Broth Medium D (Lactose Monohydrate Broth) M1003B

Lactose monohydrate Broth is used for detection of coliform bacteria in water, foods, dairy products in accordance with British Pharmacopoeia.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pancreatic digest of gelatin</td>
<td>5.000</td>
</tr>
<tr>
<td>Beef extract</td>
<td>3.000</td>
</tr>
<tr>
<td>Lactose monohydrate</td>
<td>5.000</td>
</tr>
<tr>
<td>pH after sterilization</td>
<td>6.9±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters**

**Directions**

Suspend 12.75 grams of dehydrated powder in 1000 ml purified/distilled water. Heat if necessary to dissolve the medium completely. For larger inocula (10 ml or more), concentrated medium may be prepared to account for medium dilution by the inoculum. Dispense in tubes containing inverted fermentation vial (Durhams tube) as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

**Principle And Interpretation**

Lactose Broth is is recommended by British pharmacopoeia (4) for selective pre-enrichment of *Enterobacteriaceae* as well as for *E. coli* and *Salmonella* in water, food and pharmaceutical products. The medium is used for detection of specified microorganisms of non-sterile products according to British Pharmacopoeia. This medium is also recommended by various other pharmacopoeia (5,6,7).

Lactose monohydrate broth is recommended by APHA in the performance and confirmation of the presumptive test for coliform bacteria in water (1), food (2) and milk (3). This medium can be used as an alternate to Buffered sodium chloride-peptone solution pH 7.00 for the revival of Enterobacteriaceae and gram negative bacteria. The medium is incubated for a time sufficient to revive the bacteria but not the multiplication of the bacteria. It is recommended to incubate the medium usually for 2 ours and not for more than 5 hours.(4)

Pancreatic digest of gelatin and beef extract supply essential nutrients to the organisms. Lactose monohydrate is a fermentable carbohydrate.

**Quality Control**

**Appearance**
Cream to yellow homogeneous free flowing powder

**Colour and Clarity of prepared medium**
Light amber coloured clear solution without any precipitate

pH of 1.27% w/v aqueous solution after sterilization.

pH 6.70-7.10

**Growth Promotion Test**
Cultural characteristics observed after an incubation at 35-37°C for specified time

**Cultural Response**

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Recovery within 2 hours of incubation</th>
<th>Recovery within &lt;=5 hours of incubation</th>
</tr>
</thead>
</table>

**Preparation of test strain**

Please refer disclaimer Overleaf.
Escherichia coli ATCC 8739 50 -100 no increase in colony count no increase in colony count

Pseudomonas aeruginosa ATCC 9027 50 -100 no increase in colony count no increase in colony count

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

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