Antibiotic Assay Medium F

Antibiotic Assay Medium F is used for microbiological assay of tetracyline and oxytetracycline in accordance with Indian Pharmacopoeia.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptone</td>
<td>6.000</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>3.000</td>
</tr>
<tr>
<td>Beef extract</td>
<td>1.500</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>pH after sterilization</td>
<td>5.9±0.1</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 25.5 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.

*Advice: Recommended for the microbiological assay of Tetracycline, Oxytetracycline.*

**Principle And Interpretation**

The composition of this medium is in accordance with IP and CFR (1,2). This medium is used to prepare the base layer to assay tetracycline and oxytetracycline.

Peptone, yeast and beef extract provide essential nutritional requirement for the test organisms. This medium provides solidified substratum for growth of organisms. This medium provides the optimal pH 5.8-6.0 for assay of tetracycline as these antibiotics are stable at slightly lower pH(3). This pH condition also supports the growth of test organisms.

To perform the antibiotic assay the Base Agar should be prepared on the same day as the test. The potency of an antibiotic can be demonstrated by its inhibitory effect on microorganisms under suitable conditions. For the cylinder method, a base layer of 21 ml is required. Once the base medium has solidified, seed layer inoculated with the standardized test culture can be overlaid. Even distribution of the layer is important.

**Quality Control**

**Appearance**

Cream to yellow coloured homogeneous free flowing powder

**Gelling**

Firm, comparable with 1.5% Agar gel.

**Colour and Clarity of prepared medium**

Light amber coloured slightly opalescent gel forms in Petri plates.

**pH**

5.80-6.00

**Cultural Response**

MM041: Cultural characteristics observed after an incubation at 32 - 35°C for 5 days.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Recovery</th>
<th>Antibiotic assayed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacillus cereus var mycoides ATCC 11778</td>
<td>50-100</td>
<td>luxuriant</td>
<td>&gt;=70%</td>
<td>Tetracycline, Oxytetracycline</td>
</tr>
</tbody>
</table>

**Storage and Shelf Life**

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

**Reference**

1. Indian Pharmacopoeia 2010, Ministry of Health and Family welfare, Government of India, New Delhi.