Luria Agar LB Agar)

Cat. 1552

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

Practical information

Aplications	Categories
Preparation and recovery of competent cells	Escherichia coli

Industry: Molecular biology / Microbiological Culture Media

Principles and uses

Luria Agar (Miller's LB Agar) 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. Bacteriological agar is the solidifying agent.

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 labmda requires an excess of magnesium in the broth to properly infect bacteria.

Luria Agar (Miller LB Agar) has a different sodium chloride level than other media such as LB Agar (Lennox) (Cat. 1083) or Luria Agar (Miller Modification) (Cat. 1308). This allows to select the optimum salt concentration of the medium for a specific strain.

Formula in g/L

Bacteriological agar	15	Sodium chloride	10
Tryptone	10	Yeast extract	5

Preparation

Suspend 40 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

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.