

Dr. Vinay Chopra  
MD (Pathology & Microbiology)  
Chairman & Consultant Pathologist

Dr. Yugam Chopra  
MD (Pathology)  
CEO & Consultant Pathologist

NAME : Mr. AMANDEEP SINGH  
AGE/ GENDER : 42 YRS/MALE  
COLLECTED BY :  
REFERRED BY :  
BARCODE NO. : 01514690  
CLIENT CODE. : KOS DIAGNOSTIC LAB  
CLIENT ADDRESS : 6349/1, NICHOLSON ROAD, AMBALA CANTT

PATIENT ID : 1574328  
REG. NO./LAB NO. : 012408080016  
REGISTRATION DATE : 08/Aug/2024 09:09 AM  
COLLECTION DATE : 08/Aug/2024 09:11 AM  
REPORTING DATE : 08/Aug/2024 12:07 PM

Test Name	Value	Unit	Biological Reference interval
-----------	-------	------	-------------------------------

CLINICAL CHEMISTRY/BIOCHEMISTRY

UREA

UREA: SERUM by UREASE - GLUTAMATE DEHYDROGENASE (GLDH)	33.09	mg/dL	10.00 - 50.00
---	-------	-------	---------------



DR.VINAY CHOPRA  
CONSULTANT PATHOLOGIST  
MBBS, MD (PATHOLOGY & MICROBIOLOGY)

DR.YUGAM CHOPRA  
CONSULTANT PATHOLOGIST  
MBBS, MD (PATHOLOGY)



**Dr. Vinay Chopra**  
 MD (Pathology & Microbiology)  
 Chairman & Consultant Pathologist

**Dr. Yugam Chopra**  
 MD (Pathology)  
 CEO & Consultant Pathologist

<b>NAME</b>	: Mr. AMANDEEP SINGH	<b>PATIENT ID</b>	: 1574328
<b>AGE/ GENDER</b>	: 42 YRS/MALE	<b>REG. NO./LAB NO.</b>	: 012408080016
<b>COLLECTED BY</b>	:	<b>REGISTRATION DATE</b>	: 08/Aug/2024 09:09 AM
<b>REFERRED BY</b>	:	<b>COLLECTION DATE</b>	: 08/Aug/2024 09:11AM
<b>BARCODE NO.</b>	: 01514690	<b>REPORTING DATE</b>	: 08/Aug/2024 12:07PM
<b>CLIENT CODE.</b>	: KOS DIAGNOSTIC LAB		
<b>CLIENT ADDRESS</b>	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval
-----------	-------	------	-------------------------------

**CREATININE**

CREATININE: SERUM	1.4	mg/dL	0.40 - 1.40
by ENZYMATIC, SPECTROPHOTOMETRY			



  
**DR.VINAY CHOPRA**  
 CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY & MICROBIOLOGY)

  
**DR.YUGAM CHOPRA**  
 CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY)



**Dr. Vinay Chopra**  
 MD (Pathology & Microbiology)  
 Chairman & Consultant Pathologist

**Dr. Yugam Chopra**  
 MD (Pathology)  
 CEO & Consultant Pathologist

<b>NAME</b>	: Mr. AMANDEEP SINGH	<b>PATIENT ID</b>	: 1574328
<b>AGE/ GENDER</b>	: 42 YRS/MALE	<b>REG. NO./LAB NO.</b>	: 012408080016
<b>COLLECTED BY</b>	:	<b>REGISTRATION DATE</b>	: 08/Aug/2024 09:09 AM
<b>REFERRED BY</b>	:	<b>COLLECTION DATE</b>	: 08/Aug/2024 09:11 AM
<b>BARCODE NO.</b>	: 01514690	<b>REPORTING DATE</b>	: 08/Aug/2024 11:39 AM
<b>CLIENT CODE.</b>	: KOS DIAGNOSTIC LAB		
<b>CLIENT ADDRESS</b>	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval
-----------	-------	------	-------------------------------

## VITAMINS

### VITAMIN D/25 HYDROXY VITAMIN D3

**VITAMIN D (25-HYDROXY VITAMIN D3): SERUM**  
 by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)

27.1<sup>L</sup>

ng/mL

**DEFICIENCY:** < 20.0  
**INSUFFICIENCY:** 20.0 - 30.0  
**SUFFICIENCY:** 30.0 - 100.0  
**TOXICITY:** > 100.0

#### INTERPRETATION:

DEFICIENT:	< 20	ng/mL
INSUFFICIENT:	21 - 29	ng/mL
PREFERRED RANGE:	30 - 100	ng/mL
INTOXICATION:	> 100	ng/mL

- Vitamin D compounds are derived from dietary ergocalciferol (from plants, Vitamin D2), or cholecalciferol (from animals, Vitamin D3), or by conversion of 7- dihydrocholecalciferol to Vitamin D3 in the skin upon Ultraviolet exposure.
- 25-OH--Vitamin D represents the main body reservoir and transport form of Vitamin D and transport form of Vitamin D, being stored in adipose tissue and tightly bound by a transport protein while in circulation.
- Vitamin D plays a primary role in the maintenance of calcium homeostasis. It promotes calcium absorption, renal calcium absorption and phosphate reabsorption, skeletal calcium deposition, calcium mobilization, mainly regulated by parathyroid hormone (PTH).
- Severe deficiency may lead to failure to mineralize newly formed osteoid in bone, resulting in rickets in children and osteomalacia in adults.

#### DECREASED:

- Lack of sunshine exposure.
- Inadequate intake, malabsorption (celiac disease)
- Depressed Hepatic Vitamin D 25- hydroxylase activity
- Secondary to advanced Liver disease
- Osteoporosis and Secondary Hyperparathyroidism (Mild to Moderate deficiency)
- Enzyme Inducing drugs: anti-epileptic drugs like phenytoin, phenobarbital and carbamazepine, that increases Vitamin D metabolism.


#### INCREASED:


- Hypervitaminosis D is Rare, and is seen only after prolonged exposure to extremely high doses of Vitamin D. When it occurs, it can result in severe hypercalcemia and hyperphosphatemia.

**CAUTION:** Replacement therapy in deficient individuals must be monitored by periodic assessment of Vitamin D levels in order to prevent hypervitaminosis D

**NOTE:-** Dark coloured individuals as compare to whites, is at higher risk of developing Vitamin D deficiency due to excess of melanin pigment which interfere with Vitamin D absorption.



  
**DR.VINAY CHOPRA**  
 CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY & MICROBIOLOGY)

  
**DR.YUGAM CHOPRA**  
 CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY)



**Dr. Vinay Chopra**  
 MD (Pathology & Microbiology)  
 Chairman & Consultant Pathologist

**Dr. Yugam Chopra**  
 MD (Pathology)  
 CEO & Consultant Pathologist

<b>NAME</b>	: Mr. AMANDEEP SINGH	<b>PATIENT ID</b>	: 1574328
<b>AGE/ GENDER</b>	: 42 YRS/MALE	<b>REG. NO./LAB NO.</b>	: 012408080016
<b>COLLECTED BY</b>	:	<b>REGISTRATION DATE</b>	: 08/Aug/2024 09:09 AM
<b>REFERRED BY</b>	:	<b>COLLECTION DATE</b>	: 08/Aug/2024 09:11 AM
<b>BARCODE NO.</b>	: 01514690	<b>REPORTING DATE</b>	: 08/Aug/2024 12:03 PM
<b>CLIENT CODE.</b>	: KOS DIAGNOSTIC LAB		
<b>CLIENT ADDRESS</b>	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval
-----------	-------	------	-------------------------------

### VITAMIN B12/COBALAMIN

VITAMIN B12/COBALAMIN: SERUM	401.42	pg/mL	190.0 - 830
------------------------------	--------	-------	-------------

by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)

#### INTERPRETATION:-

INCREASED VITAMIN B12	DECREASED VITAMIN B12
1. Ingestion of Vitamin C	1. Pregnancy
2. Ingestion of Estrogen	2. DRUGS: Aspirin, Anti-convulsants, Colchicine
3. Ingestion of Vitamin A	3. Ethanol ingestion
4. Hepatocellular injury	4. Contraceptive Hormones
5. Myeloproliferative disorder	5. Haemodialysis
6. Uremia	6. Multiple Myeloma

1. Vitamin B12 (cobalamin) is necessary for hematopoiesis and normal neuronal function.

2. In humans, it is obtained only from animal proteins and requires intrinsic factor (IF) for absorption.

3. The body uses its vitamin B12 stores very economically, reabsorbing vitamin B12 from the ileum and returning it to the liver; very little is excreted.

4. Vitamin B12 deficiency may be due to lack of IF secretion by gastric mucosa (eg, gastrectomy, gastric atrophy) or intestinal malabsorption (eg, ileal resection, small intestinal diseases).

5. Vitamin B12 deficiency frequently causes macrocytic anemia, glossitis, peripheral neuropathy, weakness, hyperreflexia, ataxia, loss of proprioception, poor coordination, and affective behavioral changes. These manifestations may occur in any combination; many patients have the neurologic defects without macrocytic anemia.


6. Serum methylmalonic acid and homocysteine levels are also elevated in vitamin B12 deficiency states.


7. Follow-up testing for antibodies to intrinsic factor (IF) is recommended to identify this potential cause of vitamin B12 malabsorption.

**NOTE:** A normal serum concentration of vitamin B12 does not rule out tissue deficiency of vitamin B12. The most sensitive test for vitamin B12 deficiency at the cellular level is the assay for MMA. If clinical symptoms suggest deficiency, measurement of MMA and homocysteine should be considered, even if serum vitamin B12 concentrations are normal.

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



  
**DR. VINAY CHOPRA**  
 CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY & MICROBIOLOGY)

  
**DR. YUGAM CHOPRA**  
 CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY)

