Brain Heart Infusion with PABA and Agar

Brain Heart Infusion with PABA and agar is used for culturing blood from patients under Sulphonamide therapy. The addition of agar improves growth of anaerobes.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms/Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calf brain, infusion from</td>
<td>200.000</td>
</tr>
<tr>
<td>Beef heart, infusion from</td>
<td>250.000</td>
</tr>
<tr>
<td>Peptic digest of animal tissue</td>
<td>10.000</td>
</tr>
<tr>
<td>Dextrose</td>
<td>2.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>Disodium phosphate</td>
<td>2.500</td>
</tr>
<tr>
<td>p-Amino benzoic acid (PABA)</td>
<td>0.050</td>
</tr>
<tr>
<td>Agar</td>
<td>1.000</td>
</tr>
<tr>
<td><strong>Final pH (at 25°C)</strong></td>
<td>7.4±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 38.05 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

**Principle And Interpretation**

Brain Heart Infusion w/ PABA and Agar is highly nutritious media which can support luxuriant growth of wide variety of microorganisms including bacteria, yeasts and moulds (1) and is often used for isolation of pathogens from clinical specimens especially blood (2).

Para amino benzoic acid is an active inhibitor of the bacteriostasis produced by the sulfonamide drugs; also it serves as an accessory growth factor for several species of bacteria (3). Therefore para amino benzoic acid incorporated in the medium helps to neutralize the effect of antimicrobials present in the blood of patients under sulphonamide therapy making isolation of organisms from blood easier. Agar in the medium reduces the oxygen tension and favors growth of facultative and obligatory anaerobic microorganisms. Peptic digest of animal tissue and calf brain and beef heart infusion provides carbon, nitrogen, amino acids and vitamins. Dextrose serves as a source of energy. Sodium chloride helps in maintaining the osmotic equilibrium.

**Quality Control**

**Appearance**

Cream to yellow homogeneous free flowing powder

**Colour and Clarity of prepared medium**

Light amber coloured, clear to very slightly opalescent solution without any precipitate

**Reaction**

Reaction of 3.8% w/v aqueous solution at 25°C. pH : 7.4±0.2

**pH**

7.20-7.60

**Cultural Response**

M213: Cultural characteristics observed with added 0.5 grams of sulphadiazine per litre after an incubation i) Bacteria at 35-37°C for 18-24 hours ii) Fungal at 25-30°C for 24-48 hours iii) Bacteroides species anaerobically for 18-48 hours.

**Organism**

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteroides fragilis ATCC</td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
</tbody>
</table>

25285
### Candida albicans ATCC 10231
- **Growth Characteristics**: 50-100 luxuriant

### Neisseria meningitidis ATCC 13090
- **Growth Characteristics**: 50-100 luxuriant

### Streptococcus pneumoniae ATCC 6303
- **Growth Characteristics**: 50-100 luxuriant

### Streptococcus pyogenes ATCC 19615
- **Growth Characteristics**: 50-100 good-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 the label.

### Reference
1. MacFaddin J. F., 1985, Media for the Isolation-Cultivation-Identification- Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore