LB Broth (Lennox)

Cat #: MM-M-231

Recommended medium for maintaining and cultivating recombinant strains of E. coli.

Principles and uses:

LB Broth (Lennox) is a nutritionally rich medium developed by Lennox for the growth and maintenance of pure cultures of recombinant strains of E. coli used in molecular and microbiological procedures.
These strains are generally derived from E. coli K12, which are unable to produce vitamin B, so this media is formulated to enhance the growth of nutritionally demanding microorganisms. This strain of E. coli has been further modified through specific mutation to create an auxotrophic strain that is not capable of growth on nutritionally deficient media. Cultivation in LB Broth allows cells with an insert plasmid to start expressing the genes on the transformed plasmid, including the antibiotic resistance gene. If transformed E. coli are plated directly onto selective agar media (LB Agar containing antibiotic), fewer transformed colonies will appear per ml plated. Growing the transformed cells in LB broth will increase the number of transformed cells per ml.
LB Broth (Lennox) contains ten times the sodium chloride level of Luria Broth (Miller's Modification) (Cat. MM-M-266) and a half of the level found in Luria Broth (Miller's LB Broth) (Cat. MM-M-551). This allows selecting the optimal salt concentration medium for a specific strain.
Tryptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Sodium chloride supplies essential electrolytes for transport and osmotic balance. This medium consists of the same ingredients as LB Agar (Lennox) without bacteriological agar. If desired, antibiotics can also be added.

Formula per Litre:

Sodium Chloride	5g	Tryptone	10g
Yeast extract	5g		

Preparation:

Suspend 20 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121ºC for 15 minutes, mix well and dispense into plates.

Instructions for use:

Carry out the experimental procedure according to appropriate use or purpose.
Inoculate and incubate at a temperature of 35±2 ºC for 18-24 hours.

Quality control:

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Clear amber	7.0 ± 0.2

Microbiological test:

Incubation conditions: (35±2 ºC 18-24 h).

Microorganisms	Specification
Escherichia coli ATCC 23724	Good Growth
Escherichia coli ATCC 33694	Good Growth
Escherichia coli ATCC 33849	Good Growth
Escherichia coli ATCC 39403	Good Growth
Escherichia coli ATCC 47014	Good Growth

Storage:

Temperature: 2ºC - 25ºC

Bibliography:

Atlas, R.M., L.C. Parks (1993) Handbook of Microbiological Media. CRC Press, Inc. London Lennox. (1955). Virology 1:190.

Sambrook, Fritsch and Maniatis. (1989). Molecular cloning: a laboratory manual, 2nd ed. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y.