

Mr. RANDHIR

PID NO: P33724536814120 Age: 57 Year(s) Sex: Male



Reference: DR.VINAY CHOPRA

Sample Collected At:
DR VINAY KUMAR CHOPRA
DR VINAY KUMAR CHOPRA KOS
Diagnostic Lab 6349/I Nicholson Road
Ambala Cantt HRY 133001. 06-HR 13
Sample Processed At: Metropolis
Healthcare Ltd E-21, B1 Mohan Co-op Ind
Estate New Delhi-110044

VID: 240111108713049

Registered On: 06/12/2024 12:18 PM Collected On: 06/12/2024 12:16PM Reported On: 07/12/2024 03:12 PM

<u>Investigation</u>	Observed Value	<u>Unit</u>	Biological Referer	ce Interval
SERUM, PROTEIN ELECTROPH (Serum)	<u>ORESIS</u>			
Total Protein (Biuret)	7.83		6.4-8.3	
Serum Albumin	4.82	g/dL	3.57-5.42	
Alpha 1 Globulin	0.29	g/dL	0.19-0.40	
Alpha 2 Globulin	0.81	g/dL	0.45-0.96	
Beta 1 Globulin	0.45	g/dL	0.30-0.59	
Beta 2 Globulin	0.23	g/dL	0.20-0.53	
Gamma Globulin	1.24	g/dL	0.71-1.54	
Albumin, Globulin Ratio	1.60		1.1-2.2	
"M" Band	NO MONOCLONA	<u>AL</u>	Absent	

Comment

Interpretation:

- 1. Serum protein electrophoresis is commonly used to identify multiple myeloma & related disorders.
- 2. Electrophoresis is a method of separating proteins based on their physical properties & the pattern is dependant on the fractions of 2 types of protein: Albumin & Globulin (alpha1, alpha2, beta & gamma).

BAND SEEN

Components	Major Components	Interferences		
Albumin	Albumin	Lipoproteins, Drugs, Bilirubin, Radiological contrast		
Alpha1 - globulins	α-1 antitrypsin, α-1 acid glycoprotein	-		
Alpha2 - globulins	α-2 macroglobulin, haptoglobin	Haptoglobin - haemoglobin complex		
Beta globulins	Transferrin, β-lipoprotein, IgA, IgM & sometimes IgG with complement proteins – C3 & C4	Fibrinogen		
Gamma globulins	IgG, IgA, IgM,IgD, IgE	CRP		

Page 1 of 3

Dr. Chakshu Bansal M.D (Pathology) (DMC Reg. No. - 66994)



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Observed Value Unit **Biological Reference Interval** Investigation

Direct detection at 200 nm in capillaries yields relative concentrations (percentages) of individual protein zones.

Remarks:

- 1.In following conditions serum Immunofixation is required to confirm monoclonal gammopathy or to differentiate monoclonal and polyclonal disorders.
- (A) A well defined 'M' band
- (B) Non-discrete bands..
- (C) Chronic inflammatory pattern (decreased Albumin, increased Alpha, increased Gamma region), which may mask the monoclonal band.
- (D) Isolated increase in any region, with otherwise normal pattern.

2. SPE- Distortions/ Non-Discrete bands:

Distortions in Serum Protein Electrophoresis (SPE) usually affect curves of the gamma, beta, and alpha-2 peaks. Distortions are subtle, non-discrete bands which cannot be quantified & therefore not plotted on the graphs. These could be seen in the following situations:

- a) Patients on therapy for Multiple myeloma.
- b) Distortions at the point of sample application can be especially problematic when one is dealing with cryoglobulins (often precipitates at the origin).
- c) Monoclonal gammopathies involving any of beta-migrating immunoglobulins (produce subtle distortion of the transferrin or C3 band)
- d) Subtle distortions in the beta & gamma regions may indicate towards Ig D / Ig E gammaopathies.

Method: Capillary Electrophoresis

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Investigation

Observed Value

Unit

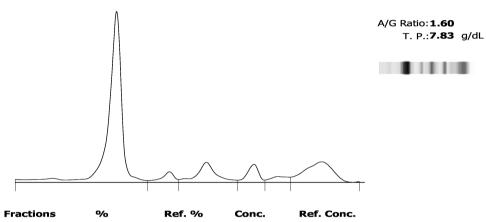
Biological Reference Interval

PROTEIN ELECTROPHORESIS

Name: RANDHIR
Sample: 13
Sex: M

Date: **12/7/2024**ID: **0527896948**

Age : **57**



Fractions	%	Ref. %	Conc.	Ref. Conc.
Albumin	61.5	55.8 - 66.1	4.82	3.57 - 5.42
Alpha 1	3.7	2.9 - 4.9	0.29	0.19 - 0.40
Alpha 2	10.3	7.1 - 11.8	0.81	0.45 - 0.96
Beta 1	5.7	4.7 - 7.2	0.45	0.30 - 0.59
Beta 2	2.9 <	3.2 - 6.5	0.23	0.20 - 0.53
Gamma	15.9	11.1 - 18.8	1.24	0.71 - 1.54

Signature

-- End of Report --



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Page 3 of 3

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