



Luria Bertani Broth, Miller

M1245

Luria Bertani Broth, Miller is used for the cultivation and maintenance of recombinant strains of *Escherichia coli* and may be used for routine cultivation of not particularly fastidious microorganisms.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Yeast extract	5.000
Sodium chloride	10.000
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 25 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Dispense as desired.

Principle And Interpretation

Luria Bertani Broth, Miller (1) is slightly different with double amount of sodium chloride as compared to original media described by Lennox (2) for cultivation and maintenance of recombinant strains of *Escherichia coli*. The media is nutritionally rich for the growth of pure cultures of recombinant strains. Strains derived from *Escherichia coli* K12 are deficient in Vitamin B synthesis which are further modified by specific mutation to create auxotrophic strains and are therefore unable to grow on nutritionally deficient media.

Casein enzymic hydrolysate provides peptides and peptones while Vitamin B complex is provided by yeast extract. Sodium chloride provides sodium ions for membrane transport and also maintains the osmotic equilibrium of the medium.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Yellow to amber coloured clear solution in tubes

Reaction

Reaction of 2.5% w/v aqueous solution at 25°C. pH : 7.5±0.2

pH

7.30-7.70

Cultural Response

M1245: Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours.

Organism	Inoculum (CFU)	Growth
Cultural Response		
<i>Escherichia coli</i> ATCC 23724	50-100	luxuriant
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant
<i>Escherichia coli</i> DH5 alpha MTCC 1652	50-100	luxuriant

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1. Lennox E.S./ 1955, Transduction of Linked Genetic Characters of the host by bacteriophage P1., Virology, 1:190.
2. Atlas R.M., 1983, Handbook of Microbiological Media, Ed. By Parks L., CRC Press, Inc.

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