



Technical Data

HiEncap™ Luria Broth Base, Miller's Modification

EC1725CCL

HiEncap™ Luria Broth Base, Miller's modification is used for the cultivation and maintenance of recombinant strains of *Escherichia coli* with or without addition of glucose.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Yeast extract	5.000
Sodium chloride	0.500
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Each capsule contains 3.88 gms of medium. Suspend 1 capsule in 250 ml (4 capsules in 1000 ml) distilled or purified water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. If desired add 20% v/v glucose solution i.e 2.5 ml for 250 ml or 10 ml for 1000 ml media. Mix thoroughly and pour into sterile test tubes or flasks.

Principle And Interpretation

This medium is based on original Luria broth formula described by Miller for the growth and maintenance of *E.coli* strains used in molecular microbiology (1). Luria broth Base, Miller is a nutritionally rich medium recommended for growth of pure cultures of recombinant strains. *E.coli* is grown in late log phase in LB medium. Some plasmid vectors may 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 as a result prevent replication of the bacterial chromosome. (2)

Luria Broth Base, Miller's modification contains one tenth and one twentieth the sodium chloride level of the Lennox and Miller formulations of LB Agar respectively(1,2,3). This helps the user to select the optimal salt concentration for a specific strain. The medium may be aseptically supplemented with glucose, if desired.

Casein enzymic hydrolysate provides peptides and peptones 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.

Quality Control

Appearance

Gelatin capsule containing cream to yellow coloured granular media

Colour and Clarity of Prepared Medium

Yellow to amber coloured, clear to slightly opalescent solution

Quantity

Each capsule contains 3.88 grams of medium sufficient for 250 ml media

Reaction

Reaction of 1.55% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH

6.80-7.20

Cultural Response

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

Cultural Response

Organism	Inoculum (CFU)	Growth
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Cultural Response

<i>Escherichia coli</i> ATCC 23724	50-100	luxuriant
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant
<i>Escherichia coli</i> DH5 alpha MTCC 1652	50-100	luxuriant

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

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.
3. Lennox E.S. 1955, Transduction of Linked Genetic Characters of the host by bacteriophage P1., Virology, 1:190.

Revision : 00 / 2014



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