MacConkey Agar w/o CV, NaCl, w/ 0.5% Sodium Taurocholate Plate

Intended Use:
Recommended for the selection and recovery of the Enterobacteriaceae and related enteric gram-negative bacilli from clinical, food and water 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>Neutral red</td>
<td>0.040</td>
</tr>
<tr>
<td>Agar</td>
<td>20.000</td>
</tr>
</tbody>
</table>

Final pH (at 25°C) 7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions
Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

Principle And Interpretation

MacConkey Agar is the earliest selective and differential medium for cultivation of enteric microorganisms from a variety of clinical specimens (4,5). Subsequently MacConkey Agar and Broth have been recommended for use in microbiological examination of foodstuffs (2) and for direct plating / inoculation of water samples for coliform counts (1). These media are also accepted by the Standard Methods for the Examination of Milk and Dairy Products (8) and pharmaceutical preparations (7).

Original medium contains protein, bile salts, sodium chloride and two dyes. The selective action of this medium is attributed to bile salts, which are inhibitory to most species of gram-positive bacteria. MacConkey Agar w/o CV, NaCl and W/ 0.5% Sodium taurocholate is a modification of the original formulation with the exclusion of crystal violet and inclusion of sodium taurocholate instead of bile salts.

Gram-negative bacteria usually grow well on the medium and are differentiated by their ability to ferment lactose. Lactose fermenting strains grow as red or pink and may be surrounded by a zone of acid precipitated bile. The red colour is due to production of acid from lactose, absorption of neutral red and a subsequent colour change of the dye when the pH of medium falls below 6.8. Lactose non-fermenting strains, such as Shigella and Salmonella are colourless and transparent and typically do not alter appearance of the medium. Yersinia enterocolitica may appear as small, non-lactose fermenting colonies after incubation at room temperature.

Type of specimen
Clinical samples - faeces, urine, Food and Dairy samples, Water samples.

Specimen Collection and Handling
For clinical samples follow appropriate techniques for handling specimens as per established guidelines (2,3).
For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (6,8).
For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards(1).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions
In Vitro diagnostic use. Read the label before opening the pack. 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

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.

2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user’s unique requirement.

3. It is recommended to store the plates at 24-30°C to avoid minimum condensation.

4. Though the medium is recommended for selective isolation, further biochemical and serological testing must be carried out for further confirmation.

5. The surface of the medium should be dry when inoculated.

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
Sterile MacConkey Agar w/o CV, NaCl, w/ 0.5% Sodium Taurocholate in 90 mm disposable plates.

Colour of medium
Orange red coloured medium

Quantity of medium
25 ml of medium in 90 mm disposable plates.

pH
7.20-7.60

Sterility Test
Passes release criteria

Cultural Response

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

<table>
<thead>
<tr>
<th>Organism</th>
<th>Growth</th>
<th>Inoculum (CFU)</th>
<th>Recovery</th>
<th>Colour of Colony</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salmonella Paratyphi B ATCC 8759</td>
<td>luxuriant</td>
<td>50-100</td>
<td>&gt;=50%</td>
<td>colourless</td>
</tr>
<tr>
<td>Salmonella Typhi ATCC 6539</td>
<td>luxuriant</td>
<td>50-100</td>
<td>&gt;=50%</td>
<td>colourless</td>
</tr>
<tr>
<td>Salmonella Enteritidis ATCC luxuriant 13076 (00030*)</td>
<td>luxuriant</td>
<td>50-100</td>
<td>&gt;=50%</td>
<td>colourless</td>
</tr>
<tr>
<td>Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)</td>
<td>fair-good</td>
<td>50-100</td>
<td>30-40%</td>
<td>pale pink - red</td>
</tr>
<tr>
<td>Salmonella Paratyphi A ATCC 9150</td>
<td>luxuriant</td>
<td>50-100</td>
<td>&gt;=50%</td>
<td>colourless</td>
</tr>
<tr>
<td>Escherichia coli ATCC 25922 (00013*)</td>
<td>luxuriant</td>
<td>50-100</td>
<td>&gt;=50%</td>
<td>pink to red with bile precipitate</td>
</tr>
<tr>
<td>Enterococcus faecalis ATCC fair to good 29212 (00087*)</td>
<td>luxuriant</td>
<td>50-100</td>
<td>30-40%</td>
<td>pale pink to red</td>
</tr>
<tr>
<td>Shigella flexneri ATCC 12022 (00126*)</td>
<td>fair to good</td>
<td>50-100</td>
<td>30-40%</td>
<td>colourless</td>
</tr>
<tr>
<td># Klebsiella aerogenes ATCC 13048 (00175*)</td>
<td>luxuriant</td>
<td>50-100</td>
<td>&gt;=50%</td>
<td>pale pink to red</td>
</tr>
<tr>
<td>Proteus vulgaris ATCC 13315</td>
<td>luxuriant</td>
<td>50-100</td>
<td>&gt;=50%</td>
<td>colourless</td>
</tr>
</tbody>
</table>

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

Storage and Shelf Life

On receipt store between 20-30°C Use before expiry date on the label. Product performance is best if used within stated expiry period.

Please refer disclaimer Overleaf.
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 (2,3).

Reference

Revision : 01 / 2019