

Technical Information

SOB Growth Medium

Product Code: G1014

SOB Growth Medium is used for preparing competent cells prior to transformation.

Composition**

Ingredients	Grams/Litre
Tryptone	20.00
Yeast extract	5.00
Sodium chloride	0.50
MgSO ₄ · 7H ₂ O	5.00

** Formula adjusted, standardized to suit performance parameters

Methodology

Suspend 30.5 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle and Interpretation

SOB Growth Medium is used for preparing competent cells prior to transformation. Super Optimal Broth (SOB medium) Growth Medium was first formulated by Douglas Hanahan in 1983 as a nutritionally enriched growth media for bacteria, especially *Escherichia coli* (1). It is used in the preparation and transformation of chemically competent cells. *E. coli* cells are first made competent during transformation where perforations are made in the bacterial cells so that the foreign DNA can penetrate the cells (2). To endure this process, competent cells require a rich isotonic medium. Tryptone provides nitrogen, amino acids and other growth factors which permit the cells to go through the stress of transformation. Vitamins and trace elements are contained in Yeast Extract. Sodium chloride provides essential ions for transport and osmotic balance. Magnesium sulfate provides magnesium ions which are required in a variety of enzymatic reactions, including DNA replication (2).

Quality control

Appearance of Powder :

Light yellow coloured, homogeneous, free flowing powder.

Colour and Clarity :

Light amber coloured, clear solution without any precipitate.

Cultural Response :

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

Organisms (ATCC)

Escherichia coli ATCC 23724
Escherichia coli ATCC 25922
Escherichia coli MTCC 1652

Growth

good-luxuriant
 good-luxuriant
 good-luxuriant

Storage and Shelf Life

Store below 30°C and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference:

- Hanahan, D., 1983. J. Mol. Biol.166:557.
- Sambrook J., E. F. Fritsch, and T. Maniatis. 1989. Molecular cloning: a laboratory manual, 2nd ed. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.

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