B.T.B. Lactose HiCynth™ Agar, Modified (Lactose Blue HiCynth™ Agar)

**Intended Use**
Recommended for differentiation of lactose fermenting and non-fermenting bacteria belonging to *Enterobacteriaceae*.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>HiCynth™ Peptone No.1*</td>
<td>3.500</td>
</tr>
<tr>
<td>HiCynth™ Peptone No.5*</td>
<td>3.500</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>Lactose</td>
<td>15.500</td>
</tr>
<tr>
<td>Bromo thymol blue</td>
<td>0.040</td>
</tr>
<tr>
<td>Agar</td>
<td>13.000</td>
</tr>
<tr>
<td><strong>Final pH (at 25°C)</strong></td>
<td>7.0±0.2</td>
</tr>
</tbody>
</table>

**Directions**
Suspend 40.54 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

**Principle And Interpretation**
Reactions with lactose are of great practical importance for the primary isolation of *Enterobacteria* from clinical specimens. The specimens e.g. faeces is usually plated on a lactose-containing medium on which lactose fermenters and lactose non-fermenters form coloured and pale colonies respectively due to the dye incorporated. This procedure makes an immediate presumptive distinction between colonies of the true intestinal pathogens possible. *Salmonella* and *Shigella*, do not ferment lactose while the common intestinal commensals, *Escherichia* and *Klebsiella*, which do ferment lactose (1).

Lactose Blue Agar is used for differentiating lactose fermenting and non-fermenting bacteria belonging to the family *Enterobacteriaceae*. This medium is prepared by completely replacing animal peptones with chemically defined peptones to avoid BSE/TSE /GMO risks associated with animal peptones. HiCynth™ Peptone No.1 and HiCynth™ Peptone No.5 provide essential nutrients for bacterial metabolism. Lactose provides a fermentable carbohydrate source for the enteric bacteria. Bromo thymol blue is the pH indicator for indicating acid production due to carbohydrate fermentation. The dye turns yellow at acidic pH and imparts yellow colour to the colony. Alkalination produces a blue coloration. Winkle (4) recommended addition of 0.28g/l metachrome yellow to suppress the swarming of *Proteus* species.

**Type of specimen**
Isolated Microorganisms from Clinical samples

**Specimen Collection and Handling**
For clinical samples follow appropriate techniques for handling specimens as per established guidelines (2,3). After use, contaminated materials must be sterilized by autoclaving before discarding.

**Warning and Precautions**
In Vitro diagnostic Use only. 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. Due to nutritional variations, some strains may show poor growth.
2. Further biochemical testing is required for complete identification.
**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 greenish yellow homogeneous free flowing powder

**Gelling**
Firm, comparable with 1.3% Agar gel.

**Colour and Clarity of prepared medium**
Green coloured, clear to slightly opalescent gel forms in Petri plates.

**Reaction**
Reaction of 4.05% w/v aqueous solution at 25°C. pH : 7.0±0.2

**pH**
6.80-7.20

**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>Recovery</th>
<th>Colour of Colony</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Escherichia coli</em> ATCC 25922 (00013*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>yellow, opaque</td>
</tr>
<tr>
<td><em>Salmonella Enteritidis</em> ATCC 50-100 (00030*)</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>bluish</td>
<td></td>
</tr>
<tr>
<td><em>Salmonella Typhi</em> ATCC 6539 (00034*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>bluish</td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em> subsp. aureus ATCC 25923 (00034*)</td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>&gt;=70%</td>
<td>deep yellow</td>
</tr>
</tbody>
</table>

Key : (*) Corresponding WDCM numbers.

**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.

**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 : 00/2019
In vitro diagnostic medical device

CE Marking

Storage temperature

10°C - 30°C

Do not use if package is damaged

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