Ayers & Johnson Agar (Stock Culture Agar)

Ayers and Johnson Agar (Stock Culture Agar) is recommended for the maintenance of cultures of Streptococci and other pathogenic and non pathogenic microorganisms.

### Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef heart, infusion from</td>
<td>500.000</td>
</tr>
<tr>
<td>Proteose peptone</td>
<td>10.000</td>
</tr>
<tr>
<td>Gelatin</td>
<td>10.000</td>
</tr>
<tr>
<td>Dextrose</td>
<td>0.500</td>
</tr>
<tr>
<td>Casein, purified</td>
<td>5.000</td>
</tr>
<tr>
<td>Disodium phosphate</td>
<td>4.000</td>
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<tr>
<td>Sodium citrate</td>
<td>3.000</td>
</tr>
<tr>
<td>Agar</td>
<td>7.500</td>
</tr>
<tr>
<td><strong>Final pH ( at 25°C)</strong></td>
<td>7.5±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 50 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense in tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

### Principle And Interpretation

Maintenance medium are essentially designed to maintain the viability of cultures over an extended period of time. Stock Culture Agar was originally formulated by Ayers and Johnson (1). They observed that in addition to supporting luxuriant growth, the medium also helped in maintaining the viability of Streptococci and various other organisms over a long period of time. They also observed that Streptococci maintained their viability for as long as four months when incubated in this medium at room temperature (25°C). Stock Culture Agar serves its main purpose (i.e. maintaining viability) chiefly due to its semisolid nature, a well-buffered environment and the presence of casein and dextrose, the latter, which serves as a source of energy. Many fastidious organisms like *Mycobacterium* species, *S. pneumoniae*, show good growth on this medium. It can be made especially suitable for maintenance of Streptococci by the additions of L-Aspargine (1g/l) (2). Infusion from beef heart, proteose peptone, gelatin and casein serve as sources of nitrogen, vitamins and amino acids. Dextrose is a carbon and energy source. Disodium phosphate serves as a buffering agent while sodium citrate acts as a preservative.

### Quality Control

**Appearance**

Yellow to beige homogeneous coarse powder

**Gelling**

Semisolid, comparable with 0.75% Agar gel and 1.0% Gelatin gel.

**Colour and Clarity of prepared medium**

Light yellow coloured opalescent gel forms in tubes

**Reaction**

Reaction of 5% w/v aqueous solution at 25°C. pH : 7.5±0.2

**pH**

7.30-7.70

**Cultural Response**

M182: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Neisseria meningitidis ATCC 13090**
50-100 luxuriant

**Staphylococcus aureus ATCC 25923**
50-100 luxuriant

**Streptococcus pneumoniae ATCC 6303**
50-100 luxuriant

**Streptococcus pyogenes ATCC 19615**
50-100 luxuriant

### 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 label.

### Reference