



Mrs. BIMLA TANEJA

PID NO: P33724538164280

Age: 62 Year(s) Sex: Female



Reference: DR.VINAY KUMAR CHOPRA

Sample Collected At: DR VINAY KUMAR CHOPRA 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: 24011109571016

Registered On: 01/01/2025 08:15 AM Collected On: 31/12/2024 8:14AM Reported On: 01/01/2025 03:57 PM

**Investigation Observed Value Unit Biological Reference Interval**

**Protein Electrophoresis, Serum**  
(Serum)

<b>Total Protein</b> (Biuret)	7.40		6.2-8.1
<b>Serum Albumin</b>	4.24	g/dL	3.57-5.42
<b>Alpha 1 Globulin</b>	0.31	g/dL	0.19-0.40
<b>Alpha 2 Globulin</b>	0.53	g/dL	0.45-0.96
<b>Beta 1 Globulin</b>	<b>0.74</b>	g/dL	0.30-0.59
<b>Beta 2 Globulin</b>	0.32	g/dL	0.20-0.53
<b>Gamma Globulin</b>	1.26	g/dL	0.71-1.54
<b>Albumin, Globulin Ratio</b>	1.34		1.1-2.2
<b>"M" Band</b>	<b>NO MONOCLONAL BAND SEEN</b>		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).

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

**Dr. Geeta Chopra**  
M.D (Pathology)  
(DMC Reg. No. - 5204)



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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

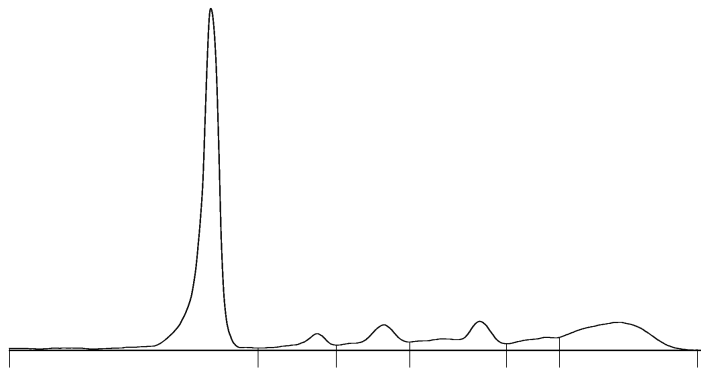
Unit

Biological Reference Interval

# PROTEIN ELECTROPHORESIS

Name: BIMLA TANEJA  
Sample : 8  
Sex : F

Date: 1/1/2025  
ID: 0529540328  
Age : 62



A/G Ratio: 1.34  
T. P.: 7.4 g/dL



Fractions	%	Ref. %	Conc.	Ref. Conc.
Albumin	57.3	55.8 - 66.1	4.24	3.57 - 5.42
Alpha 1	4.2	2.9 - 4.9	0.31	0.19 - 0.40
Alpha 2	7.2	7.1 - 11.8	0.53	0.45 - 0.96
Beta 1	10.0	4.7 - 7.2	0.74	0.30 - 0.59
Beta 2	4.3	3.2 - 6.5	0.32	0.20 - 0.53
Gamma	17.0	11.1 - 18.8	1.26	0.71 - 1.54

Signature

-- End of Report --



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