# 240111107368487

## Ms. BALWINDER KAUR

PID NO: P33724534699984

Age: 59 Year(s) Sex: Female



# 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: 240111107368487

Registered On: 28/10/2024 08:04 AM Collected On: 27/10/2024 8:03AM Reported On: 28/10/2024 02:08 PM

<u>Investigation</u>	Observed Value	<u>Unit</u>	Biological Reference Interval
SERUM, PROTEIN ELECT	ROPHORESIS		

(Serum)	<del></del>		
Total Protein (Biuret)	7.29		6.4-8.3
Serum Albumin	3.63	g/dL	3.57-5.42
Alpha 1 Globulin	<u>0.54</u>	g/dL	0.19-0.40
Alpha 2 Globulin	<u>1.17</u>	g/dL	0.45-0.96
Beta 1 Globulin	0.51	g/dL	0.30-0.59
Beta 2 Globulin	0.34	g/dL	0.20-0.53
Gamma Globulin	1.11	g/dL	0.71-1.54
Albumin, Globulin Ratio	<u>0.99</u>		1.1-2.2
"M" Band	NO MONOCLO BAND SEEN	NAL_	Absent

Comment Raised Alpha-1 & Alpha-2.

## 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

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**Dr. Chakshu Bansal** M.D (Pathology)

(DMC Reg. No. - 66994)



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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** 

T. P.:**7.29** g/dL

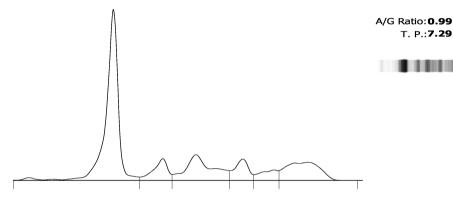
# PROTEIN ELECTROPHORESIS

Name: BALWINDER KAUR

Sample: 4 Sex:

Date: 10/28/2024 ID: 0525366904

Age : 59



Fractions	%		Ref. %	Conc.	Ref. Conc.
Albumin	49.8	<	55.8 - 66.1	3.63	3.57 - 5.42
Alpha 1	7.4	>	2.9 - 4.9	0.54	0.19 - 0.40
Alpha 2	16.0	>	7.1 - 11.8	1.17	0.45 - 0.96
Beta 1	7.0		4.7 - 7.2	0.51	0.30 - 0.59
Beta 2	4.6		3.2 - 6.5	0.34	0.20 - 0.53
Gamma	15.2		11.1 - 18.8	1.11	0.71 - 1.54

Signature

-- End of Report --



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