C. perfringens Sporulation Broth

C. perfringens Sporulation Broth is used for promoting sporulation in *Clostridium perfringens*.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tryptose</td>
<td>15.000</td>
</tr>
<tr>
<td>Yeast extract</td>
<td>3.000</td>
</tr>
<tr>
<td>Starch, soluble</td>
<td>3.000</td>
</tr>
<tr>
<td>Magnesium sulphate</td>
<td>0.100</td>
</tr>
<tr>
<td>Sodium thioglycollate</td>
<td>1.000</td>
</tr>
<tr>
<td>Disodium phosphate</td>
<td>11.000</td>
</tr>
<tr>
<td><strong>Final pH (at 25°C)</strong></td>
<td>7.8±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 33.1 grams in 1000 ml distilled water. Heat if necessary to ensure complete solution. Dispense 20 ml amounts in 20 x 150 mm screw capped test tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Just before use, heat the medium in flowing steam for 20 minutes.

**Principle And Interpretation**

*Clostridium perfringens* is ubiquitous in nature and can be found as a normal component of decaying vegetation, marine sediment, intestinal tract of humans and other vertebrates, insects, and soil. *C. perfringens* is commonly encountered in infections as a benign component of the normal flora (1). *C. perfringens* food poisoning is one of the most common types of human foodborne illnesses. A heat-labile enterotoxin produced only by sporulating cells (2) induces the major symptoms of diarrhea in perfringens infections.

C. perfringens Sporulation Broth is formulated as per APHA (3) for enhancing sporulation in *C. perfringens*.

The medium contains ingredients like tryptose, yeast extract and starch, which not only support the growth of *C. perfringens* but also stimulate spore formation in presence of magnesium sulphate. Sodium thioglycollate in the medium helps to maintain anaerobic conditions. Magnesium sulphate and disodium phosphate provide ions to the organism and helps in maintaining buffering conditions in the medium.

**Quality Control**

**Appearance**
Cream to yellow homogeneous free flowing powder

**Colour and Clarity of prepared medium**
Medium amber coloured, clear to slightly opalescent solution with a slight precipitate in tubes

**Reaction**
Reaction of 3.31% w/v aqueous solution at 25°C. pH : 7.8±0.2

**pH**
7.60-8.00

**Cultural Response**
Cultural characteristics observed under anaerobic condition after an incubation at 35-37°C for 24-48 hours.

**Cultural Response**

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Sporulation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Clostridium perfringens</em></td>
<td>50-100</td>
<td>good-luxuriant</td>
<td>positive</td>
</tr>
</tbody>
</table>
Clostridium sporogenes 50-100 good-luxuriant negative
ATCC 11437

Storage and Shelf Life
Store below 30°C in tightly closed container and prepared medium below 2-8°C. Use before expiry period on the label.

Reference

Disclaimer:
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