H·O·D
HOUSE of DIAGNOSTICS

Patient Name :	Demo Patient Name	**Lab No :**	Demo Visit No
Age / Sex :	41 Y / F	**Registration On :**	22-Jan-25 09:41
Referred By :	DEMO HOSPITAL	**Patient ID :**	UHID.DEMO.001
Centre :	HOD Head Office		

Apolipoproteins A1 and B

Serum Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:16 **Approved On:** 22-Jan-25 14:47

Observation	Result	Unit	Biological Ref. Interval	Method
Apolipoprotien A1 (Apo A1)	116.32	mg/dL	95-186	Immunoturbidimetry
Apolipoprotein B (Apo B)	85.43	mg/dL	49-173	Immunoturbidimetry
Apo B : Apo A1 Ratio	0.73		0.35-0.98	Calculated

The major protein constituent of HDL is Apolipoprotein A-1(Apo A-1) and that of LDL is Apolipoprotein B (Apo B). It has been shown that measurements of the apolipoproteins are better indicators of the risk of coronary heart diseases than determinations of HDL and LDL cholesterol. Thus, a high level of Apo B and low level of Apo A-1 indicate an increased risk of coronary heart disease. The ratio of Apo A-1 to Apo B may, however, be a more significant parameter. Studies have shown that the Apo A-1 : Apo B Ratio distinguishes unequivocally between persons with and those without CHD. therefore, Apolipoprotein A-1 and B studies are superior to conventional Total Cholesterol, or HDL- & LDL - Cholesterol studies for predicting risk of Atherosclerosis. It is now proved The major protein constituent of HDL is Apolipoprotein A-1(Apo A-1) and that of LDL is Apolipoprotein B (Apo B). It has been shown that measurements of the apolipoproteins are better indicators of the risk of coronary heart diseases than determinations of HDL and LDL cholesterol. Thus, a high level of Apo B and low level of Apo A-1 indicate an increased risk of coronary heart disease. The ratio of Apo A-1 to Apo B may, however, be a more significant parameter. Studies have shown that
the Apo A-1 : Apo B Ratio distinguishes unequivocally between persons with and those without CHD. therefore, Apolipoprotein A-1 and B studies are superior to conventional Total Cholesterol, or HDL- & LDL - Cholesterol studies for predicting risk of Atherosclerosis. It is now proved in case studies that individuals with angiographicly confirmed heart disease have significantly lower Apo A-1 and higher Apo B levels compared to normal persons. Apolipoprotein studies have shown promise in improved management of patients of MI to reduce the risk of reinfarction. Monitoring of patients of Coronary Bypass Surgery with regard to risk and severity of restenosis is substantially better with these studies. On the preventive aspect, cases with family history of CHD show a higher degree of agreement with Apolipoprotein.

Sample Type: Serum
Technology: VITROS MicroTip, MicroSensor & Intellicheck
Analyzer: Fully Automated Biochemistry and Immunology Analyzer : VITROS 5600

Advise: *Please correlate results with clinical conditions*

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and the doctor's signature should appear here

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ECG

Approved On: 22-Jan-25 10:20

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Mammogram Bilateral Breasts **Approved On: 22-Jan-25 12:19**

MAMMOGRAPHY BOTH BREASTS

Medio lateral oblique and craniocaudal views of both breasts were obtained.

Breast density - heterogeneously dense breasts (category B).

Right Breast:

A small doubtful oval well circumscribed equal density lesion of size 5.9 x 4.6 mm seen in outer quadrant on CC view , not seen on the MLO view .

No clustered microcalcification or architectural distortion is seen.

Skin thickness appears normal.

Nipple-areolar complexes appear normal.

Few subcentimetric oval right axillary lymph nodes seen, largest measuring ~ 7.7 mm in short axis dimension.

Left Breast:

No apparent focal mass lesion is seen in any quadrant of breast.

No architectural distortion is seen.

Skin thickness appears normal.

Nipple-areolar complexes appear normal.

Few oval left axillary lymph nodes seen with maintained fatty hilum, largest measuring ~12 mm in short axis dimension.

IMPRESSION:

- **Right breast - Small doubtful oval well circumscribed equal density lesion in outer quadrant on CC view , not seen on the MLO view (BIRADS II) (Advice USG correlation to look for any ? small cyst ? fibroadenoma).**
- **Left breast - Normal study for breast with few benign appearing axillary lymphnodes (BIRADS II).**

ADVICE: CLINICAL CORRELATION.

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Digital X-Ray Chest PA **Approved On: 22-Jan-25 13:38**

FRONTAL RADIOGRAPH CHEST (PA VIEW)

Rotated film.

Bilateral lung fields show no obvious parenchymal lesion.

Cardiac size is normal.

Hila are unremarkable.

Both domes of diaphragm are normal.

Both cardiophrenic and costophrenic angles are normal.

Bony thoracic cage appears normal.

ADVISED: CLINICAL CORRELATION.

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Ultrasound Whole Abdomen **Approved On: 22-Jan-25 11:52**

ULTRASOUND WHOLE ABDOMEN

Findings:

Liver is normal in size (13.5 cm), outline and echotexture. No focal lesion is seen. Intra hepatic biliary radicals are normal. Portal vein is normal in course and caliber.

Gall bladder is distended. Wall thickness is normal. No obvious gallstones seen. Common bile duct is not dilated.

Pancreas is normal in size, outline and echotexture. No focal lesion is seen. No evidence of calcification is seen.

Retroperitoneum is obscured due to bowel gases.

Spleen is normal in size (8.6 cm) and echotexture.

Right kidney is normal in size (8.8 x 4.4 cm), outline and echogenicity. Corticomedullary differentiation is maintained. No evidence of calculus or hydronephrotic changes seen. **Two small oval well defined echogenic lesions seen in upper and interpolar region, larger one measuring 11.5 x 7.2 mm.**

Left kidney is normal in size (9.6 x 4.5 cm), outline and echogenicity. Corticomedullary differentiation is maintained. No evidence of calculus or hydronephrotic changes seen.

Urinary bladder is seen in over-distended state. No calculus or mass lesion is seen.

Uterus is bulky in size (9.7 x 5.4 x 3.9 cm), and normal in echopattern. **Intramural fibroid seen in anterior myometrium in body region, measuring 19.5 x 14.8 mm. Small subserosal fibroid seen arising from the fundal region posteriorly, measuring 13.5 x 7.7 mm.**

Endometrial echo is central and regular measuring approx. (7.9 mm) in thickness. No collection seen in the endometrial canal.

Cervix is bulky, measuring 3.2 cm in AP dimension.

Both ovaries appear normal in size and echopattern.

Right ovary measures 2.5 x 2.0 cm.

Left ovary measures 1.9 x 1.8 cm.

Both adnexa are clear. No adnexal mass is seen on either side.

No free fluid seen in cul-de-sac.

IMPRESSION: ULTRASOUND WHOLE ABDOMEN REVEALS:-

- **Two small oval well defined echogenic lesions in upper and interpolar region of right kidney - possibly small angiomyolipomas.**
- **Bulky uterus with intramural and subserosal fibroids.**
- **Bulky cervix - ? cervicitis- Advice P/S and P/V correlation.**

ADVISED: CLINICAL CORRELATION

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HsCRP — Serum Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:16 **Approved On:** 22-Jan-25 14:47

Observation	Result	Unit	Biological Ref. Interval	Method
High Sensitivity C-Reactive Protein	3.7	mg/L	<5.0	Immunoturbidimetry

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Clinical Significance: HS- CRP is used to help predict a healthy person's risk of cardiovascular disease. People who have hs -CRP result in the high and of the normal range have higher risk of having a heart attack .The CRP molecule itself is not a harmful molecule in the body. The higher level of CRP is simply a reflection of higher than normal inflammation.The measurement of CRP does not reflect where the inflammation is. It may come from cells in the fatty deposits in arterial walls that reflect the process of atherosclerosis or may come from other tissues.HSCRP usually is ordered as one of several tests in a cardiovascular risk profile. It is useful as an independent marker of risk and as a "discretionary tool" in the evaluation of those with moderate risk of cardiovascular disease to help determine treatment course.

Biological Reference Interval is suggested in reference from VITROS Microtip Assay Summary.
According the the guidelines recommended by the U.S Centre for Disease Control and Heart Association of Risk for cardiovascular disease in adults.

Classification for Cardiovascular Disease Risk	:	Conventional and S.I. Units (mg/L)
Low	:	<1.0
Average	:	1.0-3.0
High	:	>3.0-10.0
Indeterminant*	:	>10.0

* May be an indication of another source of inflammation or infection.

Sample Type: Serum
Technology: VITROS MicroTip, MicroSensor and Intellicheck Technology
Analyzer: Fully Automated Integrated Biochemistry and Immunology Analyzer: VITROS 5600

Remarks: Please correlate results with clinical conditions.

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Homocysteine — Serum Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:16 **Approved On:** 22-Jan-25 14:52

Observation	Result	Unit	Biological Ref. Interval	Method
Homocysteine	**16.67**	µmol/L	4.7-12.6	Enzymatic - Lactate to pyruvate Enzyme LDH

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Clinical Significance of Homocysteine:
Plasma total homocysteine (HCY) is a graded risk factor for cardiovascular disease. The risk increases progressively with homocysteine concentration. Elevated plasma Homocysteine level is a predictor for cardiovascular disease. A dose-dependent effect was noted between Homocysteine level and risk. Homocysteine level also have been found to correlate to the extent of atherosclerotic plaque in the aorta. Homocysteine can impair the ability to repair vascular endothelial cell injury, and thus promote the development of atherosclerosis

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Clinical Utility of Homocysteine:
* Determine risk for heart disease, stroke and peripheral arterial blood vessel disease.
* Identify vitamin B12 deficiency or folic acid deficiency.
* Identify homocystinuria that causes a deficiency of one of several enzymes needed to convert food to energy.
* Determine a cause for otherwise unexplained blood clots.
* High values of homocysteine may be caused by dietary deficiency of folic acid, vitamin B6, or vitamin B1, homocystinuria, renal disease, hypothyroidism, Alzheimer's disease or certain cancers, alcoholism, family history of high homocysteine levels.
* Low values may be caused by some medicines or vitamins such as folic acid, vitamin B12, or niacin. False positive or negative results may be seen in peri-menopausal period, hypertension, smoking or tobacco use, excess coffee intake, drugs (anti-convulsants, antibiotics, theophylline, birth control pills, and tamoxifen).

Sample Type: Serum
Technology: VITROS MicroTip, MicroSensor and Intellicheck Technology
Analyzer: Fully Automated Integrated Biochemistry and Immunology Analyzer: VITROS 5600

Remarks: Please correlate results with clinical conditions.

Free Thyroid Test [FT3,FT4,TSH]

Serum Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:16 **Approved On:** 22-Jan-25 14:52

Observation	Result	Unit	Biological Ref. Interval	Method
Free Triiodothyronine [FT3]	**2.57**	pg/mL	2.77 - 5.27	CLIA
Free Thyroxine [FT4]	0.80	ng/dL	0.78 - 2.19	CLIA
Thyroid Stimulating Hormone (TSH)	**6.38**	mIU/L	0.46-4.68	CLIA

Note:

1. **TSH Levels are subject to circadian variation**, reaching peak levels between 2-4 AM & the minimum between 6-10 PM. The variation is of the order of 50-206% Hence time of the day has influence on the measured serum TSH concentrations (Reference:Tietz Textbook of Clinical Chemistry & Molecular Diagnostics - 5th Edition Page 123). Fluctuating TSH value must be Clinically correlated.
2. Circulating TSH levels are known to show a circadian rhythm & diurnal variation. The diagnosis based on one TSH value which fluctuates is not reliable. Clinical correlation is mandatory.
3. Values <0.03 ulU/mL need to be clinically correlated due to presence of a rare TSH variant in some individuals.

Remarks: Please correlate results clinically.

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Hb A1c

EDTA Whole Blood Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:12 **Approved On:** 22-Jan-25 16:47

Observation	Result	Unit	Biological Ref. Interval	Method
HbA1C	5.6	%	4.8-5.7	HPLC
90 Day Average Blood Glucose	114.02	mg/dl	90 - 120	Calculated

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Interpretation as per American Diabetes Association (ADA) Guidelines

Reference Group	Non diabetic adults >=18 years	At risk (Prediabetes)	Diagnosing Diabetes	Therapeutic goals or glycemic control
HbA1c in %	4.0-5.6	5.7-6.4	>= 6.5	<7.0

Note:

- Presence of Hemoglobin variant and /or conditions that affect red cell turnover must be considered particularly when the HbA1c result does not correlate with the patient's blood glucose levels.
- **Factors That Interfere With Hba1c Measurement:** Hemoglobin variants, elevated fetal hemoglobin (HbF) and chemically modified derivatives of hemoglobin (e.g. carbamylated Hb in patients with renal failure) can affect the accuracy of HbA1c measurements
- **Factors That Affect Interpretation Of Hba1c Results:** Any condition that shortens erythrocyte survival or decreases mean erythrocyte age (e.g., recovery from acute blood loss, hemolytic anemia, Hbss, HbCC, and HbSC) will falsely lower HbA1c test results regardless of the assay method used. Iron deficiency anemia is associated with higher HbA1c
- Since HbA1c Reflects long term Fluctuations in the blood glucose concentration, a diabetic patient who is recently under good control may still have a high concentration of HbA1c. Converse is true for a diabetic previously under good control but now poorly controlled.
- Target goals of < 7.0% may be beneficial in patients with short duration of diabetes, long life expectancy and no significant cardiovascular co-morbid conditions, targeting a goal of >7.0 % may not be appropriate.
- Any condition that shortens erythrocyte survival such as sickle cell disease, pregnancy (second and third trimesters), hemodialysis, recent blood loss of transfusion , or erythropoietin will falsely lower HbA1c results regardless of the assay method
- In patients with HbA1c level between 7-8%, Glycemark (1,5 Anhydro-glucitol) test may be done to identify those with more frequent and extreme hyperglycemic excursions.

Remarks: *Please correlate results with clinical conditions.*

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Liver Function Test

Serum Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:16 **Approved On:** 22-Jan-25 14:25

Observation	Result	Unit	Biological Ref. Interval	Method
Total Protein	6.9	g/dL	6.5-7.8	Biuret, No Serum Blank
Albumin	4.0	g/dL	3.9 - 5.0	Bromocresol Green
Globulin	2.9	gm/dL	2.0-3.5	Calculated
A/G Ratio	**1.38**	Ratio	1.5-2.5	Calculated
Total Bilirubin	0.48	mg/dL	0.2-1.3	Azobilirubin/dyphylline
Conjugated Bilirubin	0.2	mg/dL	<0.3	Calculated
Unconjugated Bilirubin	0.28	mg/dL	<1.1	Spectrophotometry
SGOT (AST)	25	U/L	18-34	Enzymatic Colorimetric
SGPT (ALT)	25	U/L	4-35	UV with P5P
SGOT/SGPT Ratio	1	Ratio		Calculated
Alkaline Phosphatase	70	U/L	46 - 122	PNPP, AMP buffer
Gamma Glutamyl Transferase	<10	U/L	10 - 54	G-glutamyl-p-nitroanilide

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Clinical Significance of LFT:e clinical suspicion of liver disease usually leads to the measurement of the liver function tests (LFT) which include measurement of several enzymes, serum bilirubin and albumin. These parameters may point to an underlying pathological process and direct further investigation. The aim of investigation in patients with suspected liver disease are: ·To detect hepatic abnormality · Measurement of severity of liver damage · Identify the specific cause ·Investigate possible complications

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Technology: Dry Chemistry (VITROS MicroSlide, MicroSensor and Intellicheck Technology)
Analyzer: Fully Automated Biochemistry and ImmunoAssay Analyzer: VITROS 5600

Advise: Please correlate results clinically.

Kidney Function Test

Serum Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:16 **Approved On:** 22-Jan-25 14:25

Observation	Result	Unit	Biological Ref. Interval	Method
Blood Urea	**11**	mg/dL	15-36	Urease, Colorimetric
Blood Urea Nitrogen	**5.14**	mg/dL	7 - 17	Calculated
Creatinine	0.62	mg/dL	0.5-1.04	Enzymatic
Estimated GFR	114.70	mL/min/1.73m2		Calculated By CKD-EPI(2021)
Uric Acid	2.7	mg/dL	2.5 - 6.2	Uricase , Colorimetric
Calcium	9.0	mg/dL	8.4 - 10.2	Arsenazo III
Phosphorus	4.0	mg/dL	2.5 - 4.5	Phosphomolybdate reduction
BUN/Creatinine Ratio	8.29	Ratio		Calculated
Urea/Creatinine Ratio	17.74	Ratio		Calculated
Electrolytes				
Sodium	139	mmol/L	137-145	ISE Direct
Potassium	4.1	mmol/L	3.5 - 5.1	ISE Direct
Chloride	105	mmol/L	98 - 107	ISE Direct

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Classification of eGFR by UK Kidney Association (2017):

eGFR (ml/min/1.73 m2)	GFR Category	Significance
>90	G1	Normal Renal Function
60-90	G2	Mild Impairment of Renal Function
45-59	G3a	Impaired Kidney Function
30-44	G3b	Impaired Kidney Function
15-29	G4	Significant Impairment of Renal Function
<15	G5	End-Stage Renal Failure (ESRF)

Technology: Dry Chemistry (VITROS MicroSlide, MicroSensor and Intellicheck Technology)
Remarks: Please correlate results clinically.

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Lipid Profile

Serum Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:16 **Approved On:** 22-Jan-25 14:12

Observation	Result	Unit	Biological Ref. Interval	Method
Total Cholesterol	163	mg/dL	<200	Enzymatic (CHE/CHO/POD)
Triglyceride	93	mg/dL	<150	Enzymatic, Endpoint
HDL Cholesterol	**43**	mg/dL	>45	Direct Measure, PTA / MgCl2
VLDL Cholesterol	19	mg/dL	5-40	Calculated
LDL Cholesterol	**101**	mg/dL	<100	Friedewald Formula (Calculated)
Non-HDL Cholesterol	120	mg/dL	<130	Calculated
LDL / HDL Ratio	2.35	Ratio	1.5-3.5	Calculated
TC / HDL Ratio	3.79	Ratio	3-5	Calculated

Clinical Decision Limits*	Optimal	Above Optimal	Borderline High	High	Very High
Triglycerides	<150	-	150-199	200-499	>=500
Total Cholesterol	<200	200-239	-	>=239	-
LDL Cholesterol	<100	100-129	130-159	160-189	>=189
HDL Cholestrol	>45	-	40-45	<40	-
Non HDL Cholesterol**	<130	130 - 159	160 - 189	190 - 219	>=220

* Clinical Decision Limits are suggested from Tietz Fundamentals Of Clinical Chemistry And Molecular Diagnostics 8th Edition
** Suggested from National Lipid Association Recommendations for Patient Centered Management of Dyslipidemia: Part 1—Full Report (Volume 9, Issue 2, P129-169, March 01,2015, Terry A. Jacobson, MD et al.

Analyzer: Fully Automated Integrated Biochemistry and ImmunoAssay Analyzer: VITROS 5600
Technology: Dry Chemistry (VITROS MicroSlide, MicroSensor & Intellicheck Technology)

Reports of Lipid Profile are best obtained with 10 hours fasting.

Clinical Significance:
- Triglyceride: Very high levels of Triglyceride can be indicative of a significantly higher risk of coronary vascular disease. Elevation of triglyceride can be seen with fasting less than 12 hours, obesity medication, alcohol intake, diabetes mellitus or pancreatitis.
- Total Cholestrol: its fractions and triglycerides are the important plasma lipids identifying cardiovascular risk factor and in the management of cardiovascular disease. Values above 220 mg/dl are associated with increased risk of CHD regardless of HDL & LDL value.
- HDL - Cholestrol: Low levels of HDL are associated with an increased risk of coronary vascular disease even in the face of desirable levels of Cholesterol and LDL-Cholestrol
- LDL - Cholestrol: levels can be strikingly altered by thyroid, renal and liver disease as well as hereditary factors.In case Triglyceride levels are more than 400 mg/dl, the patient is advised for a direct-LDL Cholesterol test.

Remarks: Please correlate results clinically.

Iron Profile

Serum Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:16 **Approved On:** 22-Jan-25 14:47

Observation	Result	Unit	Biological Ref. Interval	Method
Iron	50	µg/dL	37-170	Pyridylazo Dye
Total Iron Binding Capacity	440	µg/dL	265 - 497	Chromazurol B
Transferrin Saturation	**11.36**	%	14 - 34	Calculated

Analyzer: Fully Automated Biochemistry and Immunology VITROS 5600
Technology:
- Iron: Dry Chemistry (VITROS MicroSlide, MicroSensor & Intellicheck Technology)
- TIBC: VITROS MicroTip, MicroSensor & Intellicheck Technology

Remarks: Please correlate with clinical conditions.

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Glucose Fasting — Sodium Fluoride Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:13 **Approved On:** 22-Jan-25 14:12

Observation	Result	Unit	Biological Ref. Interval	Method
Blood Sugar Fasting	70	mg/dL	70 - 100	GOD/POD, colorimetric

Sample Type: Sodium Fluoride; A blood sample will be taken after 8 - 12 hours of fasting.
Method: Glucose oxidase hydrogen peroxidase
Technology: Dry Chemistry (VITROS MicroSlide, MicroSensor & Intellicheck Technology)
Analyzer: Fully Automated Integrated Biochemistry & ImmunoAssay Analyzer: VITROS 5600

Remarks: *Please correlate clinically*
Note: Blood glucose level is maintained by a very complex integrated mechanism involving a critical interplay of the release of hormones and action of enzymes on key metabolic pathways. If postprandial glucose is lower than fasting glucose, it is termed as postprandial reactive hypoglycemia (PRH). The possible cause of PRH are high insulin sensitivity, exaggerated response of insulin and glucagon-like peptide 1, defects in counter-regulation, very lean individuals, anxious individuals, after massive weight reduction, women with lower body overweight physical activity prior test, hypoglycemic medication, deliberately eating less or eat a non-carbohydrate meal before testing.

RA Factor — Serum Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:16 **Approved On:** 22-Jan-25 14:34

Observation	Result	Unit	Biological Ref. Interval	Method
RA Factor [Quantitative]	<8.6	IU/ml	<12.0	Turbidimetry

Technology: VITROS MicroTip, MicroSensor and Intellicheck Technology
Analyzer: Fully Automated Integrated Biochemistry and Immunology Analyzer: VITROS 5600

Clinical Significance: Rheumatoid factor (RF) consists of autoantibodies of immunoglobulin isotype IgM,IgA, IgG and IgE .The function of RF remains unclear,but it may play a role in the regulation of humoral and cellular immunity and protection against invading microorganisms.Most patients with rheumatoid arthritis and Sjogren's syndrome have elevated levels of RF, RF may also be elevated in scleroderma,dermatomyositis,Waldenstrom's disease ,sarcoidosis, and systemic lupus erythematosus. There are also instances of elevated RF without apparent disease or definable clinical disorders.

Remarks: Please correlate results with clinical conditions.

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Referred By :	DEMO HOSPITAL	**Patient ID :**	UHID.DEMO.001
Centre :	HOD Head Office		

Vitamin B12 — Serum Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:16 **Approved On:** 22-Jan-25 15:22

Observation	Result	Unit	Biological Ref. Interval	Method
Vitamin B-12	**180**	pg/mL	239-931	CLIA

Technology: VITROS Microwell, Microsensor and Intellicheck Technology
Analyzer: Fully Automated Integrated Biochemistry and ImmunoAssay Analyzer: VITROS 5600

Remarks: Please correlate results clinically.

Vitamin D, 25 - Hydroxy — Serum Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:16 **Approved On:** 22-Jan-25 14:47

Observation	Result	Unit	Biological Ref. Interval	Method
25-OH Vitamin D (Total)	22.9	ng/mL	20 - 100	CLIA

Technology: VITROS Microwell, Microsensor, and Intellicheck Technology
Analyzer: Fully Automated Integrated Biochemistry and ImmunoAssay: VITROS 5600

Clinical Significance: The major circulating form of vitamin D is 25-hydroxyvitamin D (25(OH)D); thus, the total serum 25(OH)D level is currently considered the best indicator of vitamin D supply to the body from cutaneous synthesis and nutritional intake. The reference range of the total 25(OH)D level is 20-100 ng/mL.
There are two principal forms of vitamin D: D2 and D3. Many of the currently available assays measure and report on both vitamin D2 and D3 metabolites. This can be useful in studies evaluating the contribution of vitamin D2 and D3 to overall vitamin D status. 25-hydroxyvitamin D (25(OH)D) is the major circulating form of vitamin D; thus, the total serum 25(OH)D level is currently considered the best indicator of vitamin D supply to the body from cutaneous synthesis and nutritional intake.
One exception is that 25(OH)D levels do not indicate clinical vitamin D status in patients with chronic renal failure or type 1 vitamin D-dependent rickets or when calcitriol (1,25-dihydroxy vitamin D) is used as a supplement. Interpretation of 25(OH)D can be challenging owing to wide variability in patient's weight, ethnicity, assays, laboratory procedures and validation of reference ranges.
Vitamin D deficiency is defined by most experts as a serum 25(OH)D level of less than 20 ng/mL.
Vitamin D insufficiency has been defined as a serum 25(OH)D level of 20-29 ng/mL.
Vitamin D sufficiency has been defined as serum 25(OH)D levels of 30-100 ng/mL.
Vitamin D toxicity is observed when serum 25(OH)D levels are greater than 100 ng/mL.

Remarks: *Please correlate results clinically*.

Scan to Validate

H·O·D
HOUSE of DIAGNOSTICS

Patient Name :	Demo Patient Name	**Lab No :**	Demo Visit No
Age / Sex :	41 Y / F	**Registration On :**	22-Jan-25 09:41
Referred By :	DEMO HOSPITAL	**Patient ID :**	UHID.DEMO.001
Centre :	HOD Head Office		

CBC

EDTA Whole Blood Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 13:12 **Approved On:** 22-Jan-25 14:30

Observation	Result	Unit	Biological Ref. Interval	Method
Hemoglobin	**11.4**	gm/dL	12.0 - 15.0	Photometric Measurement
Total RBC	4.27	million/µL	3.8 - 4.8	Coulter Principle
Platelet Count	199	X 10^3 / µL	150 - 410 x 10^3/µL	Impedance
Total Leucocyte Count (WBC)	5.49	X 10^3 / µL	4.0 - 10.0	Flow Cytometry
Differential Leucocyte Count (DLC)				
Neutrophils	55.2	%	40 - 80	Flow Cytometry
Lymphocytes	31.3	%	20 - 40	Flow Cytometry
Monocytes	5.8	%	2 - 10	Flow Cytometry
Eosinophils	**7.0**	%	1 - 6	Flow Cytometry
Basophils	0.7	%	0 - 1	Flow Cytometry
Absolute Neutrophil Count	3.03	X 10^3 / µL	2.0 - 7.5	Flow Cytometry
Absolute Lymphocyte Count	1.72	X 10^3 / µL	1.0 - 4.0	Flow Cytometry
Absolute Monocyte Count	0.32	X 10^3 / µL	0.2 - 1.0	Flow Cytometry
Absolute Eosinophil Count	0.38	X 10^3 / µL	0.04 - 0.44	Flow Cytometry
Absolute Basophil Count	0.05	X 10^3 / µL	0.00 - 0.30	Flow Cytometry
Indices				
Hematocrit (PCV)	36.1	%	36 - 46	Calculated
Mean Corpuscular Volume (MCV)	84.5	fL	83 - 101	Calculated
Mean Corp. Hemoglobin (MCH)	**26.6**	pg	27 - 32	Calculated
MCH Concentration (MCHC)	31.6	g/dl	31.5 - 34.5	Calculated
Red Cell Dist. Width (RDW-CV)	14.2	%	11.5 - 14.5	Calculated
Red Cell Dist. Width (RDW-SD)	46.0	fL	39 - 46	Calculated
Mean Platelet Volume (MPV)	**14.9**	fL	7-5 - 12.0	Calculated
P-LCC	**121**	10^9/L	30-90	SF Cube
P-LCR	**60.8**	%	11-45	Calculated
Neutrophil-Lymphocyte Ratio (NLR)	1.76	Ratio		Calculated
Mentzer Index	19.79	Index		Calculated

Remarks: *Please correlate with clinical conditions*

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H·O·D
HOUSE of DIAGNOSTICS

Patient Name :	Demo Patient Name	**Lab No :**	Demo Visit No
Age / Sex :	41 Y / F	**Registration On :**	22-Jan-25 09:41
Referred By :	DEMO HOSPITAL	**Patient ID :**	UHID.DEMO.001
Centre :	HOD Head Office		

Urine R/M

Urine Sample

Accession No: DEMO_BARCODE **Collected On:** 22-Jan-25 09:41 **Received On:** 22-Jan-25 16:20 **Approved On:** 22-Jan-25 17:08

Observation	Result	Unit	Biological Ref. Interval	Method
Physical Examination				
Urine Quantity	7.5	mL	7 - 8	Physical Examination
Urine Colour	Pale Yellow		Pale Yellow	Physical Examination
Urinary Transparency	Clear		Clear	Physical Examination
Biochemical Examination				
Urinary pH	**5.5**	pH	6 .0 - 8.0 pH	bromothymol blue
Urinary Specific Gravity	**1.005**		1.005 - 1.030	Ethyleneglycol-bis t.a.a.
Urinary Protein	Negative		Negative	Tetrachlorophenol
Urinary Glucose	Negative		Negative	glucose-oxidase-peroxidase
Urinary Ketones	Negative		Negative	Sodium Nitroprusside
Urobilinogen	Negative		Negative	Methoxybenzene Diazonium
Urine Bilirubin	Negative		Negative	Dichlorobenzene-diazonium
Urinary Nitrites	Negative		Negative	hydroxy
Blood [In Urine]	Negative		Negative	Tetramethylbenzidine
Leukocyte esterase	Negative		Negative	indoxyl-ester-diazonium
Microscopic Examination				
Pus Cells [In Urine]	1-2	/HPF	1 - 2 /HPF	Flow Micro Imaging
Epithelial Cells (Squamous)	1-2	/HPF	0-2/HPF	Flow Micro Imaging
Epithelial Cells (Non-Squamous)	NIL	/HPF	0-2/HPF	Flow Micro Imaging
Urinary RBC	NIL	/HPF	NIL /HPF	Flow Micro Imaging
Hyaline Casts	NIL	/LPF	0-2/LPF	Flow Micro Imaging
Pathological Casts	NIL	/LPF	0-1/LPF	Flow Micro Imaging
Yeast Cells	NIL	/HPF	0-1/HPF	Flow Micro Imaging
Crystals	NIL	/HPF	NIL/HPF	Flow Micro Imaging
Other Morphology	NIL		NIL	Microscopy

Remarks:

- Sample Quantity is observed after transfer to a Urinalysis Vacutainer Tube for preservation of sample.
- **Note for Female Patients:** If the urine is collected during menstruation, red cells may be present in the urine.
- **Microscopy:** Microscopy may have supplemented automated measurements, wherever necessary.

Advise: *Please correlate results clinically.*

This is a Demo Signature
and the doctor's signature should appear here

In case of any unexpected or alarming results, please contact us immediately for re-confirmation, clarifications, and rectifications, if needed.

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