MUG Tryptone Soya HiCynth™ Agar

Intended Use:
Recommended for cultivation of fastidious and non-fastidious microorganisms by fluorogenic method.

Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>HiCynth™ Peptone No.1*</td>
<td>15.000</td>
</tr>
<tr>
<td>HiCynth™ Peptone No.6*</td>
<td>5.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>4-Methylumbelliferyl β-D-Glucuronide (MUG)</td>
<td>0.100</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.3±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters
* Chemically defined peptones

Directions
Suspend 40.1 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 45-50ºC. Mix well and pour into sterile Petri plates.

Principle And Interpretation
MUG Tryptone Soya Agar is used for cultivation of fastidious and non-fastidious microorganisms by fluorogenic method. The medium is rich in nutrients, which makes it suitable for cultivating aerobes as well as anaerobes. Tryptone Soya Agar is used as blood agar base as well as a reference medium when testing selective media to measure the degree of inhibition (1, 3). Tryptone Soya Agar with MUG is same as Tryptone Soya Agar with the addition of MUG, used to detect the organisms based on fluorescence.

MUG Tryptone Soya HiCynth™ Agar is prepared by replacing animal and vegetable peptones with chemically defined peptones to avoid BSE/TSE risks associated with animal peptones.
HiCynth™ Peptone No.1 and HiCynth™ Peptone No.6 provide nitrogenous, carbonaceous compounds, long chain amino acids, vitamins and other growth nutrients. Organisms like Escherichia coli cleave MUG by the enzyme β-glucuronidase to release 4-methylumbelliferone, a fluorogenic end product which produces a visible green-blue fluorescence under long wave UV light.

Type of specimen
Food samples; Water Sample

Specimen Collection and Handling
For food samples, follow appropriate techniques for sample collection and processing as per guidelines (6).
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
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. Further biochemical and serological tests must be carried out for complete identification.
2. Some organism may show poor growth due to nutritional variation.

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.

Please refer disclaimer Overleaf.
Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

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

Reaction
Reaction of 4.01% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH
7.10-7.50

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
<th>Fluorescence (under UV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacillus subtilis subsp. spizizenii ATCC 6633 (00003*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>negative</td>
</tr>
<tr>
<td>Candida albicans ATCC 10231 (00054*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>negative</td>
</tr>
<tr>
<td>Clostridium sporogenes ATCC 11437</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>negative</td>
</tr>
<tr>
<td>Escherichia coli ATCC 25922 (00013*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>positive</td>
</tr>
<tr>
<td>Neisseria meningitidis ATCC 13090</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>negative</td>
</tr>
<tr>
<td>Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>negative</td>
</tr>
<tr>
<td>Staphylococcus epidermidis ATCC 12228 (00036*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>negative</td>
</tr>
<tr>
<td>Streptococcus pneumoniae ATCC 6303</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>negative</td>
</tr>
<tr>
<td>Streptococcus pyogenes ATCC 19615</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>negative</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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

Please refer disclaimer Overleaf.
Reference


