Antibiotic Assay Medium F

Antibiotic Assay Medium F is used for microbiological assay of Amphotericin B and Nystatin using *Saccharomyces cerevisiae* and *Candida tropicalis*.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptic digest of animal tissue (Peptone)</td>
<td>9.400</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>4.700</td>
</tr>
<tr>
<td>Beef extract</td>
<td>2.400</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>10.000</td>
</tr>
<tr>
<td>Dextrose</td>
<td>10.000</td>
</tr>
<tr>
<td>Agar</td>
<td>23.500</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>6.0±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 60 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

*Advice* : Recommended for the microbiological assay of Amphotericin B and Nystatin.

**Principle And Interpretation**

Grove and Randall have elucidated those antibiotic assays and media in their comprehensive treatise on antibiotic assays (1). Antibiotic assay Medium F is recommended for the microbiological assay of Nystatin and Amphotericin B using *Saccharomyces cerevisiae* and *Candida tropicalis*. It is recommended by European Pharmacopoeia and British Pharmacopoeia (2, 3).

Freshly prepared plates should be used for antibiotic assays. Test organisms are inoculated in sterile seed agar cooled to 40-45°C and spread evenly over the surface of solidified base agar. After incubation the concentration of the antibiotic being assayed is determined by measuring the zone of inhibition obtained, with that of reference standard antibiotic. All conditions in the microbiological assay must be carefully controlled. The use of standard culture media in the test is one of the important steps for good results.

Peptic digest of animal tissue, yeast extract and beef extract provides nitrogenous source and other essential nutrients. Sodium chloride maintains the osmotic equilibrium. Dextrose is supplemented as a carbon and energy source.

**Quality Control**

*Appearance*
Cream to yellow homogeneous free flowing powder

*Gelling*
Firm, comparable with 2.35% Agar gel.

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

*Reaction*
Reaction of 6.0% w/v aqueous solution at 25°C. pH : 6.0±0.2

*pH*
5.80-6.20

*Growth Promotion Test*
In accordance with the harmonized method of EP

*Cultural response*
Cultural characteristics observed after an incubation at 30-37°C for 18-24 hours.
Cultural Response

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
<th>Antibiotics assayed</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Saccharomyces cerevisiae</em> ATCC 9763</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>Amphotericin B, Nystatin</td>
</tr>
<tr>
<td><em>Candida albicans</em> CIP1433-83</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>Nystatin</td>
</tr>
</tbody>
</table>

Storage and Shelf Life

Store below 30°C in tightly closed container and use freshly prepared medium. Use before expiry date on the label.

Reference

2. European Pharmacopoeia, 2009, European Department, for the Quality of Medicines

Disclaimer:

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