China Blue Lactose Agar

**Intended Use:**
Recommended for differentiation and enumeration of bacteria in milk.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptone</td>
<td>5.000</td>
</tr>
<tr>
<td>HM peptone B#</td>
<td>3.000</td>
</tr>
<tr>
<td>Lactose</td>
<td>10.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>China blue</td>
<td>0.300</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.0±0.2</td>
</tr>
</tbody>
</table>

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

# - Equivalent to Beef extract

**Directions**

Suspend 38.3 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**

Raw milk as it leaves the udder of healthy animals normally contains very low numbers of microorganisms. After it leaves the udder, it may become contaminated with microorganisms from the surface of the cow, the environment, and unclean milking system (7). Gram-positive cocci are usually present as normal flora of raw milk (4). Raw milk may get contaminated with organism associated with foodborne illness through infected animals, milking personnel or the environment. The predominant bacteria in pasteurized milk are members of coliform group (3). China Blue Lactose Agar originally formulated by Brandl and Sobec-kal (2) is a standard non-inhibitory medium used for the differentiation of lactose fermenters from the non-lactose fermenters in milk. The medium does not contain any inhibitory substances therefore all the organisms present in milk sample grow luxuriantly on this medium.

Peptone and HM peptone B are the sources of carbon, nitrogen and essential growth nutrients. Lactose serves as a source of energy by being the fermentable carbohydrate. Sodium chloride helps to maintain the osmotic equilibrium of the medium. China blue is the pH indicator that changes from colourless to blue due to degradation of lactose to acid, thus differentiating lactose-fermenters from non-fermenters.

**Type of specimen**

Raw milk samples

**Specimen Collection and Handling:**

For dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,8). After use, contaminated materials must be sterilized by autoclaving before discarding.

**Warning and Precautions :**

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 specimens. Safety guidelines may be referred in individual safety data sheets.

**Limitations :**

1. pH of the prepared medium should be tested before use.
2. Further biochemical and serological tests must be carried out for further identification.

**Please refer disclaimer Overleaf.**
**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 greenish yellow homogeneous free flowing powder

**Gelling**
Firm, comparable with 1.5% Agar gel

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

**Reaction**
Reaction of 3.83% 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 22-24 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>Enterococcus faecalis ATCC 29212 (00087*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>blue</td>
</tr>
<tr>
<td>Escherichia coli ATCC 25922 (00013*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>blue</td>
</tr>
<tr>
<td>Proteus vulgaris ATCC 13315</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>colourless</td>
</tr>
<tr>
<td>Salmonella Typhi ATCC 6539</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>colourless</td>
</tr>
<tr>
<td>Shigella flexneri ATCC 12022 (00126*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>colourless</td>
</tr>
<tr>
<td>Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>colourless</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. 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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

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Please refer disclaimer Overleaf.
Reference


Revision : 02 / 2019

Disclaimer :

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