



Technical Data

HiEncap™ SOC Broth Base

EC1379CCL

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

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	20.000
Yeast extract	5.000
Sodium chloride	0.500
Magnesium sulphate	2.400
Potassium chloride	0.186
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Each capsule contains 7.02 gms of medium. Suspend 1 capsule in 250 ml (4 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. 5 ml to 250ml 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 7.02 grams of medium sufficient for 250 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.

Cultural Response

Organism	Inoculum (CFU)	Growth
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Cultural Response

Escherichia coli DH5 alpha 50-100 luxuriant
MTCC 1652

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

1. Sambrook J., Fritsch E. E. and Maniatis T., 1989, Molecular Cloning : A Laboratory Manual, 2nd Ed., Cold Spring Harbor Lab., Cold Spring Harbor, N.Y.

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