Luria Agar M557

Luria Agar 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	5.000
Agar	15.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 35 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense as desired.

Principle And Interpretation

Luria Agar is one of the many modifications, suggested by different authors, of the original formulation of Luria (1). These media is generally used for molecular and genetic studies, because of its nutritive capacity and simple composition, which can be easily altered as per specific requirements. Luria Agar is the modification of the original formulation of Luria, as described by Lennox (2). Addition of glucose helps to prepare the complete medium formulated by Lennox. Luria Agar contains half the concentration of sodium chloride than in Luria Bertani Agar, Miller (3). Therefore as per choice, the sodium chloride concentration can be altered.

Luria Agar is used for the cultivation and maintenance of recombinant strains of *E.coli* , originally derived from *E.coli* strain K12, deficient in B vitamin production. These strains are specifically mutated to create an auxotrophic strain, unable to grow on a nutritionally deficient medium.

Luria Agar is nutritionally rich media due to the presence of casein enzymic hydrolysate and yeast extract. This allows the recombinant strains of *E. coli* to grow more rapidly since all the nutrients and essential growth nutrients required by these strains are readily available to them and they don't need to synthesize it themselves including B-vitamin (6). Sodium chloride maintains the osmotic equilibrium.

Refer appropriate references for standard procedures (3, 4,5).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Yellow to amber coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 3.5% w/v aqueous solution at 25°C. pH : 7.0±0.2

Cultural Response

M557: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours .

Organism	Inoculum (CFU)	Growth	Recovery			
Escherichia coli ATCC 23724	50-100	luxuriant	>=70%			
Escherichia coli ATCC 25922	50-100	luxuriant	>=70%			
Escherichia coli DH5 alpha MTCC 1652	50-100	luxuriant	>=70%			

Reference

1.Luria S. E. and Burrous J. W., 1957, J. Bacteriol. 74: 461-476.
2.Lennox E. S., 1955, Transduction of Linked Genetic Characters of the host by bacteriophage P1., Virology, 1:190.
3.Miller, 1972, Experiments in Molecular Genetics, Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.

4.Sambrook J., Fritsch E. F. and Maniatis T., 1989, Molecular Cloning: A Laboratory Manual, 2nd Ed., Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.
5. Ausubel F. M., Brent R., Kingston R. E., Moore D. D., Seidman J. G., Smith J. A. and Steuhl K., (Eds.), 1994, Current Protocols in Molecular Biology, Vol. I, Greene Publishing Associates, Inc. Brooklyn, N.Y.

Storage and Shelf Life

Store below 30°C and prepared medium at 2-8°C. Use before expiry period on the label.