Mueller Hinton Broth

**Intended Use:**
Recommended to determine the susceptibility of bacteria to Sulphonamides by the tube dilution method.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>HM infusion B from #</td>
<td>300.000</td>
</tr>
<tr>
<td>Acicase™</td>
<td>17.500</td>
</tr>
<tr>
<td>Starch</td>
<td>1.500</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.3±0.1</td>
</tr>
</tbody>
</table>

**Directions**
Suspend 21 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Mix well and dispense into tubes as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C.

**Principle And Interpretation**
The Mueller Hinton formulation was originally developed as a simple, transparent agar medium for the cultivation of pathogenic Neisseria species (2). Other media were subsequently developed that replaced the use of Mueller Hinton Agar for the cultivation of pathogenic Neisseria species, but it became widely used in the determination of sulfonamide resistance of gonococci and other organisms. Mueller Hinton Broth is recommended for dilution antimicrobial susceptibility testing of all species of most commonly encountered aerobic and facultatively anaerobic bacteria(3,1).

HM infusion B and Acicase™ provide nitrogenous compounds, carbon, sulphur and other essential nutrients. Starch acts as a protective colloid against toxic substances present in the medium. Starch hydrolysis yields dextrose, which serves as a source of energy. These ingredients are selected for low thymine and thymidine content as determined by MIC values for Enterococcus faecalis with sulfamethoxazoletrimethoprim (SXT). Calcium and magnesium ion concentrations are adjusted to provide the amounts recommended by CLSI to give the correct MIC values with aminoglycosides and Pseudomonas aeruginosa (3).

**Type of specimen**
Clinical samples - Blood, vaginal samples.

**Specimen Collection and Handling**
For clinical samples follow appropriate techniques for handling specimens as per established guidelines (5,6). 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.

**Limitations**
1. Cation adjusted broth is recommended for antibiotic susceptibility of certain antibiotics.

**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
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Light amber coloured clear solution in tubes

Reaction
Reaction of 2.1% w/v aqueous solution at 25°C. pH : 7.3±0.1

pH
7.20-7.40

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Escherichia coli</em> ATCC 25922 (00013*)</td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Haemophilus influenzae</em> ATCC 49247</td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Neisseria gonorrhoeae</em> ATCC 49226</td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Pseudomonas aeruginosa</em> ATCC 27853 (00025*)</td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em> subsp. aureus ATCC 25923 (00034*)</td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Enterococcus faecalis</em> ATCC 50-100</td>
<td>19433 (00009*)</td>
<td>good-luxuriant</td>
</tr>
<tr>
<td><em>Streptococcus pneumoniae</em> ATCC 6305</td>
<td>50-100</td>
<td>good-luxuriant (in Mueller Hinton Blood Broth)</td>
</tr>
</tbody>
</table>

Key : *Corresponding WDCM numbers.

Storage and Shelf Life
Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. 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 (5,6).

Reference

Please refer disclaimer Overleaf.
In vitro diagnostic medical device

CE Marking

Storage temperature

Do not use if package is damaged

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