MacConkey Broth Purple w/BCP

Intended use
Recommended for presumptive identification of coliforms from variety of specimens such as water, milk, food and clinical samples.

Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptone</td>
<td>20.000</td>
</tr>
<tr>
<td>Lactose</td>
<td>10.000</td>
</tr>
<tr>
<td>Sodium taurocholate</td>
<td>5.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>Bromocresol purple</td>
<td>0.010</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
Suspend 40.01 grams in 1000 ml purified/distilled water. Heat if necessary to dissolve the medium and distribute into test tubes with inverted Durham tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation
MacConkey Broth Purple w/ BCP is a modification of MacConkey Medium (6). Childs and Allen (3) demonstrated the inhibitory effect of neutral red and therefore substituted it by the less inhibitory bromocresol purple dye. BCP is more sensitive in recording pH variation in the medium.

Peptone provides nitrogenous and carbonaceous compounds, long chain amino acids and other essential growth nutrients. Lactose is the fermentable carbohydrate. Sodium taurocholate inhibits gram-positive organisms. Sodium chloride maintains the osmotic balance of the medium. Bromocresol purple is the pH indicator in the medium which turns yellow under acidic condition. Lactose fermentation turn the medium yellow due to the acidity produced on lactose fermentation. The colour change of the dye is observed when the pH of the medium falls below 6.8. Lactose non-fermenting organisms like Salmonella and Shigella do not alter the appearance of the medium.

Liquid specimens are directly inoculated while solids have to be homogenized in appropriate diluents such as physiological saline, phosphate buffers, etc. The inoculation must be effected at 10% v/v in Durham's tubes. If the inoculum is greater than 1 ml, it is necessary to use the medium at double strength, inoculating equal volumes of specimen and medium.

Type of specimen
Food and dairy samples ; Water samples, Clinical samples - stool samples

Specimen Collection and Handling
For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5). For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,7,8). For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards.(2)

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions
In Vitro diagnostic Use. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets

Limitations:
This medium is general purpose medium and may not support the growth of fastidious organisms.
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
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Purple coloured clear to slightly opalescent solution in tubes

Reaction
Reaction of 4.0% 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.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Acid production</th>
<th>Gas production</th>
</tr>
</thead>
<tbody>
<tr>
<td># Klebsiella aerogenes ATCC 13048 (00175*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>positive reaction, yellow reaction colour</td>
<td>positive reaction, yellow reaction colour</td>
</tr>
<tr>
<td>Escherichia coli ATCC 25922 (00013*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>positive reaction, yellow reaction colour</td>
<td>positive reaction, yellow reaction colour</td>
</tr>
<tr>
<td>Salmonella Choleraesuis ATCC 12011</td>
<td>50-100</td>
<td>fair-good</td>
<td>negative reaction</td>
<td>negative reaction</td>
</tr>
<tr>
<td>Staphylococcus aureus subsp. aureus ATCC 25923(00034*)</td>
<td>&gt;=10⁴</td>
<td>inhibited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Escherichia coli ATCC 8739 (00012*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>positive reaction, yellow reaction colour</td>
<td>positive reaction, yellow reaction colour</td>
</tr>
<tr>
<td>Escherichia coli NCTC 9002</td>
<td>50-100</td>
<td>luxuriant</td>
<td>positive reaction, yellow reaction colour</td>
<td>positive reaction, yellow reaction colour</td>
</tr>
<tr>
<td>Staphylococcus aureus subsp. aureus ATCC 6538 (00032*)</td>
<td>&gt;=10⁴</td>
<td>inhibited</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key: *Corresponding WDCM numbers. # Formerly known as Enterobacter aerogenes

Storage and Shelf Life
Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

Reference

Please refer disclaimer Overleaf.
Disclaimer:

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