MacConkey Broth (Double strength) w/Neutral Red is used for primary isolation of coliforms from large samples such as water or waste water.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptic digest of animal tissue</td>
<td>40.000</td>
</tr>
<tr>
<td>Lactose</td>
<td>20.000</td>
</tr>
<tr>
<td>Bile salts</td>
<td>10.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>10.000</td>
</tr>
<tr>
<td>Neutral red</td>
<td>0.140</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.5±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 80.14 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Distribute into test tubes with inverted Durham tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool the tubes before inoculation.

Note: Where the number of organisms is expected to be low, larger quantities of the sample may be directly added to equal amount of double strength medium in dilution bottles or flasks.

**Principle And Interpretation**

MacConkey Broth (Double strength) is recommended for detection of bacteria responsible for food poisoning, for isolation, identification and enumeration of Escherichia coli (1). MacConkey Broth (Double strength) is also recommended for the primary isolation of coliforms from large samples such as water and wastewater.

MacConkey Broth has also been recommended for use in microbiological examination of foodstuffs (2) and for direct plating / inoculation of water samples for coliform counts (3). This media is also used for the Examination of Milk and Dairy Products (4) and pharmaceutical preparations (5). The selective action of this medium is attributed to bile salts, which are inhibitory to most species of gram-positive bacteria. Gram-negative bacteria usually grow well on the medium and are differentiated by their ability to ferment lactose. Lactose fermenting strains grow as yellow. Lactose non-fermenting strains, such as *Shigella* and *Salmonella* are colourless and transparent and typically do not alter appearance of the medium.

**Quality Control**

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

**Colour and Clarity of prepared medium**
Red coloured clear solution without any precipitate.

**Reaction**
Reaction of 8.0% w/v aqueous solution at 25°C. pH : 7.5±0.2

**pH**
7.30-7.70

**Cultural Response**
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>
</table>

Please refer disclaimer Overleaf.
### HiMedia Laboratories

#### Enterobacter aerogenes
**ATCC 13048**
- Luxuriant: 50-100
- Reaction: Positive
- Positive reaction

#### Escherichia coli ATCC 25922
- Luxuriant: 50-100
- Reaction: Positive
- Positive reaction

#### Salmonella choleraesuis ATCC 12011
- Fair to good: 50-100
- Reaction: Negative
- Negative reaction

#### Staphylococcus aureus ATCC 25923
- Inhibited: \( \geq 10^3 \)

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### 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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**Disclaimer:**
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