



PRODUCT SPECIFICATION SHEET

Luria Bertani Agar, Miller (Miller Luria Bertani Agar) (DM408)

Intended Use

Luria Bertani Agar, Miller (Miller Luria Bertani Agar) (DM408) is recommended for cultivation and maintenance of recombinant strains of *Escherichia coli* for genetic and molecular studies; also for isolation and cultivation of non-fastidious microorganisms.

Product Summary and Explanation

Luria Bertani Agar is prepared as described by Lennox⁽¹⁾ for cultivation and maintenance of recombinant strains of *Escherichia coli*. The media is nutritionally rich designed for the growth of pure cultures of recombinant strains. Strains derived from *Escherichia coli* K12 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. *E. coli* is grown to late log phase in Luria Bertani Agar. Some plasmid vectors replicate to a high copy number and do not require selective amplification. Some vectors do not replicate so freely, and need to be selectively amplified. Chloramphenicol may be added to inhibit host synthesis and prevent replication of the bacterial chromosome.⁽²⁾ Luria Bertani Agar contains 10 g/L of sodium chloride, different from the levels in Lennox and Miller formulations of Luria Bertani Agar.⁽¹⁻³⁾ This allows the researcher to select the optimal salt concentration for a specific strain. The medium may be aseptically supplemented with glucose.

Principles of the Procedure

Luria Bertani Agar, Miller (Miller Luria Bertani Agar) contains casein enzymic hydrolysate which provides carbon, nitrogen, amino acids, while yeast extract supplies B-complex vitamins and other essential nutrients required for growth. Sodium chloride helps to maintain the osmotic balance of the medium.

Formula / Liter

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.00
Yeast extract	5.00
Sodium chloride	10.00
Agar	15.00
Final pH: 7.5 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT, mainly irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 40 g of the medium in one liter of purified water.
2. Heat to boiling to dissolve the medium completely.
3. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.
4. Mix well and pour into sterile Petri plates.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Yellow to amber coloured, clear to slightly opalescent gel forms in Petri plates
Reaction of 4.0% Solution	pH 7.5 ± 0.2 at 25°C
Gel Strength	Firm, compared to 1.5% Agar Gel.



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

Sr. No.	Organisms	Results to be achieved		
		Inoculum (CFU)	Growth	Recovery
1.	<i>Escherichia coli</i> ATCC 23724	50-100	good- luxuriant	>=70%
2.	<i>Escherichia coli</i> ATCC 25922	50-100	good- luxuriant	>=70%
3.	<i>Escherichia coli</i> DH5 alpha MTCC 1652	50-100	good- luxuriant	>=70%

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

Test Procedure

Refer to appropriate references for standard test procedures.^(1,2)

Results

Refer to appropriate references and test procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10-30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

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

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Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Luria Bertani Agar, Miller (Miller Luria Bertani Agar)

Product Code : DM408

Available Pack sizes : 500gm

References

1. Miller. 1972. Experiments in molecular genetics. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.
2. Sambrook, Fritsch and Maniatis. 1989. Molecular cloning: a laboratory manual, 2nd ed. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.
3. Lennox. 1955. Virology 1:190.



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Further Information

For further information please contact your local MICROMASTER Representative.



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