HiEncap™ SOC Broth Base

HiEncap™ SOC Broth Base is a medium used in molecular biology.

**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>Yeast extract</td>
<td>5.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>0.500</td>
</tr>
<tr>
<td>Magnesium sulphate</td>
<td>2.400</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>0.186</td>
</tr>
<tr>
<td><strong>Final pH (at 25°C)</strong></td>
<td>7.0±0.2</td>
</tr>
</tbody>
</table>

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

**Directions**

Each capsule contains 14.04 gms of medium. Suspend 1 capsule in 500 ml (2 capsules in 1000ml) distilled or purified water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add 20% v/v glucose solution (i.e. 10 ml to 500ml or 20 ml to 1000ml media). Mix well and dispense as desired.

**Principle And Interpretation**

SOC Broth Base is a medium which is prepared by adding 20% glucose solution to SOB Medium (Hanahans Broth) (M1252). This medium is a nutritionally rich growth medium used for growing bacterial cells, for preparing chemically competent cells and in the recovery step of competent cell transformations. *E. coli* is first grown in SOB Medium (Hanahans Broth) (M1252) to get the desired cell density. The cells are then harvested and subjected to chemical treatment or electroporation to develop competent cells. These competent cells are then transformed using suitable method. The transformants are then grown in SOC Medium. The use of SOC Broth maximizes the transformation efficiency of competent cells (1).

Casein enzymic hydrolysate and yeast extract serve as rich sources of nitrogen and growth factors which are readily available to the bacteria that are under stress due to transformation procedures. These sources of nutrients allow them to recover from stress and grow well. Potassium and sodium chloride maintain isotonic conditions. Magnesium sulphate is a source of magnesium ions required in a variety of enzymatic reactions including DNA replication.

**Quality Control**

**Appearance**
Gelatin capsule containing cream to yellow coloured granular media

**Colour and Clarity of prepared medium**
Light amber coloured clear solution without any precipitate forms in tubes

**Quantity**
Each capsule contains 14.04 grams of medium sufficient for 500 ml media

**Reaction**
Reaction of 2.8% w/v aqueous solution at 25°C. pH: 7.0±0.2

**pH**
6.80-7.20

**Cultural Response**
Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.
Escherichia coli DH5 alpha  MTCC 1652

50-100 luxuriant

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