

## LB BROTH, MILLER (7279)

### Intended Use

**LB Broth, Miller** is used in molecular genetic studies.

### Product Summary and Explanation

LB Broth, Miller is based on the formula described by Miller.<sup>1</sup> 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.<sup>1</sup> *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.<sup>2</sup>

LB Broth, Miller contains 10 g/L of sodium chloride. The medium may be aseptically supplemented with glucose.

### Principles of the Procedure

The nitrogen, amino acids, and carbon sources are provided by Enzymatic Digest of Casein. Vitamins and certain trace elements are supplied by Yeast Extract. Sodium ions for transport and osmotic balance are provided by Sodium Chloride.

### Formula / Liter

Enzymatic Digest of Casein ..... 10 g

Yeast Extract..... 5 g

Sodium Chloride ..... 10 g

Final pH: 7.3 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

### Precautions

1. For Laboratory Use.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

### Directions

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

### 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 light precipitate.

**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
<i>Bacillus subtilis</i> ATCC® 9372	10 - 300	Good to excellent
<i>Escherichia coli</i> ATCC® 25922	10 - 300	Good to excellent
<i>Escherichia coli</i> ATCC® 33876	10 - 300	Good to excellent
<i>Escherichia coli</i> ATCC® 39403	10 - 300	Good to excellent
<i>Escherichia coli</i> ATCC® 47014	10 - 300	Good to excellent
<i>Staphylococcus aureus</i> ATCC® 25923	10 - 300	Good to excellent

### **Test Procedure**

Consult appropriate references for recommended test procedures.<sup>1,2</sup>

### **Results**

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

### **Storage**

Store sealed bottle containing the dehydrated medium at 2 - 30°C. 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.

### **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.

### **Packaging**

<b>LB Broth, Miller</b>	<b>Code No.</b>	<b>7279A</b>	<b>500 g</b>
		<b>7279B</b>	<b>2 kg</b>
		<b>7279C</b>	<b>10 kg</b>

### **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, 2<sup>nd</sup> ed. Cold Spring Harbor Laboratory, Cold Spring Harbor, New York.

### **Technical Information**

Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (517)37209200 or fax us at (517)372-2006.