

**L-Growth Medium****G005**

L-Growth Medium is recommended for cultivation and maintenance of recombinant strains of *Escherichia coli* for genetic and molecular biology studies.

**Composition\*\*:**

<b>Ingredients</b>	<b>Grams/Litre</b>
Tryptone	10.00
Yeast extract	5.00
Sodium chloride	0.50

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

**Directions :**

Suspend 15.5 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 :**

L-Growth Medium is a nutritionally enriched medium for the cultivation and maintenance of recombinant strains of *E. coli* for genetic and molecular biology studies. This medium was originally developed by Miller for cultivation and maintenance of *E. coli* cells in molecular biology.

L-Broth is a nutritionally rich medium originally developed for growth and maintenance of recombinant *E. coli* strains. *E. coli* is grown to late log phase in LB Broth. These strains are generally derived from *E. coli* K12 which are deficient in B vitamin production. K12 has been ultimately modified by specific mutation into an auxothropic strain not capable of growth on nutritionally deficient medium. All nutritional requirements of *E. coli* strains are provided by LB Broth. Peptides and amino acids are abundantly present in Tryptone. Yeast extract is a rich source of amino acids, vitamins, nucleotides and carbohydrates. These nutritional elements in LB media, which otherwise the cell would have to synthesize, support a luxurious growth of *E. coli* cells.

Sodium ions for transport and osmotic balance are provided by Sodium chloride.

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The concentration of NaCl in L-Broth is low compared to both LB Miller and LB Lennox formulations, respectively 10% and 5% of the NaCl concentration is present in both formulations.

These variations in Sodium chloride content make it possible to select the optimal salt concentration for a specific strain.

**References:**

1. Miller, J.H., Experiments in molecular genetics, Cold Spring harbour Laboratory, Cold Spring harbour, New York, (1972).
2. Lennox, E.S., Transduction of linked genetic characters of the host by bacteriophage P1, **1**, 190-206, (1955).
3. Sambrook, J., E. F. Fritsch, and T. Maniatis, 1989, Molecular cloning: a laboratory manual, 2<sup>nd</sup> edition ed., Cold Spring Harbour laboratory, Cold Spring Harbour, N.Y.

**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*

**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.