

Patient Name	: Mr.PARAM SINGH
Age/Gender	: 30 Y 4 M 25 D /M
UHID/MR No	: APJ1.0027315797
Visit ID	: DPHROPV51983
Ref Doctor	: Dr.SELF
IP/OP NO	:

Collected	: 19/Jan/2026 08:04AM
Received	: 19/Jan/2026 01:28PM
Reported	: 19/Jan/2026 01:52PM
Status	: Final Report
Client Name	: PUP 24X7_CREDIT
Center location	: Harlur,Bangalore

### DEPARTMENT OF BIOCHEMISTRY

Test Name	Result	Unit	Bio. Ref. Interval	Method
HOMOCYSTEINE , EDTA PLASMA	21.20	µmol/L	<15	Enzymatic

#### Comment:

Elevations in plasma homocysteine may be the result of deranged Vit B12 metabolism, some chronic medical conditions such as chronic renal and hepatic insufficiency, post menopause, smoking, Homocystinuria and certain drugs. Elevated levels of homocysteine may be used to exclude or confirm deficiencies of vitamin B12 or folate.

Elevations in homocysteine levels have been used as an independent risk factor for Thromboembolic episodes in coronary or cerebral vascular disease, especially in young patients.



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Patient Name	: Mr.PARAM SINGH	Collected	: 19/Jan/2026 08:04AM
Age/Gender	: 30 Y 4 M 25 D /M	Received	: 19/Jan/2026 12:40PM
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### DEPARTMENT OF BIOCHEMISTRY

Test Name	Result	Unit	Bio. Ref. Interval	Method
<b>IRON STUDIES (IRON + TIBC) , SERUM</b>				
IRON	109.0	µg/dL	33-193	FerroZine
TOTAL IRON BINDING CAPACITY (TIBC)	325	ug/dL	250-400	Dye Binding
UNSATURATED IRON BINDING CAPACITY (UIBC)	216.00	ug/dL	125-345	Direct Estimation by Ferrozine
% OF TRANSFERRIN SATURATION	33.54	%	14-50	Calculated

#### Comment:

Transferrin is the primary plasma iron transport protein, which binds iron strongly at physiological pH. Transferrin is generally only 25% to 30% saturated with iron. The additional amount of iron that can be bound is the unsaturated iron-binding capacity (UIBC). Diurnal variation is seen in serum iron levels—normal values in midmorning, low values in midafternoon, very low values (approximately 10 µg/dL) near midnight.

TIBC measures the blood's capacity to bind iron with transferrin (TRF). Estrogens and oral contraceptives increase TIBC levels. Asparaginase, chloramphenicol, corticotropin, cortisone, and testosterone decrease the TIBC levels.

% saturation represents the amount of iron-binding sites that are occupied. Iron saturation is a better index of iron stores than serum iron alone. % saturation is decreased in iron deficiency anemia (usually <10% in established deficiency).

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### DEPARTMENT OF BIOCHEMISTRY

Test Name	Result	Unit	Bio. Ref. Interval	Method
MAGNESIUM , SERUM	1.86	mg/dL	1.6-2.6	Xylylid Blue

#### Comment:

- Magnesium along with potassium is a major intracellular cation. Mg<sup>2+</sup> is a cofactor of many enzyme systems. Thus, all ATP dependent enzymatic reactions require Mg<sup>2+</sup> as a cofactor in the ATP magnesium complex.
- Approximately 69 % of magnesium ions are stored in bone. The rest are part of the intermediary metabolism, about 70 % being present in free form while the other 30 % is bound to proteins (especially albumin), citrates, phosphate, and other complex formers.
- This assay is used for diagnosing and monitoring hypomagnesemia (magnesium deficiency) and hypermagnesemia (magnesium excess).
- Hypermagnesemia is found in conditions such as acute and chronic renal failure, hemolysis , magnesium excess (through drugs, mild alkali syndrome), and magnesium release from the intracellular space (rhabdomyolysis, acidosis). There is a correlation between magnesium deficiency and changes in calcium , potassium and phosphate homeostasis



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### DEPARTMENT OF IMMUNOLOGY

Test Name	Result	Unit	Bio. Ref. Interval	Method
<b>CORTISOL - RANDOM</b>				
CORTISOL (RANDOM)	9.22	µg/dL		ECLIA

**Comment:**

CORTISOL, SERUM	REF RANGE IN ug/dL
MORNING CORTISOL	4.30–22.40
EVENING CORTISOL	3.09–16.66

- Increased levels seen in pregnancy, estrogen treatment, severe stress, pituitary tumors or ectopic ACTH- producing tumors, Cushing's disease and in other conditions of glucocorticoid excess.
- Decreased levels seen in Addison's disease, generalized adrenal hypofunction or a defect in the metabolic pathway for cortisol biosynthesis.
- Plasma cortisol levels are highest in the morning, and concentrations decrease towards evening.

\*\*\* End Of Report \*\*\*

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