Luria Broth

Intended Use
Luria Broth is recommended for the cultivation and maintenance of recombinant strains of *Escherichia coli* and for routine cultivation of not particularly fastidious microorganisms.

Summary
Luria Broth is one of the many modifications, suggested by different authors, of the original formulation of Luria. 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. 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. 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.

Principle
Luria Broth is a nutritionally rich medium due to the presence of tryptone 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 do not need to synthesize it themselves including B-vitamin. Sodium chloride maintains the osmotic equilibrium.

Formula*

Ingredients	**g/L**
Tryptone	10.0
Yeast Extract	5.0
Sodium Chloride	5.0
Final pH (at 25°C)	7.0 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.
The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 20.00 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Heat with frequent agitation to dissolve the powder completely.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
5. Dispense as desired.

Quality Control

Dehydrated Appearance: Light yellow coloured, homogenous, free flowing powder.
Prepared Appearance: Yellow to amber coloured, clear solution without any precipitate.
Growth Promotion Test: Growth promotion is carried out in accordance with the harmonized method of USP/EP/JP/IP and growth is observed after an incubation at 30°C-35°C for 18 to 24 hours.
Growth Promoting Properties: The test results observed are within the specified temperature and shortest period of time specified in the test, inoculating ≤ 100 cfu of appropriate microorganism at 30°C-35°C for 18 hours.

Organism (ATCC)	Growth
Escherichia coli (8739)	Good
Escherichia coli (25922)	Good
Escherichia coli (11105)	Good
Escherichia coli (4157)	Good
Escherichia coli (10536)	Good

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

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. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201120290100	Dehydrated Culture Media	100 g
201120290500	Dehydrated Culture Media	500 g