Tryptone Dextrose Agar

Tryptone Dextrose Agar is used for studying motility and fermentation of dextrose by aerobes as well as anaerobes.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casein enzymic hydrolysate</td>
<td>20.000</td>
</tr>
<tr>
<td>Dextrose</td>
<td>5.000</td>
</tr>
<tr>
<td>Bromo thymol blue</td>
<td>0.010</td>
</tr>
<tr>
<td>Agar</td>
<td>3.500</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.3±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 28.51 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense in tubes and sterilize by autoclaving at 118°C for 15 minutes. Cool the tubed medium in an upright position.

**Principle And Interpretation**

Tryptone Agar was developed by Vera (1) for the accurate differentiation and identification of aerobes and anaerobes by means of motility and fermentation reactions. It is recommended for Clostridia, *Bacillus* species, Micrococi, enteric bacilli and other nonfastidious organisms (2).

Casein enzymic hydrolysate provides essential nutrients necessary to support the growth of nonfastidious microorganisms. Bromothymol blue is the pH indicator. Small amount of agar renders it suitable for study of motility. Acid produced do not readily get dispersed throughout the medium and hence positive reaction can be more quickly determined in this medium than in liquid medium. This is also an excellent medium for the maintenance for both - aerobic and anaerobic cultures. Viability in this medium is greater than in any other broth medium or slant culture. Organisms capable of utilizing dextrose, ferment dextrose and produce acidic conditions in the medium. This acidity is detected by the pH indicator bromothymol blue which changes from blue to yellow under acidic conditions.

**Quality Control**

**Appearance**

Cream to light green homogeneous free flowing powder

**Gelling**

Semisolid, comparable with 0.35% Agar gel.

**Colour and Clarity of prepared medium**

Bluish green coloured clear to slightly opalescent gel forms in tubes as butts.

**Reaction**

Reaction of 2.85% w/v aqueous solution at 25°C. pH : 7.3±0.2

**pH**

7.10-7.50

**Cultural Response**

M320: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Acid</th>
<th>Motility</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Clostridium perfringens</em></td>
<td>50-100</td>
<td>luxuriant</td>
<td>positive reaction, yellow growth along the stabline, surrounding</td>
<td>negative, growth along the stabline, surrounding</td>
</tr>
</tbody>
</table>

Please refer disclaimer Overleaf.
**Storage and Shelf Life**
Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

**Reference**

**Disclaimer**
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