

## SOB Growth Agar

G016

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

### Composition\*\* :

| Ingredients                      | Grams/Litre |
|----------------------------------|-------------|
| Tryptone                         | 20.00       |
| Yeast extract                    | 5.00        |
| Sodium chloride                  | 0.50        |
| Magnesium sulphate, heptahydrate | 5.00        |
| Agar                             | 15.00       |

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

### Directions :

Suspend 42.94 grams of dehydrated medium 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 Agar 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). This media contains agar as the solidifying agent.

Please refer disclaimer Overleaf

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#### Registered Office

#### HiMedia Laboratories Pvt Ltd.

Plot No. C-40, Road No. 21Y, MIDC, Wagle Industrial Area,  
Thane, (West) 400604, Maharashtra, INDIA.  
Customer Care No.: 00-91-22-6116 9797  
Tel : 00-91-22-6147 1919, 6903 4800

Fax : 6147 1920  
Web : [www.himedialabs.com](http://www.himedialabs.com)  
Email : [info@himedialabs.com](mailto:info@himedialabs.com)  
[mb@himedialabs.com](mailto:mb@himedialabs.com)

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**Quality Control :****Appearance of Powder :**

Cream to yellow coloured, homogeneous, free flowing powder.

**Gelling :**

Firm, comparable with 1.5% Agar gel.

**Colour and Clarity :**

Light amber coloured, clear to slightly opalescent gel forms in petri plates.

**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* MTCC1652

**Growth**

good-luxuriant

good-luxuriant

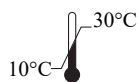
good-luxuriant

**Storage and Shelf-life :**

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

**References:**

1. Hanahan, D., 1983. J. Mol. Biol.166:557.
2. Sambrook J., E. F. Fritsch, and T. Maniatis. 1989. Molecular cloning: A laboratory Manual, 2<sup>nd</sup> ed. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.



Storage temperature



Do not use if package is damaged



HiMedia Laboratories Private Limited,  
Reg. Off: Plot No. C-40, Road No. 21Y,  
MIDC, Wagle Industrial Area, Thane,  
(West) 400604, Maharashtra, INDIA.  
Web: [www.himedialabs.com](http://www.himedialabs.com)



05/2025

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HiMedia Laboratories Pvt. Ltd. Reg.office : Plot No. C-40, Road No. 21Y, MIDC, Wagle Industrial Area, Thane, (West) 400604, Maharashtra, INDIA.  
Customer Care No.: 00-91-22-6116 9797 Tel: 00-91-22-6147 1919, 6903 4800 Email: [techhelp@himedialabs.com](mailto:techhelp@himedialabs.com) Website: [www.himedialabs.com](http://www.himedialabs.com)