Intended Use:
Differential medium 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>HiCynth™ Peptone No.3*</td>
<td>23.000</td>
</tr>
<tr>
<td>Lactose</td>
<td>10.000</td>
</tr>
<tr>
<td>Synthetic detergent</td>
<td>2.000</td>
</tr>
<tr>
<td>Neutral red</td>
<td>0.040</td>
</tr>
<tr>
<td>Agar</td>
<td>20.000</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
*Chemically defined peptone

Directions
Suspend 55.0 grams of medium in 1000 ml purified / distilled water. Heat to boiling with gentle swirling to dissolve the agar completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Avoid overheating. Cool to 45-50°C. Mix well and pour into sterile Petri plates. The surface of the medium should be dry when inoculated.

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 foods 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). MacConkey HiCynth™ Agar w/o CV, NaCl, and Sodium Taurocholate is prepared by completely replacing animal or vegetable peptones with chemically defined peptones to avoid BSE/TSE risks associated with animal peptones.

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. 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 colorless 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.

The medium contains HiCynth™ Peptone No.3 which provides nitrogenous and carbonaceous compounds, long chain amino acids, vitamins and other essential nutrients. The selective action of this medium is attributed to synthetic detergent, which are inhibitory to most species of gram-positive bacteria. It is a modification of the original formulation with the exclusion of crystal violet like the regular MacConkey Agar.

Type of specimen
Clinical: urine, blood, 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

Please refer disclaimer Overleaf.
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
1. The medium differentiates organisms on the basis of lactose fermentation.
2. Further biochemical test must be carried out for confirmation.

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
Light yellow to pink homogeneous free flowing powder

Gelling
Firm, comparable with 2.0% Agar gel.

Colour and Clarity of prepared medium
Orange red coloured clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 5.5% 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>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 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-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-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
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. 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
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition

Revision : 02 / 2019

In vitro diagnostic medical device
CE Marking
Storage temperature

Do not use if package is damaged

CE Partner 4U ,Esdoornlaan 13, 3951 DB Maarn The Netherlands,
www.cepartner 4u.eu

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