Liver Broth

Liver Broth is used for examination of food for saccharolytic, putrefactive, mesophilic and thermophilic anaerobes.

**Composition**

**Ingredients**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liver, infusion from</td>
<td>23.000</td>
</tr>
<tr>
<td>Peptic digest of animal tissue</td>
<td>10.000</td>
</tr>
<tr>
<td>Liver tissues (extracted)</td>
<td>30.000</td>
</tr>
<tr>
<td>Dipotassium phosphate</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 64 grams in 1000 ml distilled water. Soak for 15 minutes with occasional stirring. Dispense in 18 mm diameter tubes to a depth of 50 mm so that bottom of the tube is filled with liver tissues. Sterilize by autoclaving at 10 lbs pressure (115°C) for 20 minutes. Cool, inoculate and seal with a layer of sterile 2% agar solution.

**Principle And Interpretation**

Scarr recommended Liver Broth for the examination of Canners sugar for hydrogen swells caused by thermophilic anaerobes (1) and also for maintaining pure cultures of aerobes and anaerobes.

This medium contains liver particles which support luxuriant growth for saccharolytic or putrefactive mesophilic and thermophilic anaerobes. A 20% w/v solution of the sugar steamed for 30 minutes is inoculated into Liver Broth, sealed with agar. The standard proposed was a maximum of 1 positive tube in six tubes, with 20 ml inocula and incubated for 72 hours at 56°C. Some organisms like *Clostridium thermosaccharolyticum* produces gas which often pushes the agar plug towards the top of the tube and some organisms digest the solid liver tissues. The medium should be used on the same day of preparation as the stored medium may absorb the air and then re-steaming is necessary which darkens the medium.

**Quality Control**

**Appearance**
Brown coloured granules

**Colour and Clarity of prepared medium**
Medium amber coloured, clear to slightly opalescent supernatent over insoluble granules

**Reaction**
Reaction of 6.4% w/v aqueous suspension at 25°C. pH : 6.8±0.2

**pH**
6.60-7.00

**Cultural Response**
Cultural characteristics observed after an incubation at 55-57°C for 48-72 hours.

**Cultural Response**

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Clostridium thermosaccharolyticum</em> ATCC 7956</td>
<td>50-100</td>
<td>luxuriant</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**

Please refer disclaimer Overleaf.