



Luria Broth

M575

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

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Yeast extract	5.000
Sodium chloride	5.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

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

Principle And Interpretation

Luria Broth is one of the many modifications, suggested by different authors, of the original formulation of Luria (1). 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 Broth 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 stains are specifically mutated to create an auxotrophic strain, unable to grow on a nutritionally deficient medium.

Luria Broth is a nutritionally rich medium 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 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

M575: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours .

Organism	Inoculum (CFU)	Growth
Cultural Response <i>Escherichia coli</i> ATCC 23724	50-100	luxuriant

<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant
<i>Escherichia coli</i> 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.

Revision : 2 / 2015

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.