Azide Dextrose Broth w/ BCP

Azide Dextrose Broth w/ BCP is recommended for detection of faecal Streptococci in water.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casein enzymic hydrolysate</td>
<td>15.000</td>
</tr>
<tr>
<td>Meat extract</td>
<td>4.500</td>
</tr>
<tr>
<td>Glucose</td>
<td>7.500</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>7.500</td>
</tr>
<tr>
<td>Sodium azide</td>
<td>0.200</td>
</tr>
<tr>
<td>Bromo cresol purple</td>
<td>0.015</td>
</tr>
<tr>
<td>Final pH ( at 25°C)</td>
<td>7.2±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Suspend 34.7 grams in 1000 ml distilled water. Heat, if necessary, to ensure complete solution. Dispense in test tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Warning: Sodium azide has a tendency to form explosive metal azides with plumbing materials. It is advisable to use enough water to flush off the disposables.

**Principle And Interpretation**

Enterococci are more resistant to chlorine in water, hence are better indicators of sewage pollution than Escherichia coli. Until 1984, members of the genus Enterococcus were classified as Group D Streptococci. Upon genomic DNA analysis, a separate genus status was provided to them. (6). Azide Dextrose Broth was initially formulated by Rothe, Mullmann and Seligmann (1, 2) for quantitative determination of Enterococci in water, foods, sewage and other materials suspected of contamination with sewage. Azide Dextrose Broth w/ BCP is similar in composition to Azide Dextrose Broth with the addition of bromocresol purple. This medium is recommended by the ISO Committee for the detection and enumeration of faecal Streptococci in water as per ISO 7899-1:1984 (3)

It is a highly nutritious medium due to the presence of nutrient rich casein enzymic hydrolysate, meat extract and glucose. Sodium azide inhibits growth of gram-negative bacteria, allowing Enterococci to grow (1, 4, 5). Sodium chloride maintains the osmotic equilibrium of the medium. Bromo cresol purple is the pH indicator dye that changes to yellow colour under acidic conditions. Turbidity in tubes along with colour change to yellow indicate presence of Enterococci.

**Quality Control**

**Appearance**
Cream to yellow coloured, may have slight green tinge homogeneous free flowing powder

**Colour and Clarity of prepared medium**
Purple coloured clear solution without any precipitate.

**Reaction**
Reaction of 3.47% w/v aqueous solution at 25°C. pH : 7.2±0.2

**pH**
7.00-7.40

**Cultural Response**
M1271: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
<th>Colour of medium</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Cultural Response
**Escherichia coli ATCC 25922**

>=10^3 inhibited purple

**Enterococcus faecalis ATCC 50-100 29212**

good-luxuriant yellow

**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**

2. Rothe, 1948, Illinois State Health Department.3.

**Disclaimer:**

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