Technical Data

Luria HiCynth™ Broth

MCD575

Luria HiCynth™ Broth is recommended for the cultivation and maintenance of recombinant strains of *Escherichia coli*

Composition**

Ingredients	Gms / Litre
HiCynth™ Peptone No.2*	10.000
HiCynth™ Peptone No.5*	5.000
Sodium chloride	5.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

* Chemically defined peptones

Directions

Suspend 20 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense into tubes or flasks or as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Luria Broth is one of the many modifications, suggested by different authors, of the original formulation of Luria (1). It is modified in the form of chemically defined medium free from animal and vegetable peptone. This medium 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 Broth 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 Broth contains half the concentration of sodium chloride than in Luria Broth, Miller (3). Therefore as per choice, the sodium chloride concentration can be altered.

Luria HiCynth™ Broth is a modification of Luria Broth prepared by completely replacing animal or vegetable based peptones with chemically defined peptones to avoid BSE/TSE risks associated with animal peptones. or 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 stains are specifically mutated to create an auxotrophic strain, unable to grow on a nutritionally deficient medium.

It is a nutritionally rich medium due to the presence of HiCynth™ Peptone No.2 and HiCynth™ Peptone No.5. It 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 dont need to synthesize it themselves including B-vitamin (5). 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

Colour and Clarity of prepared medium
Yellow to amber coloured clear solution in tubes

Reaction
Reaction of 2.0% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH
6.80-7.20

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

Cultural Response

Organism	Inoculum (CFU)	Growth

Cultural Response

Escherichia coli ATCC 23724	50-100	luxuriant
Escherichia coli ATCC 25922	50-100	luxuriant
Escherichia coli DH5 alpha MTCC 1652	50-100	luxuriant

Storage and Shelf Life

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

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.

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