

LURIA BROTH (MILLER'S LB BROTH)

LUBR-00P-500

- **Principle**

Luria Broth (Miller's LB Broth) is based on LB Medium as described by Miller for the growth and maintenance of E. coli strains used in molecular microbiology 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.

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.

If desired aseptically add 10 ml of sterile 20% glucose solution and mix thoroughly for a better growth. Bacteria that contain plasmids tend to grow best in broth that has between 5 and 10 g of salt. Various cofactors may also need to be added to the broth if working with certain types of bacteriophages. For example, bacteriophage lambda requires an excess of magnesium in the broth to properly infect bacteria.

Luria Broth (Miller's LB Broth) has a different sodium chloride level than other media such as LB Broth (Lennox) (LBBR-00P-500). This allows to select the optimum salt concentration of the medium for a specific strain.

- **Composition**

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

- **Preparation**

Suspend 25 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	Amber
Final pH (25 °C)	7.0 ± 0.2

- **Microbiological test**

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

Inoculation conditions: Productivity qualitative (<100 CFU).

Microorganisms	ATCC	Specification
<i>Escherichia coli</i>	23724	Good growth / Turbidity (2)
<i>Escherichia coli</i>	33694	Good growth / Turbidity (2)
<i>Escherichia coli</i>	33849	Good growth / Turbidity (2)
<i>Escherichia coli</i>	39403	Good growth / Turbidity (2)
<i>Escherichia coli</i>	47014	Good growth / Turbidity (2)

- **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.

The condensed protocols from molecular cloning: a laboratory manual/ Joseph Sambrook, David W. Russell.

- **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.