Antibiotic Assay Medium No. 41 is used for the microbiological assay of Thiostrepton using *Enterococcus hirae* as the test organism.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casein enzymic hydrolysate</td>
<td>9.000</td>
</tr>
<tr>
<td>Dextrose</td>
<td>20.000</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>5.000</td>
</tr>
<tr>
<td>Sodium citrate</td>
<td>10.000</td>
</tr>
<tr>
<td>Monopotassium phosphate</td>
<td>1.000</td>
</tr>
<tr>
<td>Diphosphates journalist</td>
<td>1.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>6.8±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 46.0 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

**Principle And Interpretation**

Antibiotic Assay Medium No. 41 is used for turbidimetric microbiological assay of thiostreptone, a polypeptide antibiotic. Grove and Randall have elucidated the antibiotic assays and media in their comprehensive treatise on antibiotic assays.(1)

Essential amino acids, mineral and growth factors are supplied by casein enzymic hydrolysate and yeast extract in this medium. Dextrose provides carbon and energy source for enhancing the growth of test organism. Good buffering action is maintained by phosphates in the medium. Sodium citrate provides additional source of carbon and energy and promote enhanced growth of the test organism.

Turbidimetric antibiotic assay is based on the change or inhibition of growth of a test microorganisms in a liquid medium containing a uniform concentration of an antibiotic. After incubation of the test organism in the working dilutions of the antibiotics, the amount of growth is determined by measuring the light transmittance using spectrophotometer. The concentration of antibiotic is determined by comparing amounts of growth obtained with that is given by the reference standard solutions. Use of this method is appropriate only when test samples are clear.

**Quality Control**

**Appearance**

Cream to yellow homogeneous free flowing powder

**Colour and Clarity**

Light yellow coloured clear solution

**Reaction**

Reaction of 4.6% w/v aqueous solution at 25°C. pH : 6.8±0.2

**pH**

6.60-7.00

**Growth Promotion Test**

In accordance with the harmonized method of USP

**Cultural Response**

M1144: Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Serial dilution with</th>
</tr>
</thead>
</table>
Cultural Response

Enterococcus hirae ATCC 10541

50-100 luxuriant Thiostrepton

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


Disclaimer:

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