

Luria Agar

G557

Recommended for routine cultivation and estimation of recombinant strains of *Escherichia coli*

Composition**:

Ingredients	Grams/Litre
Tryptone	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 35.0 grams in 1000 ml purified distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle and Interpretation:

Luria Agar is prepared as described by Lennox (3) for cultivation and maintenance of recombinant strains of *Escherichia coli*. Luria Agar 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 don't need to synthesize it themselves including B-vitamin (1). Sodium chloride maintains the osmotic equilibrium.

Luria agar is a widely used and versatile medium in molecular biology, especially for *Escherichia coli*. It's essential for cultivating and maintaining recombinant *E. coli* strains, including those specifically engineered as auxotrophs for genetic studies. 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.

Quality Control

- **Appearance of Powder:** Cream to yellow homogeneous free flowing powder
- **Gelling:** Firm, comparable with 1.5% Agar gel
- **Colour and Clarity of the prepared medium:** Yellow to amber coloured, clear to slightly opalescent gel forms in Petri plates

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- **Reaction:** Reaction of 3.5% 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.
- **Specimen:** Isolated Microorganisms

Organisms	Inoculum (CFU)	Growth	Recovery
<i>Escherichia coli</i> ATCC 23724	50 - 100	luxuriant	≥70%
<i>Escherichia coli</i> ATCC 25922	50 - 100	luxuriant	≥70%
<i>Escherichia coli</i> DH5 alpha MTCC 1652	50 - 100	luxuriant	≥70%

- **Molecular Biology applications:** Luria agar has been tested for growth of recombinant *E. coli* cultures.

Applications:

Luria agar can be used for the growth of recombinant *E. coli* cultures containing plasmids with selective markers for applications such as Transformation, Cloning, Bacterial gene expression and many other downstream applications.

Storage and Shelf-life:

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal:

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (1,2).

Warning and Precautions:









Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established

guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

References:

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
2. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
3. Lennox E.S., 1955, Transduction of Linked Genetic Characters of the host by bacteriophage P1., Virology, 1:190.

Symbols:

	Manufacturer		Do not use if package is damaged
	Batch code		Temperature limit
	Date of manufacture (YYYY-MM)		Consult instructions for use
	Use-by date (YYYY-MM)		Catalogue number

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