Nickerson Agar (Biggy Agar)
Art. No. 01-137

Also known as
Nickerson Agar; Bismuth Glycine Glucose Yeast Agar; Nickerson Candida Selective Agar

Specification
Solid medium for the isolation and identification of Candida spp.

Formula* in g/L
Yeast extract ................................................................. 1,00
Dextrose .............................................................. 10,00
Glycine ............................................................ 10,00
Sodium sulfite .................................................. 3,00
Ammonium bismuth citrate .................. 5,00
Agar ............................................................. 15,00

Final pH 6,8 ± 0,2 at 25°C

* Adjusted and/or supplemented as required to meet performance criteria

Directions
Suspend 44 g of powder in 1 L of distilled water and bring to the boil.
Dispense in tubes or Petri dishes, stirring the precipitate before pouring.
Do not autoclave. Avoid overheating.

Description
Nickerson Agar is suitable for the isolation and identification of Candida species. The medium is made according to the general principles of Bismuth-Sulfite Agar. An inhibitory and differential medium using a high concentration of glycine for selectivity. This medium is highly inhibitory, and does not allow bacterial growth, however most Candida spp. grow freely and rapidly. Occasionally, tiny colonies of bacteria or highly repressed moulds may appear. Bacterial development may be totally prevented by adding neomycin sulfate 2 mcg/mL to the medium before dispensing. At this concentration the antibiotic will not affect the development or appearance of yeast. The appearance of the colonies in this medium after an incubation of 48-72 hours at 30-35°C is as follows:
- Candida albicans: Creamy colonies, very convex, circular with very slight mycelial border and black or dark brown in colour. It has no metallic sheen or diffused pigment, even after 72 hours of incubation.
- Candida tropicalis: Acuminated colonies, creamy, irregular and with slight mycelial borders. Dark brown with black centre. After 72 hours of incubation the colonies may take on a metallic sheen and produce a diffused zone of pigment.
- Candida kruzei: Big and plain colonies, with irregular borders. Brown colour, darker in the centre. A yellow halo appears around the colony.
- Candida parakrusei: Plain colonies, average size, irregular. Dark red centre and light red borders, but when the border is mycelial it looks yellow.
- Candida pseudotropicalis: Big and plain colonies, dark red colour with mycelial border.
- Candida stellatoidea: Average size plain colonies, dark brown colour, without mycelial development.
- Rhodotorula: Creamy convex colonies, with irregular border and colours ranging from pink to orange.
- Moulds in general: Restricted colonial growth and cottony appearance.

To maintain these colony characteristics it is important that the medium is freshly prepared and not reheated or overheated.

References

Storage
For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4°C to 30°C and <60% RH).

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Quality control

Incubation temperature: 35°C ± 2.0
Incubation time: 48 h - 5 days
Inoculum: 10-100 CFU (Productivity) // 1.000-10.000 CFU (Selectivity). Spiral Plate Method (ISO/TS 11133-1/2)

<table>
<thead>
<tr>
<th>Microorganism</th>
<th>Growth</th>
<th>Remarks</th>
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<tbody>
<tr>
<td><em>Escherichia coli</em> ATCC 25922</td>
<td>Inhibited</td>
<td>Selectivity</td>
</tr>
<tr>
<td><em>Saccharomyces cerevisiae</em> ATCC 9763</td>
<td>Partial inhibition</td>
<td>-</td>
</tr>
<tr>
<td><em>Candida albicans</em> ATCC 10231</td>
<td>Productivity &gt; 0.70</td>
<td>Light-dark brown</td>
</tr>
<tr>
<td><em>Candida albicans</em> ATCC 2091</td>
<td>Productivity &gt; 0.70</td>
<td>Light-dark brown</td>
</tr>
</tbody>
</table>

Candida albicans ATCC 2091
Uninoculated Plate
Candida albicans ATCC 10231