

Lab Address:- # Plot No. 564 , 1st floor , Buddhanagar , Near Sai  
Baba Temple Peerzadiguda Boduppal Hyderabad, Telangana.  
ICMR Reg .No. SAPALAPVLHT (Covid -19)

|                    |  |               |                        |
|--------------------|--|---------------|------------------------|
| Name               | : Mr. KRISHNA DUWARAH                  | Sample ID     | : A0060208             |
| Age/Gender         | : 61 Years/Male                        | Reg. No       | : 0692408100355        |
| Referred by        | : Dr. V.P.BABU KOYALA                  | SPP Code      | : SPL-AS-070           |
| Referring Customer | : RAPID DIAGNOSTIC                     | Collected On  | : 10-Aug-2024 04:00 AM |
| Primary Sample     | : Whole Blood                          | Received On   | : 13-Aug-2024 04:28 PM |
| Sample Tested In   | : Serum                                | Reported On   | : 16-Aug-2024 06:05 PM |
| Client Address     | : B.G.ROAD, HATKHOLA,BISWANATH CHARALI | Report Status | : Final Report         |

### CLINICAL BIOCHEMISTRY

| Test Name | Results | Units | Ref. Range | Method |
|-----------|---------|-------|------------|--------|
|-----------|---------|-------|------------|--------|

#### Free Lite Chains (Kappa /Lambda)-Serum

|                         |       |      |              |                    |
|-------------------------|-------|------|--------------|--------------------|
| Free light chain,Kappa  | 10.65 | mg/L | 3.3 – 19.40  | Immunoturbidimetry |
| Free light chain,Lambda | 19.41 | mg/L | 5.71 – 26.30 | Immunoturbidimetry |
| Kappa/Lambda Ratio      | 0.54  | %    | 0.26 – 1.65  | Calculated         |

#### Interpretation :

Useful for Monitoring patients with monoclonal light chain diseases but no M-spike on protein electrophoresis. The specificity of this assay for detection of monoclonal light chains relies on the ratio of free kappa and lambda light chains. Once an abnormal free light chain (FLC) K/L ratio has been demonstrated and a diagnosis has been made, the quantitation of the monoclonal light chain is useful for monitoring disease activity.  
Changes in FLC quantitation reflect change in the size of the monoclonal plasma cell population.

#### PDF Attached

|                  |             |      |             |                                |
|------------------|-------------|------|-------------|--------------------------------|
| Albumin Fraction | 3.9         | g/dL | 3.20 - 5.00 | Agarose Gel<br>Electrophoresis |
| Alpha 1-Globulin | 0.18        | g/dL | 0.10-0.40   | Agarose gel<br>Electrophoresis |
| Alpha 2-globulin | <b>0.50</b> | g/dL | 0.60 - 1.00 | Agarose gel<br>Electrophoresis |
| Beta- globulin   | 0.89        | g/dL | 0.6-1.3     | Agarose gel<br>Electrophoresis |
| Gamma-globulin   | 1.37        | g/dL | 0.70 - 1.50 | Agarose gel<br>Electrophoresis |
| Protein - Total  | 6.8         | g/dL | 6.4-8.2     | Biuret                         |
| A/G Ratio        | 1.3         |      | 1.0 - 2.1   | Calculated                     |

Myeloma Band (M-Band)

0.00 g/dl

#### Impression

Pattern shows normal. Advice SPE after 3 Months.

#### Advise

Please correlate clinically.

#### Comments:

- A homogeneous spike-like peak in a focal region of the gamma-globulin zone indicates a monoclonal gammopathy. Monoclonal gammopathies are associated with a clonal process that is malignant or potentially malignant, including multiple myeloma, Waldenström's macroglobulinemia, solitary plasmacytoma, smoldering multiple myeloma, monoclonal gammopathy of undetermined significance, plasma cell leukemia, heavy chain disease, and amyloidosis.
- M-protein (in the gamma region) level greater than 3 g/dL should be interpreted along with other radiologic and hematological findings to arrive at a diagnosis of Multiple myeloma and must not be considered in isolation. Occasionally M protein may appear as a narrow spike in the beta or alpha2 regions also. Up to one fifth of patients with Myeloma may have an M-protein spike of less than 1 g /dL.
- Hypogammaglobulinemia on serum protein electrophoresis occurs in about 10% of patients with multiple myeloma who do not have a serum M-protein spike. Most of these patients have a large amount of Bence Jones protein (monoclonal free kappa or lambda chain) in their urine, wherein urine protein electrophoresis should be performed. Monoclonal gammopathy is present in up to 8 percent of healthy geriatric patients.

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



*Dr. Vaishnavi*  
DR.VAISHNAVI  
MD BIOCHEMISTRY

Result rechecked and verified for abnormal cases

|                    |  |               |                        |
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CLINICAL BIOCHEMISTRY

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|-----------|---------|-------|------------|--------|

[PDF Attached](#)

Immunofixation Electrophoresis(IFE)

|                                    |  |      |              |                             |
|------------------------------------|--|------|--------------|-----------------------------|
| Protein - Total                    | 6.8  | g/dL | 6.4-8.2      | Biuret                      |
| Albumin Fraction                   | 4.1  | g/dL | 3.20 - 5.00  | Agarose Gel Electrophoresis |
| Total Gamma globulin Fraction      | 2.7  | g/dL | 2.5-3.80     | Agarose Gel Electrophoresis |
| Immunoglobulin A(IgA):Quantitative | 3.01   | g/L  | 0.69 - 5.17  | Immunoturbidimetry          |
| Immunoglobulin G(IgG):Quantitative | 6.97   | g/L  | 5.40 -18.22  | Immunoturbidimetry          |
| Immunoglobulin M(IgM)-Quantitative | 1.53   | g/L  | 0.22 - 2.40  | Immunoturbidimetry          |
| Free light chain,Kappa             | 9.71   | mg/L | 3.3 – 19.40  | Immunoturbidimetry          |
| Free light chain,Lambda            | 16.93  | mg/L | 5.71 – 26.30 | Immunoturbidimetry          |
| Kappa/Lambda Ratio                 | 0.57   | %    | 0.26 – 1.65  | Calculated                  |
| Result                             | No monoclonal band seen in SP lane and corresponding IgG IgA and IgM lanes |      |              |                             |
| Impression                         | Not suggestive of Monoclonal gammopathy. Please correlate clinically.      |      |              |                             |

Interpretation:

When an abnormal protein (band or peak) is detected, additional tests are done to identify the type of protein (immunotyping). **Immunofixation electrophoresis** or **immunoelectrophoresis** can be used to identify abnormal bands seen on protein electrophoresis, typically in the gamma region, in order to determine whether a type of antibody (immunoglobulin) is abnormally produced (e.g., IgG, IgA, IgM).  
In most cases of multiple myeloma, a single type of intact (whole) immunoglobulin is produced in excess. In a minority of cases, only one section of an immunoglobulin called a "free light chain" is produced in large amounts. These excess free light chains are released into the bloodstream and since they are relatively small molecules, they are filtered by the kidneys and released into the urine. Another term for these excess free light chains in the urine is Bence Jones proteins.

Correlate Clinically.

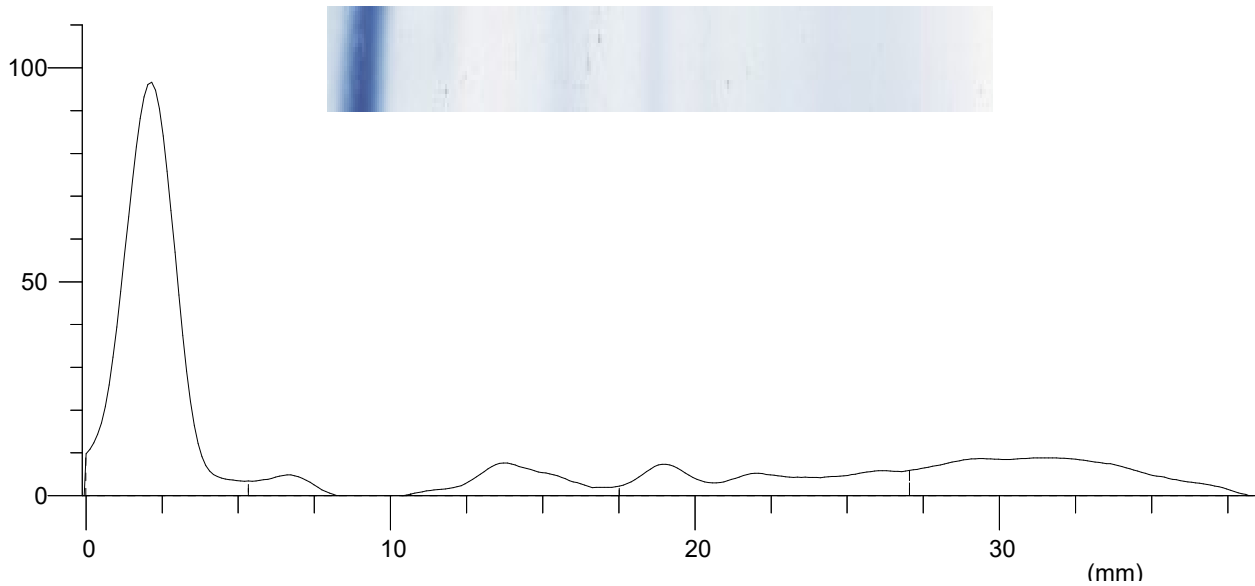
\*\*\* End Of Report \*\*\*



*Dr. Vaishnavi*  
DR.VAISHNAVI  
MD BIOCHEMISTRY

## SERUM PROTEIN ELECTROPHORESIS REPORT

PATIENT NAME Mr. KRISHNA DUWARAH  
AGE/GENDER 61 YRS/Male REPORTED DATE 16/08/2024  
SAMPLE ID A0060208



| Index     | Band    | Rel. Area | Total Protein Conc. (g/dL) | Range (g/dL)  |
|-----------|---------|-----------|----------------------------|---------------|
| 1         | Albumin | 56.71%    | 3.86                       | 3.20 ... 5.00 |
| 2         | Alpha 1 | 2.72%     | 0.18                       | 0.10 ... 0.40 |
| 3         | Alpha 2 | 7.40%     | 0.50 L                     | 0.60 ... 1.00 |
| 4         | Beta    | 13.08%    | 0.89                       | 0.60 ... 1.30 |
| 5         | Gamma   | 20.09%    | 1.37                       | 0.70 ... 1.50 |
| Total     |         |           | 6.80                       |               |
| Ratio A/G |         | 1.31      |                            |               |

### COMMENTS:

Pattern shows normal. Advice SPE after 3 Months.  
Please correlate clinically.

SAS-MX Immunofixation

SP

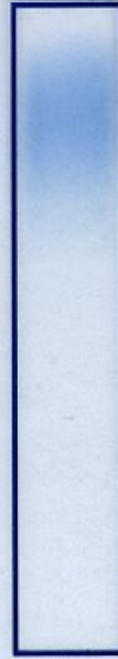
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