LB Broth (Miller) (NCM0088)

Revision: 0 Effective Date: 12/1/2021

Intended Use

LB Broth (Miller) is used in molecular genetic studies in a laboratory setting. LB Broth, Miller is not intended for use in the diagnosis of disease or other conditions in humans.

Description

LB Broth (Miller) is based on the formula described by Miller. This medium is used for the growth and maintenance of *Escherichia coli* strains used in molecular microbiology procedures. LB Broth, Miller is a nutritionally rich medium designed for growth of pure cultures of recombinant strains. *E. coli* is grown to late log phase in LB Medium. Some plasmid vectors replicate to high copy numbers without selective amplification. Some vectors do not replicate so freely and need to be selectively amplified. Chloramphenicol can be added to inhibit host synthesis and prevent replication of the bacterial chromosome.

This broth contains a high level of sodium chloride to aid the maintenance of plasmids. If working with temperate bacteriophages, such as lambda, the addition of magnesium sulphate at 2g/l is recommended to promote phage absorption. If required the medium may be aseptically supplemented with glucose after sterilization.

Typical Formulation

Enzymatic Digest of Casein	10.0 g/L
Yeast Extract	5.0 g/L
Sodium Chloride	10.0 g/L

Final pH: 7.3 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precaution

1. Refer to SDS

Preparation

1. Dissolve 25 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

Test Procedure

Consult appropriate references for recommended test procedures.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and light beige.

Prepared Appearance: Prepared medium is clear and yellow to gold, with none to slight precipitate.

620 Lesher Place • Lansing, MI 48912
800-234-5333 (USA/Canada) • 517-372-9200
foodsafety@neogen.com • foodsafety.neogen.com

Expected Cultural Response: Cultural response in LB Broth Miller at the appropriate atmosphere and temperature and examined for growth after 18 - 24 hours incubation.

Microorganism	Approx. Inoculum (CFU)	Expected Results
Bacillus subtilis ATCC® 9372	10-100	Growth
Escherichia coli ATCC® 25922	10-100	Growth
Escherichia coli ATCC® 33876	10-100	Growth
Escherichia coli ATCC® 39403	10-100	Growth
Escherichia coli ATCC® 47014	10-100	Growth
Staphylococcus aureus ATCC® 25923	10-100	Growth

The organisms listed are the minimum that should be used for quality control testing

Results
After sufficient incubation growth is evident by the appearance of turbidity.

Expiration
Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure
Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Storage
Store dehydrated culture media at 2-30°C away from direct sunlight. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

References
1. **Miller, J. H.** 1972. Experiments in molecular genetics. Cold Spring Harbor Laboratory. Cold Spring Harbor, New York.
2. **Sambrook, J., E. F. Fritsch, and T. Maniatis.** 1989. Molecular cloning: a laboratory manual, 2nd ed. Cold Spring Harbor Laboratory, Cold Spring Harbor, New York.

Revision: 0 Effective Date: 12/1/2021

620 Lesher Place • Lansing, MI 48912
800-234-5333 (USA/Canada) • 517-372-9200
foodsafety@neogen.com • foodsafety.neogen.com