The Microgel/INTERLAB G26 Serum Protein/Concentrated Urine Electrophoretic methods, provide a new level of total automation on agarose gel.

You simply pipette the specimens (neat or concentrated) into the sample wells, put the gels in the holders, start the instrument and WALK AWAY!

- Human body fluids contain a varied mixture of proteins and protein complexes. Each of these protein entities fulfill a specific function in a physiological process, it is well known that the levels of various proteins in blood serum bear a close relationship to the state of health and disease. Of the many techniques available for separating proteins, electrophoresis is a well established and versatile technique, routinely used in clinical laboratories. The most popular method of electrophoretic protein analysis is “zone electrophoresis” on agarose gels. Serum Protein Electrophoresis (SPE) performed at pH 8.9 yields five bands: albumin and four globulins (each fraction containing a number of different proteins): alpha 1(α1), alpha 2 (α2), beta (β), and gamma (γ). Visual inspection of single bands provides valuable diagnostic support offering a display of the major proteins involved in functional and pathological processes.

- The appearance of plasma proteins in the urine (proteinuria) is of great clinical value in the determination of renal function. Physiological proteinuria is defined as approximately 150 mg of protein found in a 24 hour urine collection. Electrophoresis is the best way to detect abnormal proteins in urine. The presence of an abnormal band requires confirmatory identification by Immunofixation (for example to assess the presence of a Bence-Jones protein). Abnormal proteins in urine can be present with a normal proteinuria.
**KIT CONTENT**

- Gel Plates: 10
- Blotting Paper: 10
- Buffered Sponges: 20/30
- Acid Blue Stain: 1
- Applicator Washing Sol.: 1
- Disposable Sample Plates: 10

**REAGENT PREPARATION**
Reagents are ready to use, only the Stain has to be reconstituted with 900 ml of distilled water. All may be stored at room temperature.

**SAMPLE PREPARATION**
Neat serum samples. Concentrated urines to a final total protein concentration > 20 g/L

**SAMPLE STORAGE and STABILITY**
- **Serum**: 1 week at 2 to 8°C
- **Urine**: 1 week at 2 to 8°C, and 1 month at –20°C

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**PERFORMANCE CHARACTERISTICS**

**Accuracy**
A total of 117 normal and abnormal specimens were tested with Interlab systems versus a commercially available agarose system.

**Within Run Precision**
4 different samples were run on 4 different gels. Each sample was run 13 times.

**Between Run Precision**
3 samples were run on 10 different plates.

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**ACCURACY**

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Correlation Coef. Serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td>0.98</td>
</tr>
<tr>
<td>Alpha-1</td>
<td>0.99</td>
</tr>
<tr>
<td>Alpha-2</td>
<td>0.96</td>
</tr>
<tr>
<td>Beta</td>
<td>0.96</td>
</tr>
<tr>
<td>Gamma</td>
<td>0.98</td>
</tr>
</tbody>
</table>

**WITHIN RUN PRECISION**

<table>
<thead>
<tr>
<th>Fraction</th>
<th>C.V. (%) Serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td>1.4</td>
</tr>
<tr>
<td>Alpha-1</td>
<td>3.0</td>
</tr>
<tr>
<td>Alpha-2</td>
<td>2.1</td>
</tr>
<tr>
<td>Beta</td>
<td>2.5</td>
</tr>
<tr>
<td>Gamma</td>
<td>3.1</td>
</tr>
</tbody>
</table>

**BETWEEN RUN PRECISION**

<table>
<thead>
<tr>
<th>Fraction</th>
<th>C.V. (%) Serum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td>1.5</td>
</tr>
<tr>
<td>Alpha-1</td>
<td>4.6</td>
</tr>
<tr>
<td>Alpha-2</td>
<td>2.2</td>
</tr>
<tr>
<td>Beta</td>
<td>2.4</td>
</tr>
<tr>
<td>Gamma</td>
<td>4.2</td>
</tr>
</tbody>
</table>

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*Note: Each Laboratory should establish its own normal values range.*

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**Diagram**

- Albumin
- α1-Antitrypsin
- α1-Acid Glycoprotein
- α2-Macroglobulin
- Ceruloplasmin
- Haptoglobin
- α-Lipoproteins
- Hemopexin
- Transferrin
- Plasminogen
- C3
- β-Lipoprotein
- Fibrinogen
- Immunoglobulins
- C Reactive protein

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**Fraction Correlation Coef.**

- Albumin: 0.98
- Alpha-1: 0.99
- Alpha-2: 0.96
- Beta: 0.96
- Gamma: 0.98

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**Fraction C.V. (%)**

- Albumin: 1.4
- Alpha-1: 3.0
- Alpha-2: 2.1
- Beta: 2.5
- Gamma: 3.1

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**Normal profile for concentrated urines**

- Proteinuria < 150 mg/24 hrs.
- Albumin: Traces
- Tranferrin: Traces
- Immunoglobulins: Traces

**Normal values range for serum proteins**

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Range (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td>52 – 68</td>
</tr>
<tr>
<td>Alpha 1</td>
<td>2 – 5</td>
</tr>
<tr>
<td>Alpha 2</td>
<td>6.6 – 13.5</td>
</tr>
<tr>
<td>Beta</td>
<td>8.5 – 14.5</td>
</tr>
<tr>
<td>Gamma</td>
<td>11 – 21</td>
</tr>
</tbody>
</table>

**Note:**

- *Each Laboratory should establish its own normal values range.*