

LB BROTH (LENNOX)

LBBR-00P-500

- **Principle**

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 medium 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 in 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 into 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 half level of sodium chloride found in Luria Broth (Miller's LB Broth) (LUBR-00P-500). 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.

- **Composition**

Ingredients	g/L
Sodium chloride	5.00
Yeast Extract	5.00
Tryptone	10.00

- **Preparation**

Suspend 20 grams of the medium in one litre of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121 °C for 15 minutes.

- **Applications and use**

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

- **Quality control**

Solubility	w/o rests
Appearance	Fine powder
Colour of the dehydrated medium	Beige
Colour of the prepared medium	Clear amber

Final pH (25 °C)	7.2 ± 0.2
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- **Microbiological test**

Incubation conditions: 35±2 °C / 18-24 h.

Microorganism	ATCC	Specification
<i>Escherichia coli</i>	23724	Good growth
<i>Escherichia coli</i>	33694	Good growth
<i>Escherichia coli</i>	33849	Good growth
<i>Escherichia coli</i>	39403	Good growth
<i>Escherichia coli</i>	47014	Good growth

- **Storage**

The product is highly hygroscopic; keep the container always closed and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Temp. Min.:2 °C Temp. Max.:25 °C.

Note: Sterilize media immediately after reconstitution.

- **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.

- **Product use limitation**

This product is developed, designed and supplied exclusively for research use only. It is not intended for diagnostic applications or drug development, and it is not suitable for administration to humans or animals.