Antibiotic Assay Medium No.38

Antibiotic Assay Medium No.38 is used for the microbiological assay of Ticarcillin, using *Pseudomonas aeruginosa* as the test organism as per United States Pharmacopoeia.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptone</td>
<td>15.000</td>
</tr>
<tr>
<td>Soya peptone #</td>
<td>5.000</td>
</tr>
<tr>
<td>Dextrose</td>
<td>5.500</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>4.000</td>
</tr>
<tr>
<td>L-Cystine</td>
<td>0.700</td>
</tr>
<tr>
<td>Sodium sulphite</td>
<td>0.200</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>pH after sterilization</td>
<td>7.0±0.1</td>
</tr>
</tbody>
</table>

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

# Papaic digest of soybean

**Directions**

Suspend 45.4 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 45-50°C. Mix well and pour into sterile Petri plates.

**Principle And Interpretation**

This medium follows the specification of USP and CFR (1,2) and is routinely employed for agar diffusion assay of Ticarcillin using Gram negative test organisms specially *Psuedomonas aeruginosa*. This medium is used as both base agar and seed agar for assay of Ticarcillin.

Peptone and soya peptone provides carbon, nitrogen compounds, long chain amino acids, vitamins and essential nutrients and growth factors for the growth of test organisms. Dextrose serves as carbon source. Sodium chloride maintains the osmotic equilibrium. L-cystine and sodium sulphite are sulphur providers that aids assimilation of sulphur during microbial growth. L-cystine also acts as growth stimulator and enrich the medium with amino acid source for promoting the growth. The high nutritional content along with high sulphur (cystine and sodium sulphite) content improves growth with chromogenicity of test organism *Psuedomonas*. Freshly prepared plates should be used for antibiotic assays. Test organisms are inoculated in sterile seed agar pre-cooled to 40-45°C and spread evenly over the surface of solidified base agar.

**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**

Yellow coloured clear to slightly opalescent gel forms in Petri plates.

**Reaction**

Reaction of 4.54% w/v aqueous solution. pH : 7.0±0.1

**pH**

6.90-7.10

**Cultural Response**

MU799: Cultural characteristics observed after an incubation at 35-37.5°C for 18-24 hours.
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

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