Luria Bertani Broth, Miller (Miller Luria Bertani Broth) **G1245**

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
Final pH (at 25°C)	7.5±0.2

** Formula adjusted, standardized to suit performance parameters

Directions:

Suspend 25 grams in 1000 ml purified distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle and Interpretation:

Luria Bertani Broth, Miller (Miller Luria Bertani Broth) 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 broth 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 Broth 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 powde
- **Colour and Clarity of the prepared medium:** Yellow to amber coloured clear solution in tubes
- **Reaction:** Reaction of 2.5% w/v aqueous solution at 25°C. pH: 7.5±0.2
- **pH:** 7.30-7.50

ISO 9001-2015 CERTIFIED
WHO GMP CERTIFIED
ISO 13485-2016 CERTIFIED

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- **Cultural Response:** Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours.
- **Specimen:** Isolated Microorganisms

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

Key: (*) Corresponding WDCM numbers.

- **Molecular Biology applications:** Luria Bertani Broth, Miller has been tested for growth of recombinant *E. coli* cultures, plasmid DNA extraction and protein gene expression studies.

Applications:

Luria Bertani Broth, Miller (Miller Luria Bertani Broth) 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 15-25°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 clinical 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.

References:

1. Atlas R.M., 1983, Handbook of Microbiological Media, Ed. By Parks L., CRC Press, Inc.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
3. 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.
4. 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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