**Bi.G.G.Y HiCynth™ Agar (Nickerson HiCynth™ Medium)**

**MCD217**

**Intended Use:**
Recommended for detection, selective isolation, differentiation and presumptive identification of *Candida albicans* and *Candida tropicalis*.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>HiCynth™ Peptone No.3*</td>
<td>1.000</td>
</tr>
<tr>
<td>Glycine</td>
<td>10.000</td>
</tr>
<tr>
<td>Dextrose (Glucose)</td>
<td>10.000</td>
</tr>
<tr>
<td>Ammonium Bismuth Citrate</td>
<td>5.000</td>
</tr>
<tr>
<td>Sodium sulphite</td>
<td>3.000</td>
</tr>
<tr>
<td>Agar</td>
<td>16.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>6.8±0.2</td>
</tr>
</tbody>
</table>

**Directions**
Suspend 45 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE OR OVERHEAT. Overheating will destroy the selective properties. Disperse the flocculant precipitate formed by swirling prior to dispensing into Petri plates.

**Principle and Interpretation**
In a study of sulphite reduction by yeasts, the ability of many types of yeast to reduce bismuth sulphite was noted. Growth on an acidic or neutral medium containing bismuth sulphite produced black colonies because of the extra cellular reaction of the bismuth sulphite to bismuth sulphide.

Bi.G.G.Y. Agar (Nickerson Agar) was originally formulated by Nickerson (7,8) and further modified by Haley (1) following study of sulphite reduction. This medium is only a part of the identification process of organisms. Other tests may be required. Bismuth ammonium citrate and sodium sulphite together act as selective agents for *Candida* species suppressing bacterial growth, at the same time indicating substrate reduction to yield bismuth sulphite which helps to presumptively identify *Candida* species.

Bi.G.G.Y HiCynth™ Agar is prepared by replacing animal and vegetable peptones with chemically defined peptones to avoid BSE/TSE risks associated with animal peptones. Bi.G.G.Y HiCynth™ Agar can be directly inoculated with clinical specimens such as tissues, skin scrapings, hair, nail clipping etc. (4, 5). HiCynth™ Peptone No.3, dextrose and glycine serve as nutrients. Do not use slants of medium. Precipitate present in molten medium should be uniformly suspended while plating the agar.

This medium may be used for the isolation and presumptive identification of *C. albicans* and *C. tropicalis* from sputum (1) and vaginal smears (6).

**Type of specimen**
Clinical samples - blood, sputum, vaginal swabs, tissues, skin scrapings, hair, nail clipping

**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. Further biochemical and serological tests must be carried out for complete identification.
2. DO NOT AUTOCLAVE OR OVERHEAT. Overheating will destroy the selective properties.

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 yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.6% Agar gel.

Colour and Clarity of prepared medium
Light amber coloured, opalescent gel (with a dispersible flocculant precipitate) forms in Petriplates

Reaction
Reaction of 4.5% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH
6.60-7.00

Cultural Response
Cultural characteristics observed after an incubation at 25-30°C for 18-48 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
<th>Colony morphology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candida albicans ATCC 10231 (00054*)</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
<td>smooth, circular intensely brown black, no colour diffusion and no sheen</td>
</tr>
<tr>
<td>Candida krusei ATCC 24408</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
<td>large flat, wrinkled silvery brown, black colonies with brown peripheries, yellow halo</td>
</tr>
<tr>
<td>Candida tropicalis ATCC 750</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=50%</td>
<td>smooth discrete, dark brown with black centres, diffused blackening after 72 hours, sheen, slight mycelial fringe</td>
</tr>
<tr>
<td>Escherichia coli ATCC 25922 (00013*)</td>
<td>&gt;=10(^4)</td>
<td>inhibited</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)</td>
<td>&gt;=10(^4)</td>
<td>inhibited</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Candida pseudotropicalis</td>
<td>50-100</td>
<td>Good</td>
<td>40-50%</td>
<td>Dark reddish brown, glistening colony</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 (2,3).

Reference


Revision : 01/ 2019