**Intended Use:**
Recommended for cultivation and differentiation of *Listeria* species.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proteose peptone</td>
<td>10.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>HM peptone B #</td>
<td>1.000</td>
</tr>
<tr>
<td>Bromocresol purple</td>
<td>0.100</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>6.8±0.2</td>
</tr>
</tbody>
</table>

**Directions**

Suspend 16.1 grams in 990 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Dispense into tubes containing inverted Durhams tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Aseptically add 10 ml separately sterilized carbohydrate solution to give a final concentration of 0.5%. Mix well.

**Principle And Interpretation**

Carbohydrate Consumption Broth is used for the cultivation and differentiation of *Listeria* species and formulated as per Atlas (2). It is also recommended by FDA (3) and ISO (4) with a slight difference in the concentration of bromocresol purple. Differentiation is based on fermentation of glucose, xylose, rhamnose, ribose, a-methyl-D-mannoside and mannitol. Proteose peptone and HM peptone B in the medium provide carbon and nitrogen compounds including essential amino acids, vitamins and trace ingredients for bacterial metabolism. Bromocresol purple is the pH indicator, which indicates acid production by turning yellow in colour.

Carbohydrate utilization test: Inoculate each kind of carbohydrate fermentation broth with one loopful of inoculum. Incubate for 7 days at 37°C. Observe daily for acid induced colour change and gas formation. Sometimes weak positive reactions may occur after 48 hours of incubation (3).

**Type of specimen**

Pure isolates from food samples.

**Specimen Collection and Handling:**

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,7,8). After use, contaminated materials must be sterilized by autoclaving before discarding.

**Limitations:**
NA

**Performance and Evaluation**

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

**Quality Control**

**Appearance**
Light yellow to beige homogeneous free flowing powder

**Colour and Clarity of prepared medium**
Purple coloured, clear solution without any precipitate

**Reaction**
Reaction of 1.61% w/v aqueous solution at 25°C, pH : 6.8±0.2

**pH**
6.60-7.00
Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>w/o carbohydrate (acid)</th>
<th>w/o carbohydrate (gas)</th>
<th>w/ rhamnose (acid)</th>
<th>w/ rhamnose (gas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escherichia coli ATCC 25922 (00013*)</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>negative, no colour change</td>
<td>negative reaction</td>
<td>positive reaction, yellow reaction</td>
<td>positive reaction, yellow reaction</td>
</tr>
<tr>
<td>Listeria monocytogenes subsp. serovar 1 ATCC 19111 (00020*)</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>negative, no colour change</td>
<td>negative reaction</td>
<td>positive reaction, yellow reaction</td>
<td>positive reaction, yellow reaction</td>
</tr>
<tr>
<td>Listeria monocytogenes ATCC 19112</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>negative, no colour change</td>
<td>negative reaction</td>
<td>positive reaction, yellow reaction</td>
<td>positive reaction, yellow reaction</td>
</tr>
<tr>
<td>Listeria monocytogenes ATCC 19117</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>negative, no colour change</td>
<td>negative reaction</td>
<td>positive reaction, yellow reaction</td>
<td>positive reaction, yellow reaction</td>
</tr>
<tr>
<td>Staphylococcus aureus ATCC 25923 (00034*)</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>negative, no colour change</td>
<td>negative reaction</td>
<td>negative reaction, no colour change</td>
<td>negative reaction, no colour change</td>
</tr>
<tr>
<td>Listeria monocytogenes ATCC 19118</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>negative, no colour change</td>
<td>negative reaction</td>
<td>positive reaction, yellow reaction</td>
<td>positive reaction, yellow reaction</td>
</tr>
</tbody>
</table>

Key : *Corresponding WDCM numbers.

Storage and Shelf Life
Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal
User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

Reference

Disclaimer:
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