Luria Agar Modification)

Cat. 1308

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

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Microbiological Culture Media

Principles and uses

Luria Agar (Miller's Modification) is based on LB Medium according to Miller's descrption. 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 chromosomome.

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. Bacteriological agar is the solidifying agent.

Luria Agar (Miller's Modification) has a different sodium chloride level than other media such as LB Agar (Lennox) (Cat. 1083) or Luria Agar (Miller's LB Agar) (Cat. 1552). This allows to select the optimum salt concentration of the medium for a specific strain.

Formula in g/L

Bacteriological agar	15	Sodium chloride	0,5
Tryptone	10	Yeast extract	5

Preparation

Suspend 30,5 grams of 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 121 ºC for 15 minutes. Cool to 45-50 ºC, 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	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	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

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

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