

Luria Broth Modification)

Cat. 1266

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

Practical information

Applications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Microbiological Culture Media

Principles and uses

Luria Broth (Miller's Modification) is based on LB Medium according to Miller's description. Its modification consists of a minimal concentration of sodium chloride. This medium is used for the growth and maintenance of E. coli strains used in molecular microbiology procedures. It is used for strains in which the optimal concentration of salt is 0,5 g/l.

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. Some plasmid vectors replicate to high copy numbers and do not require selective amplification. Some vectors do not replicate so freely and need to be selectively amplified. Antibiotics may be added to inhibit host synthesis and, as a result, prevent replication of the bacterial chromosome.

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.

Luria Broth (Miller's Modification) has a different sodium chloride level than other media such as LB Broth (Lennox) (Cat. 1231) or Luria Broth (Miller's LB Broth) (Cat. 1551). This allows to select the optimum salt concentration of the medium for a specific strain.

Formula in g/L

Sodium chloride	0,5	Tryptone	10
Yeast extract	5		

Preparation

Suspend 15,5 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.

Instructions for 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	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,0±0,2

Microbiological test

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

Microorganisms	Specification

Escherichia coli ATCC 23724
Escherichia coli ATCC 33694
Escherichia coli ATCC 33849
Escherichia coli ATCC 39403
Escherichia coli ATCC 47014

Good growth
Good growth
Good growth
Good growth
Good growth

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

Miller J. H.: Experiments in Molecular Genetics, Cold Spring Harbor Laboratory (1972).