BHI Broth

Intended Use
Recommended as a qualitative test for detection of microorganisms in blood. Sterile, in glass bottles.

Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>HM infusion powder #</td>
<td>12.500</td>
</tr>
<tr>
<td>BHI powder</td>
<td>5.000</td>
</tr>
<tr>
<td>Proteose peptone</td>
<td>10.000</td>
</tr>
<tr>
<td>Dextrose (Glucose)</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>Final pH ( at 25°C)</td>
<td>7.4±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters
# Equivalent to Calf brain infusion from

Directions
Label the ready to use blood culture bottle. Remove the Aluminium foil cap. Disinfect the part of the rubber stopper which is now exposed. Draw patient’s blood with the sterile or disposable needle and syringe as explained in specimen collection and disposable column. Transfer the blood sample immediately into the culture bottle by puncturing the rubber stopper with the needle and injecting the blood. Venting: Use sterile venting needle (LA038). Keep the bottle in an upright position preferably in a biological safety cabinet, place an alcohol swab over the rubber stopper and insert the venting needle with filter through it. Insertion and withdrawal of the needle should be done in a straight line. discard the needle and mix the contents by gently inverting the bottle 2-3 times. Do Not vent the bottle for anaerobic cultures. Incubate at 35±2°C for 18-24 hours and further for seven days.

Principle And Interpretation
BHI Medium is useful for cultivating a wide variety of microorganisms since it is a highly nutritive medium. It is also used to prepare the inocula for antimicrobial susceptibility testing. BHI Broth is a modification of the original formulation of Rosenow, where he added pieces of brain tissues to dextrose broth (8). BHI Broth is also the preferred medium for anaerobic bacteria, yeasts and moulds (6,1). This medium is nutritious and well buffered to support the growth of wide variety of organisms (6,9,2). With the addition of 10% defibrinated sheep blood, it is useful for isolation and cultivation of Histoplasma capsulatum (3) and other fungi. For selective isolation of fungi, addition of gentamicin and/or chloramphenicol is recommended (7).

Proteose peptone, HM infusion powder and BHI powder serve as sources of carbon, nitrogen, essential growth factors, amino acids and vitamins. Dextrose serves as a source of energy. Disodium phosphate helps in maintaining the buffering action of the medium whereas sodium chloride maintains the osmotic equilibrium of the medium.

Type of specimen
Clinical samples : Blood

Specimen Collection and Handling
For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions
In Vitro diagnostic Use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Please refer disclaimer Overleaf.
**Limitations**

1. Further biochemical and serological tests must be carried out for complete identification.

**Performance and Evaluation**

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

**Quality Control**

**Appearance**
Sterile clear BHI Broth in glass bottle.

**Colour**
Light amber coloured clear solution

**Quantity of Medium**
20ml of medium in glass bottle. (Volume of blood for paediatrics use - 1 to 3 ml)

**Reaction**
7.20-7.60

**Sterility test**
Passes release criteria

**Cultural response**
Cultural characteristics was observed after incubation at 35-37°C for 24-48 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Neisseria meningitidis ATCC 13090</em></td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Streptococcus pneumoniae ATCC 6303</em></td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Streptococcus pyogenes ATCC 19615</em></td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Candida albicans ATCC 10231 (00054</em>)*</td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Staphylococcus aureus subsp. aureus ATCC 25923 (00034</em>)*</td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Enterococcus faecalis ATCC 29212 (00087</em>)*</td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Escherichia coli ATCC 25922 (00013</em>)*</td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Shigella flexneri ATCC 12022 (00126</em>)*</td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
</tbody>
</table>

Key : (*) Corresponding WDCM numbers.

**Storage and Shelf Life**

Store between 15-25°C. Use before expiry date on the label.
Product performance is best if used within stated expiry period.

**Disposal**

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).
Reference