Product Information

LB Agar, Miller, 500G

PG-8171-500G

Recommended for the cultivation and maintenance of recombinant strains of Escherichia coli for genetic and molecular biology studies.

Composition:**

Ingredients	Grams/Litre
Tryptone	10.000
Yeast extract	5.000
Sodium chloride	10.000
Agar	15.000
Final pH (at 25°C)	7.5±0.2

** Formula adjusted, standardized to suit performance parameters

Directions:

Suspend 40 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. Dispense as desired. Mix well and pour into sterile Petri plates.

Principle and Interpretation:

LB Agar, Miller is slightly different with double amount of sodium chloride as compared to original media described by Lennox (4) for cultivation and maintenance of recombinant strains of Escherichia coli (1). Luria Bertani agar provides a nutrient-rich environment that supports the robust growth of E. coli, making it ideal for maintaining and propagating bacterial cultures.

In this media, Tryptone provides peptides while Vitamin B complex is provided by yeast extract. Sodium chloride provides sodium ions for membrane transport and also maintains the osmotic equilibrium of the medium.

Luria Bertani agar is a versatile and essential tool in molecular biology for bacterial culture, particularly *Escherichia coli.* It's widely used for growing transformed cultures, preparing cells, and gene studies.

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
- **Reaction:** Reaction of 4.0% w/v aqueous solution at 25°C. pH: 7.5±0.2
- **pH:** 7.30-7.70

- **Cultural Response:** Cultural characteristics observed after an incubation at 35-37°C for 18 - 24 hours.
- **Specimen:** Recombinant strains of *E. coli*

Organisms	Inoculum (CFU)	Growth	Recovery
Escherichia coli ATCC 23724	50 - 100	luxuriant	>=70%
Escherichia coli ATCC 25922 (00013*)	50 - 100	luxuriant	>=70%
Escherichia coli DH5 alpha MTCC 1652	50 - 100	luxuriant	>=70%

Key: (*) Corresponding WDCM numbers.

- **Molecular Biology applications:** Luria Bertani Agar, Miller has been tested for growth of recombinant *E. coli* cultures.

Applications:

LB Agar, Miller 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.

Performance and Evaluation:

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

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 (2,3).

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.