIC PATIENTS' PRICE LIST

TYPES	TESTS INVOLVED	PRICE (₦)
Baseline	*Viral load, *CD4, Haematology, Chemistry(ALT, BUN, Creatinine, Total cholesterol, Glucose), HBsAg, HCV -ab	8,900.00
Follow up	*Viral load, *CD4, Haematology, Chemistry(ALT, Creatinine)	2,900.00

Note: Asterisked tests are free for NIMR clinic patients for now.

SAMPLE COLLECTION SPECIFICATION AND TEST TURN AROUND TIME FOR HVL PATIENTS

S/N	Test required	Sample type	Condition and time to reach the Lab	Volume	Container	TAT
1	Viral load (HIV)	Plasma	Store at 2-8°C, arrive lab in cold chain	3ml	Plain tube	7 working days
		Whole blood	Within 4hrs	6 - 10ml	EDTA tube	
2	CD4 Count	Whole blood	Within 4hrs	4ml	EDTA tube	24 hours
3	HIV Confirmation	Plasma /Serum	Store at 2-8°C, arrive lab in cold chain	3ml	Plain tube	48 hours
		Whole blood	Within 4hrs	4ml	EDTA tube	
4	Haematology	Whole blood	Bled in the lab	4ml	EDTA tube	96 hours
5	Chemistry	Serum	Bled in the lab	6ml	Plain tube	96 hours
6	RBS, FBS&24hrs PP (Sample to be taken before meal)	Plasma	Bled in the lab	3ml	Fluoride oxalate tube	96 hours
7	HBV Viral load	Plasma	Store at 2-8°C, arrive lab in cold chain	3ml	Plain tube	2 weeks
		Whole blood	Within 4hrs	6 - 10ml	EDTA tube	
8	HCV Viral load & HCV Genotyping	Plasma	Store at 2-8°C, arrive lab in cold chain	3ml	Plain tube	2 weeks
		Whole blood	Within 4hrs	6-10ml	EDTA tube	
9	HBsAg HCVAb,	Plasma /Serum	Store at 2-8°C, arrive lab in cold chain	3ml	Plain tube	96 hours
		Whole blood	Within 4hrs	4ml	EDTA tube.	
10	HBeAg/HBeAb HBcIgM	Plasma /Serum	Store at 2-8°C, arrive lab in cold chain	3ml	Plain tube	1 week
		Whole blood	Within 4hrs	4ml	EDTA tube	
11	HIV-1 DNA PCR	Whole blood Dry blood spot	Within 4hrs Cards arrive dry	3-5ml. Spot on DBS card.	EDTA tube. DBS card.	2 weeks
12	Human Papiloma Virus (HPV) Screening and Genotyping	Endo cervical swab	Room Temperature	NA	HPV transport medium	1 month
13	HIV-1 Resistance Testing	Plasma	Store at 2-8°C, arrive lab in cold chain	3ml	Plain tube	1 month
		Whole blood	Within 4hrs	6 -10ml	EDTA tube.	

INSTRUCTION FOR COLLECTION OF PAEDIATRICS VIRAL LOAD SAMPLE

Samples for HIV-1 viral load from paediatrics patients should be collected in 6ml EDTA bottle.

INSTRUCTION FOR COLLECTION OF 24 HR URINE CREATININE CLEARANCES

1. The first early morning urine is passed out.
2. Subsequent urine is passed into a new 5L plastic keg from 9. 00 am – 9.00 am the next day

3. The urine sample should be brought to the lab before the expiration (9.00 am)

COLLECTION, STORAGE AND TRANSPORTATION REQUIREMENT FOR SAMPLES SHIPPED TO HVL

Every sample should be accompanied with a request form which should contain the following Information:

- Patient name, gender, date of birth,
- The name of clinician/healthcare provider, address, phone number and e-mail
- Type of sample, date and time of collection
- Clinical diagnosis
- Test requested

**** You may wish to download the HVL request form from our website for use. Samples shipped without these information may have delayed results, or the sample may be rejected.***

HBV VIRAL LOAD

- **SAMPLE COLLECTION:** Whole blood in EDTA as anticoagulant must be collected and separate plasma from whole blood within 1 day by centrifugation (800 - 1600g) for 15mins. Label the tube with date of collection, name and test required.
- Specimens in heparin are unsuitable for the assay.
- **STORAGE:** The specimens may be stored at 2-8C for up to 7 days or preferably frozen at -20C.
- **TRANSPORT:** The specimens should be in a cooler containing enough ICE PACKS to enable it get to the lab in a cold state.

HCV VIRAL LOAD

- **SAMPLE COLLECTION:** Collect whole blood in EDTA bottle and separate plasma within 4hrs of collection by centrifugation at 800-1600g for 15mins. Label the tube with date of collection, name and test required. Specimens in heparin are unsuitable for the assay.
- **STORAGE:** The specimens may be stored at 2-8C for up to 72 hours or frozen at -20C.
- **TRANSPORT:** The specimens should be in a cooler containing enough ICE PACKS to enable it get to the laboratory in a cold state.

HIV-1 VIRAL LOAD

- **SAMPLE COLLECTION:** Whole blood in EDTA bottle must be collected. Separate plasma from whole blood within 4 hours by centrifugation at 800-1600g for 20 mins. Label the tube with date of collection, name and test required. Specimens in heparin are unsuitable for the assay.
- **STORAGE:** The specimens may be stored at 2-8C for up to 5 days or frozen at -20C.
- **TRANSPORT:** The specimens should be in a cooler containing enough ICE PACKS to enable it get to the laboratory in a cold state.

HPV

- SAMPLE COLLECTION:

1. Obtain an adequate sampling from the cervix using the Cervex-Brush®. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix.
2. Push gently and rotate the broom in a clockwise direction five times.
3. Rinse the broom into the cobas® PCR Cell Collection Media vial by pushing the broom into the bottom of the vial 10 times, forcing the bristles apart.
4. Swirl the broom vigorously to further release material. Discard the collection device. Do not leave the broom head in the vial.
5. Tighten the cap. Record the patient's name and ID number on the vial. Record patient's information on requisition form.

- STORAGE: Cervical cell specimens should be collected in cobas® PCR Cell Collection Media or Preserv Cyt Solution and may be stored at room temperature for up to 6 months or at 2-8°C for longer.

-TRANSPORT: Transport at 2-30°C, (room temperature) bearing in mind country regulations for the transport of human samples.

- Note**
- Treat all samples as potentially infectious.
 - All samples should be properly labeled with date and time of collection.
 - Whole blood should get to the lab within 4 hours of collection.
 - Each sample should be transported in a sterile container free from blood spillage and accompanied with a test request form.
 - Samples should be well sealed before transportation. Preferably, triple packaging system should be used.

It is important to note that results of viral load testing can be significantly affected if samples are not stored and transported as described above.

CRITERIA FOR SAMPLE REJECTION IN HUMAN VIROLOGY LABORATORY

Proper specimen collection and handling are an essential part of obtaining accurate and timely laboratory results. All specimens delivered to the laboratory must meet defined acceptance criteria for identification, collection, volume, and preservation in appropriate container type in order to be processed. If any criterion is not met, such sample shall be rejected and the customer notified immediately so that corrective action can be taken.

Sample is rejected by the laboratory if:

- It is not appropriate for the test being requested.
- It is collected in a syringe.
- It is unlabeled or the identity on the form does not match that on the sample.
- The sample is collected in a wrong container.
- Container is leaking.
- Hemolysed/lipaemic/clotted
- Volume is inadequate.
- Inappropriately transported.

Rejection forms are completed and returned to the client for their information. However, the

rejected sample is kept in the laboratory for proper disposal. Proper sample should be collected and resubmitted immediately.

Note on serology sample transportation

Plasma or serum collected for serology (HIV confirmation, hepatitis B and C markers) can be stored at 2-8°C within 7 days or may be frozen at -20°C before shipment to the laboratory.

Confidentiality of our clients' information

HVL business and customer information are not revealed or discussed with anyone who does not have a medical or business reason to know the information. It is the responsibility of all HVL workforce members to preserve and protect confidential patient, employee and business information. A confidential information agreement policy is endorsed by HVL workforce to show acceptance and willingness to abide by it.

HVL does not require consent from the clients if there is a need to test your samples in our referral laboratory. Should you have any complaint, feel free to complete our customer complaint form if you are physically around the laboratory or call our information desk to register your complaints. All complaints are handled and resolution communicated back to complainant. HVL is available to provide clinical advice if requested from our experienced laboratory professionals.

Reference Intervals in HVL

GD4 COUNT		HEAMATOLOGY	
CD4 count	365 – 1,571 cells/ μ l	Haemoglobin (Hb)	7.4 – 111.6 mmol/L
CHEMISTRY		Haematocrit (PCV)	0.37-0.52L/L
ALT	10-50U/L	WBC Total	4.5-11*10 ⁹ cells/L
AST	10-50 U/L	Platelet	150-400*10 ⁹ /cells/L
ALP	28 – 100 U/L	MCHC	352 – 406 g/L
BIL - Direct	≤ 5 μ mol/L	MCH	28.3-31.7 pg/cell
BIL - Total	≤ 21 μ mol/L	MCV	75.1-83.1/FL
Protein	60 – 85g/L	RBC	4.1-5.9*10 ¹² cell/L
Albumin	38 -51g/L	RDW	11.6-14.0%
Serum sodium	135 – 155mmol/L	PDW	9.4-18.1 FL
Potassium	3.4 – 5.3mmol/L	Neutrophil (Poly)	40-70%
Chloride	96 -100mm/L	Lymphocytes	20-50%
Bicarbonates	21-30mmol/L	Mixed Field Differential	2-20%
Creatinine	44 – 115 μ mol/L	MPV	8.4-9.8 FL
Glucose (Fasting)	2.8 – 5.6mmol/L	P-LCR	8-20.6%
Glucose (Random)	3.3 – 7.4mmol/L	Lymp#	2.3-x10 ³ cells/L
Urea (BUN) Adult	2.14 – 7.14 mmol/L	Mid#	0.3x10 ³ /cells/L
Cholesterol (Total)	< 5.18 mmol/L	Gran#	0.6x10 ³ /cells/L
Triglyceride	< 2.26 mmol/L		
HDL-Cholesterol	M: 0.78 – 1.55 mmol/L F: 1.03 – 1.81 mmol/L		
LDL - Cholesterol	1.73 – 4.61 mmol/L		
24 Hour Urine Creatinine Clearance	M: 72 – 141ml/min F: 74 – 130ml/min		