ARENA BioScien

Block 5, Street 9 inside The Ismailia free zone. Ismailia- Egypt
Post Code-41511
Tel.-Fax: +202 21813500/ +202 21813600
Mob.: +2 01211550941/ +2 01119225860
E-mail: sales@arenabioscientific.com
Website: www.arenabioscien.com

# LB BROTH

Recommended for the cultivation and maintenance of recombinant strains of Escherichia coli for genetic and molecular biology studies; may be used for routine cultivation and estimation of not particularly fastidious microorganisms.

| | | | |
|---|---|---|---|
| REF: BS.1/LM01.100.0100 | 100 Gram | REF: BS.1/LM01.250.0250 | 250 Gram |
| REF: BS.1/LM01.500.0500 | 500 Gram | | |

## CLINICAL SIGNIFICANCE [1]

LB medium is a widely used bacterial culture medium today but it has its origins in the field of bacteriophagegenetics. Guiseppe Bertani created the LB recipe while trying to optimize plaque formation on a Shigella indicator strain (Betrani, 1952). Although originally developed for bacteriophage studies and Shigella growth, LB subsequently became the medium of choice for the growth of Escherichia coli and other related enteric species.

## METHOD PRINCIPLE [2-3]

The media is nutritionally rich for the growth of pure cultures of recombinant strains. Strains derived from Escherichia coli are deficient in Vitamin B synthesis are further modified by specific mutation to create auxotrophic strains and are therefore unable to grow on nutritionally deficient media. Sodium chloride provides sodium ions for membrane transport and also maintains the osmotic equilibrium of the medium

## MEDIA COMPOSITION

| Ingredients | g/L |
|---|---|
| Peptone | 10 g |
| Yeast Extract | 5 g |
| Sodium Chloride | 10 g |

## PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.
  ***S56:*** dispose of this material and its container at hazardous or Special waste collection point.
  ***S57:*** use appropriate container to avoid environmental contamination.
  ***S61:*** avoid release in environment.

For further information, refer to the LB broth material safety data sheet.

## MEDIA PREPARATION, STORAGE AND STABILITY [2]

***BioScien*** LB Broth dehydrated media are stable until expiration date stated on label when properly stored 10-30°C. Hydrated LB Broth media is prepared by suspend 25 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense in tubes or flasks as desired. Sterilize in autoclave at 121°C for 15 minutes. 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.

### *Deterioration*

The color of ***BioScien*** Luria Bertani Broth, Miller medium is cream to yellow homogeneous free flowing powder, dehydrated medium is Yellow to amber colored, clear solution in tubes. After addition of 2.5% w/v aqueous solution at 25°C.pH: 7.5±0.2. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

## SPECIMEN COLLECTION AND PRESERVATION

Recombinant strains of E.coli

## EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups
- Sterile petri-dishes
- Incubator
- Autoclave

## CHARACTERISTICS OF THE COLONIES

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

| Organism | 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% |

## QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact ***BioScien*** technical support.

## PERFORMANCE CHARACTERISTICS

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

## REFERENCES


1. Atlas R.M., 1993, 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 IN PRODUCT LABELLING | |
|---|---|
| IVD For in-vitro diagnostic use | Σ Number of <n> test in the pack |
| LOT Batch Code/Lot number | Caution |
| REF Catalogue Number | Do not use if package is damaged |
| Temperature Limitation | Consult Instruction for use |
| Expiration Date | |
| Manufactured by | |