Shigella Broth Base

Shigella Broth Base is used for the isolation and cultivation of Shigella species from food.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casein enzymic hydrolysate</td>
<td>20.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
<tr>
<td>Dipotassium hydrogen phosphate</td>
<td>2.000</td>
</tr>
<tr>
<td>Potassium dihydrogen phosphate</td>
<td>2.000</td>
</tr>
<tr>
<td>Dextrose</td>
<td>1.000</td>
</tr>
<tr>
<td>Polysorbate 80</td>
<td>1.500</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.0±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 31.5 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool medium to 45-50°C and add rehydrated content of 1 vial of Shigella Selective Supplement (FD108) under aseptic conditions. Mix well and dispense in sterile test tubes.

**Principle And Interpretation**

Shigella are gram-negative, non-motile, non-spore forming rod-shaped bacteria closely related to Escherichia coli and Salmonella. Shigella infection is typically via ingestion (faecal-oral contamination), depending on age and condition of the host, as few as 10 bacterial cells can be enough to cause an infection. Shigella causes dysentery that results in the destruction of the epithelial cells of the intestinal mucosa in the cecum and rectum. Some strains produce enterotoxin and Shiga toxin, similar to the verotoxin of E. coli O157:H7(1). Shigella Broth Base is used for the isolation and cultivation of Shigella species (2), as recommended by APHA (3).

Shigella Broth Base contains casein enzymic hydrolysate as a source of carbon, nitrogen, vitamins and minerals. Dextrose provides the necessary carbohydrates. Buffering action in the medium is provided by dipotassium hydrogen phosphate and potassium dihydrogen phosphate. Sodium chloride maintains the osmotic balance of the medium. Polysorbate 80 is inhibitory for growth of accompanying microflora besides providing growth factors. Novobiocin is inhibitory for gram-positive bacteria such as S. aureus and certain gram-negative organisms such as H. influenzae and some species of Proteus.

**Quality Control**

**Appearance**

Cream to yellow homogeneous free flowing powder

**Colour and Clarity of prepared medium**

Light amber coloured clear solution

**Reaction**

Reaction of 3.15% aqueous solution at 25°C. pH : 7.0±0.2

**pH**

6.80-7.20

**Cultural Response**

M1326: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours with added Shigella Selective Supplement (FD108).

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

Please refer disclaimer Overleaf.
Shigella flexneri ATCC 12022
Shigella sonnei ATCC 25931 50-100 luxuriant
Staphylococcus aureus ATCC 25923

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