HiEncap™ MacConkey Broth w/ Neutral Red is recommended for the selective enrichment and enumeration of coliforms.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptic digest of animal tissue</td>
<td>20.000</td>
</tr>
<tr>
<td>Lactose</td>
<td>10.000</td>
</tr>
<tr>
<td>Bile salts</td>
<td>5.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>Neutral Red</td>
<td>0.075</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.4±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Each capsule contains 20.04 grams of media. Suspend 1 capsule in 500 ml (2 capsules in 1000 ml) distilled or purified water. Heat to boiling to dissolve the medium completely. Distribute into tubes with inverted Durhams tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool the tubes before inoculation.

**Principle And Interpretation**

MacConkey Broth is widely used as a differential medium for detection and enumeration of coliforms from a wide variety of clinical, food and water samples. Identification is based on colour change of the medium due to the indicator neutral red used (1, 2). Peptic digest of animal tissue provides necessary nitrogen source. Lactose serves as the fermentable carbohydrate source. Sodium chloride maintains the osmotic balance of the cells. The selective action of these media is attributed to the presence of bile salts, which are inhibitory to most species of gram-positive bacteria. Gram-negative bacteria usually grow well on these media and are differentiated by their ability to ferment lactose. The colour change of the medium shown by lactose-fermenters is due to production of acid from lactose and a subsequent colour change of the indicator dye when the pH of the media falls below 6.8. Lactose non-fermenting strains, such as *Shigella* and *Salmonella* do not alter the appearance of the medium. The medium turns pink in case of lactose fermenters and yellow in case of non- lactose-fermenters, due to neutral red. MacConkey Broth, which contains neutral red as an indicator is considered as a standard medium for the primary isolation as well as presumptive identification of coliform-aerogenes group of organisms in food and water.

**Quality Control**

**Appearance**

Gelatin capsule containing pale yellow to pink coloured granular media

**Colour and Clarity of prepared medium**

Red coloured clear solution without any precipitate

**Quantity**

Each capsule contains 20.04 grams of medium for 500 ml media

**Reaction**

Reaction of 4.01% w/v aqueous solution at 25°C. pH : 7.4±0.2

**pH**

7.20-7.60

**Cultural Response**

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

**Cultural Response**

<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.
Enterobacter aerogenes ATCC 13048
50-100 luxuriant positive reaction positive reaction

Escherichia coli ATCC 25922
50-100 luxuriant positive reaction positive reaction

Klebsiella pneumoniae ATCC 13883
50-100 luxuriant positive reaction positive reaction

Proteus mirabilis ATCC 25933
50-100 luxuriant negative reaction negative reaction

Salmonella Choleraesuis ATCC 12011
50-100 fair to good negative reaction negative reaction

Staphylococcus aureus ATCC 25923
>=10³ inhibited

Enterococcus faecalis ATCC 50-100 none-poor positive reaction negative reaction

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

Reference