

LB-Growth Top Agar**G009**

LB-Growth Top Agar is recommended for the cultivation and maintenance of recombinant strains of *Escherichia coli* for genetic and molecular biology studies.

Composition :**

Ingredients	Grams/Litre
Tryptone	10.00
Yeast extract	5.00
Sodium chloride	10.00
Agar	7.00

** Formula adjusted, standardized to suit performance parameters

Directions :

Suspend 32 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense as desired.

Principle and Interpretation :

LB-Growth Top Agar is recommended for the cultivation and maintenance of recombinant strains of *Escherichia coli* strains for the preparation of phage and plasmid DNA. LB Media, originally developed by Bertani, is a very common and nutritionally rich growth media for *E. coli* (1). This media is extensively used for the maintenance and propagation of plasmid DNA and for the growth of the recombinant strains which contain protein expression vector (2). The ingredients provide all the growth factors required for the *E. coli* strains. Tryptone provides all the required peptides and peptones. Yeast extract supplies all the essential vitamins, nucleotides, amino acids, carbohydrate and trace elements. Sodium chloride provides the sodium ions which help in the membrane transport and maintenance of osmotic equilibrium of the medium. Top agar is used to distribute bacteriophage and bacterial cells uniformly on the thin layer over the surface of a plate. Top agar contains less amount of agar than usual plates and so stays in a molten state for several days when it is kept at 45° to 50°C.

References:

1. Bertani, G. (1951). Studies on lysogenesis. I. The mode of phage liberation by lysogenic *Escherichia coli*. J. Bacteriol. 62:293-300.
2. Sambrook, J. E. F. Fritsch, and T. Maniatis (1989). Molecular cloning: a laboratory manual, 2nd edition ed., Cold Spring Harbour laboratory, Cold Spring Harbour, N.Y.

LB-Growth Top Agar**G009****Quality Control :****Appearance of Powder :**

Cream to yellow coloured, homogeneous, free flowing powder.

Gelling :

Firm, comparable with 0.7% Agar gel.

Colour and Clarity :

Light yellow 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

Growth

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.