Rhamnose Broth

Rhamnose Broth is recommended for demonstration of rhamnose fermentation (Listeria monocytogenes).

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat extract</td>
<td>1.000</td>
</tr>
<tr>
<td>Meat peptone</td>
<td>10.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>Bromo cresol purple</td>
<td>0.020</td>
</tr>
<tr>
<td>Final pH ( at 25°C)</td>
<td>6.8±0.2</td>
</tr>
</tbody>
</table>

*Formula adjusted, standardized to suit performance parameters*

**Directions**

Suspend 16.02 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes containing inverted Durham’s tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Aseptically add filter sterilized rhamnose solution (final concentration of 1%) to sterile media.

**Principle And Interpretation**

Only *Listeria monocytogenes* among the *Listeria* species is reported to cause infection in humans. In human adults, L. monocytogenes primarily causes meningitis, encephalitis or septicemia. The tropism of *L. monocytogenes* for the central nervous system leads to severe disease, often with high mortality or with neurologic disorders among survivors (1).

Rhamnose Broth Base is formulated for demonstration of rhamnose fermentation. Meat extract and Meat Peptone provides essential growth nutrients for bacterial metabolism. Bromocresol purple acts as pH indicator which turns yellow under acidic condition. Sodium chloride maintains osmotic equilibrium. Gas formation is seen in Durham’s tubes.

**Quality Control**

**Appearance**

Light yellow to bluish grey coloured homogeneous free flowing powder

**Colour and Clarity of prepared medium**

Purple coloured clear solution in tube

**Reaction**

Reaction of 1.6% w/v aqueous solution at 25°C. pH : 6.8±0.2

**pH**

6.60-7.00

**Cultural Response**

M1364: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Acid</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Listeria grayi</em> ATCC 19120</td>
<td>50-100</td>
<td>luxuriant</td>
<td>Positive reaction, yellow reaction colour</td>
<td>Negative reaction, no colour change</td>
</tr>
<tr>
<td><em>Listeria innocua</em> ATCC 33090</td>
<td>50-100</td>
<td>luxuriant</td>
<td>Positive reaction, yellow reaction colour</td>
<td>Negative reaction, no colour change</td>
</tr>
<tr>
<td><em>Listeria ivanovii</em> ATCC 19119</td>
<td>50-100</td>
<td>luxuriant</td>
<td>Negative reaction, no colour change</td>
<td>Negative reaction, no colour change</td>
</tr>
</tbody>
</table>
**Listeria monocytogenes ATCC 19111**
- 50-100 luxuriant
- Positive reaction, yellow colour
- Negative reaction

**Listeria monocytogenes ATCC 19112**
- 50-100 luxuriant
- Positive reaction, yellow colour
- Negative reaction

**Listeria seeligeri ATCC 35967**
- 50-100 luxuriant
- Negative reaction, no colour change
- Negative reaction

**Storage and Shelf Life**
Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

**Reference**
2. Schweizersches Lebensmittelbuch, Jan. 201. Chapter 56.

**Disclaimer**
User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.