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TEST PERFORMED AT KOS DIAGNOSTIC LAB, AMBALA CANTT.

NAME	**: Mr. SIMRANJEET SINGH**		
AGE/ GENDER	: 26 YRS/MALE	**PATIENT ID**	: 1643683
COLLECTED BY	:	**REG. NO./LAB NO.**	**: 012410150013**
REFERRED BY	:	**REGISTRATION DATE**	: 15/Oct/2024 08:16 AM
BARCODE NO.	: 01518917	**COLLECTION DATE**	: 15/Oct/2024 08:27AM
CLIENT CODE.	: KOS DIAGNOSTIC LAB	**REPORTING DATE**	: 15/Oct/2024 09:04AM
CLIENT ADDRESS	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

HAEMATOLOGY

COMPLETE BLOOD COUNT (CBC)

Test Name	Value	Unit	Biological Reference interval
RED BLOOD CELLS (RBCS) COUNT AND INDICES			
HAEMOGLOBIN (HB) *by CALORIMETRIC*	14	gm/dL	12.0 - 17.0
RED BLOOD CELL (RBC) COUNT ***by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE***	**5.14^{H}**	**Millions/cmm**	**3.50 - 5.00**
PACKED CELL VOLUME (PCV) *by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER*	43.9	%	40.0 - 54.0
MEAN CORPUSCULAR VOLUME (MCV) *by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER*	85.4	fL	80.0 - 100.0
MEAN CORPUSCULAR HAEMOGLOBIN (MCH) *by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER*	27.1	pg	27.0 - 34.0
MEAN CORPUSCULAR HEMOGLOBIN CONC. (MCHC) ***by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER***	**31.7^{L}**	**g/dL**	**32.0 - 36.0**
RED CELL DISTRIBUTION WIDTH (RDW-CV) *by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER*	15.6	%	11.00 - 16.00
RED CELL DISTRIBUTION WIDTH (RDW-SD) *by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER*	49.8	fL	35.0 - 56.0
MENTZERS INDEX *by CALCULATED*	16.61	RATIO	BETA THALASSEMIA TRAIT: < 13.0 IRON DEFICIENCY ANEMIA: >13.0
GREEN & KING INDEX *by CALCULATED*	25.79	RATIO	BETA THALASSEMIA TRAIT:<= 65.0 IRON DEFICIENCY ANEMIA: > 65.0
WHITE BLOOD CELLS (WBCS)			
TOTAL LEUCOCYTE COUNT (TLC) *by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY*	7130	/cmm	4000 - 11000
NUCLEATED RED BLOOD CELLS (nRBCS) *by AUTOMATED 6 PART HEMATOLOGY ANALYZER*	NIL		0.00 - 20.00
NUCLEATED RED BLOOD CELLS (nRBCS) % *by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER*	NIL	%	< 10 %
DIFFERENTIAL LEUCOCYTE COUNT (DLC)			
NEUTROPHILS ***by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY***	**73^{H}**	**%**	**50 - 70**

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Test Name	Value	Unit	Biological Reference interval
LYMPHOCYTES ***by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY***	**14L**	**%**	**20 - 40**
EOSINOPHILS *by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY*	3	%	1 - 6
MONOCYTES *by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY*	10	%	2 - 12
BASOPHILS *by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY*	0	%	0 - 1
ABSOLUTE LEUKOCYTES (WBC) COUNT			
ABSOLUTE NEUTROPHIL COUNT *by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY*	5205	/cmm	2000 - 7500
ABSOLUTE LYMPHOCYTE COUNT *by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY*	998	/cmm	800 - 4900
ABSOLUTE EOSINOPHIL COUNT *by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY*	214	/cmm	40 - 440
ABSOLUTE MONOCYTE COUNT *by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY*	713	/cmm	80 - 880
ABSOLUTE BASOPHIL COUNT *by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY*	0	/cmm	0 - 110
PLATELETS AND OTHER PLATELET PREDICTIVE MARKERS.			
PLATELET COUNT (PLT) *by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE*	245000	/cmm	150000 - 450000
PLATELETCRIT (PCT) *by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE*	0.26	%	0.10 - 0.36
MEAN PLATELET VOLUME (MPV) *by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE*	11	fL	6.50 - 12.0
PLATELET LARGE CELL COUNT (P-LCC) *by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE*	75000	/cmm	30000 - 90000
PLATELET LARGE CELL RATIO (P-LCR) *by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE*	30.8	%	11.0 - 45.0
PLATELET DISTRIBUTION WIDTH (PDW) *by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE*	17	%	15.0 - 17.0

NOTE: TEST CONDUCTED ON EDTA WHOLE BLOOD

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Test Name	Value	Unit	Biological Reference interval

ERYTHROCYTE SEDIMENTATION RATE (ESR)

ERYTHROCYTE SEDIMENTATION RATE (ESR)	**32^{H}**	**mm/1st hr**	**0 - 20**

by RED CELL AGGREGATION BY CAPILLARY PHOTOMETRY

INTERPRETATION:

1. ESR is a non-specific test because an elevated result often indicates the presence of inflammation associated with infection, cancer and auto-immune disease, but does not tell the health practitioner exactly where the inflammation is in the body or what is causing it.
2. An ESR can be affected by other conditions besides inflammation. For this reason, the ESR is typically used in conjunction with other test such as C-reactive protein
3. This test may also be used to monitor disease activity and response to therapy in both of the above diseases as well as some others, such as systemic lupus erythematosus

CONDITION WITH LOW ESR

A low ESR can be seen with conditions that inhibit the normal sedimentation of red blood cells, such as a high red blood cell count (polycythaemia), significantly high white blood cell count (leucocytosis) , and some protein abnormalities. Some changes in red cell shape (such as sickle cells in sickle cell anaemia) also lower the ESR.

NOTE:

1. ESR and C - reactive protein (C-RP) are both markers of inflammation.
2. Generally, ESR does not change as rapidly as does CRP, either at the start of inflammation or as it resolves.
3. **CRP is not affected by as many other factors as is ESR, making it a better marker of inflammation.**
4. If the ESR is elevated, it is typically a result of two types of proteins, globulins or fibrinogen.
5. Women tend to have a higher ESR, and menstruation and pregnancy can cause temporary elevations.
6. Drugs such as dextran, methyldopa, oral contraceptives, penicillamine procainamide, theophylline, and vitamin A can increase ESR, while aspirin, cortisone, and quinine may decrease it

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Test Name	Value	Unit	Biological Reference interval

IMMUNOPATHOLOGY/SEROLOGY

TB GOLD (QUANTIFERON): INTERFERON GAMMA RELEASE ASSAY (IGRA)

TB GOLD - QUANTIFERON *by ELISA (ENZYME LINKED IMMUNOASSAY)*	NEGATIVE (-ve)	

TEST DETAILS (REFERENCE ONLY)

IFN-GAMMA FROM NEGATIVE CONTROL VIAL (N) *by ELISA (ENZYME LINKED IMMUNOASSAY)*	0.241	pg/mL
IFN-GAMMA FROM TB Ag CULTURE VIAL (T) *by ELISA (ENZYME LINKED IMMUNOASSAY)*	0.45	pg/mL
IFN-GAMMA DIFFERENCE (T-N) *by ELISA (ENZYME LINKED IMMUNOASSAY)*	0.21	pg/mL
(T-N/N) % VALUE *by ELISA (ENZYME LINKED IMMUNOASSAY)*	87.14	%
INTERPRETATION CRITERIA FOR IGRA	(T-N) VALUE SHOULD BE >= 0.35 AND >= 25% OF NIL VALUE	

INTERPRETATION:

NIL (IU/ML)	T – N (TB Antigen minus NIL Tube) IU/mL	SATNDARD E RESULT	INTERPRETATION
<= 8.0	< 0.35	NEGATIVE	NOT Infected with *Mycobacterium tuberculosis*
	>= 0.35 and < 25 % of NIL VALUE		
	>= 0.35 and >25 % of NIL VALUE	POSITIVE	Infected with *Mycobacterium tuberculosis*(active, latent or inapparent infection)
>8.0	ANY VALUE	INTERMEDIATE	Cannot determine whether Mycobacterium tuberculosis infection/ Result are indeterminate for TB Antigen responsiveness Any

NOTE:

1. Diagnosing or excluding tuberculosis disease, and assessing the probability of LTBI, Requires a combination of epidemiological, historical, medical, and diagnostic findings that should be taken into account when interpreting ELISA Report results.

2. NEGATIVE TEST DOES NOT PRECLUDE THE POSSIBILITY OF MYCOBACTERIUM TUBERCULOSIS INFECTION/DISEASE

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Test Name	Value	Unit	Biological Reference interval

3. IGRA Test is approved as an in vitro diagnostic aid for detection of Mycobacterium tuberculosis infection (active disease and LTBI) and is intended for use in conjunction with risk assessment, radiography and other medical and diagnostic evaluations. The IGRA test does not differentiate between active and latent TB so latent patient will also be picked by IGRA. IGRA cannot be used as standalone test to diagnose TB infection. IGRA test is not established for any prognostic use.

3. The SD Biosensor TB Gold IGRA (Interferon Gamma Releasing Assay) test is whole blood test for detection of infection to Mycobacterium tuberculosis as occurs in active tuberculosis and latent tuberculosis infection (LTBI).If not detected and treated, LTBI may later develop into TB disease. This test measures the patient's immune reactivity to M. tuberculosis, the bacterium that causes TB. Blood samples are mixed with TB specific antigens and incubated for 20 to 24 hours. The antigens include ESAT-6 and CFP-10, proteins specific to tuberculosis complex. These antigens are not found in BCG strains or atypical Mycobacteria. If the patient is infected with M. tuberculosis, the patient's lymphocytes will recognize the antigens and release interferon –gamma in response .The TB Platinum test results are based on the amount of IFN –gamma that is released. Additional tests (such as chest radiograph) are needed to exclude TB disease and confirm the diagnosis of LTBI.

METHOD: Interferon Gamma Release Assay (IGRA);

CAUTION: Assay results should be interpreted only in the context of other laboratory finding and the total clinical status of the patient

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MICROBIOLOGY

ACID FAST BACILLI (AFB)/ZEIHL-NEELSEN (Z-N) STAIN EXAMINATION

TEST NAME:

ACID FAST BACILLI (AFB)/ZEIHL-NEELSEN (Z-N) STAIN EXAMINATION

CLINICAL HISTORY (IF ANY):

NATURE OF SPECIMEN:

SPUTUM

MICROSCOPIC EXAMINATION :

Smear show mucus, a few epithelial cells & inflammatory cells.

ZEIHL NEELSEN (Z.N) STAIN FOR ACID FAST BACILLI:

No acid fast bacilli seen in Z.N stained smear.

IMPRESSION:

Negative for AFB (Acid fast bacilli).

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*** End Of Report ***

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