FT-T37498

LB AGAR (Miller's)

For E.coli in molecular genetics studies ;

Products Description

Name :	**Luria LB Agar** (**modified** Miller's LB Agar) (minimal concentration of NaCl)	**Lennox LB Agar** (modified Miller's LB Agar)	**Luria LB Agar (Miller's LB Agar)** (twice the Lennox conc.of NaCl)
Catalog Number :	T3748A, 500g	T3750A, 500 g	T3749A, 500g
Formula in g/l :	Tryptone 10.00 Yeast Extract 5.00 Sodium Chloride **0.50** Agar 15.00	Tryptone 10.00 Yeast Extract 5.00 Sodium Chloride 5.00 Agar 15.00	Tryptone 10.00 Yeast Extract 5.00 Sodium Chloride **10.00** Agar 15.00
Final pH	$7.0_{\pm 0.2}$ at 25ºC	$7.0_{\pm 0.2}$ at 25ºC	$7.0_{\pm 0.2}$ at 25ºC
Preparation of 1L of 1x Broth:	30.5 g / L	35 g / L	40 g / L

Storage 20-25°C. Once opened keep powdered medium closed to avoid hydration.

Directions for use

The dehydrated medium should be homogeneous, free-flowing and beige in color. If there are any physical changes, discard the medium.

Preparation

Suspend 30.5 / 35 / 40 grams (see table above) 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 into appropriate containers and sterilize in autoclave at 121°C for 15 minutes.

Cool to 45-50ºC, mix well and dispense into plates.

Store at 4°C. The color of the prepared medium is clear amber, slightly opalescent.

Technical information

These LB Agars are based on LB Medium described by Miller. LB stands for Lysogeny Broth – and, inexactly, for 'Luria Bertani'. They are suitable for the growth and maintenance of Escherichia coli strains used in molecular microbiology procedures, and also Coliforms (non-selective).

LB Agar (Lennox) (Cat. T3750A) is a highly-referenced medium developed by Lennox for the growth and maintenance of pure culture of recombinant strains of E. coli. It is a nutritionally rich medium that contains all the nutritional requirements for E.coli strains. In the formula, Tryptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B group. Sodium chloride supplies essential electrolytes for transport and osmotic balance.

LB Broth (Lennox) contains ten times the sodium chloride level of **Luria Agar (modified Miller's LB Agar)** (Cat. T3748A) and a half of the level found in **Luria Agar (Miller's LB Agar)** (Cat. T3749A). These allow selecting the optimal salt concentration medium for a specific strain. The low salt media (Luria, Lenox) are useful when used antibiotic are salt-sensitive.

Bacteria that contain plasmids tend to grow best in broth that has between 5 and 10 g of salt.

For a faster growth, the medium can be supplemented with 0.1% glucose or 0.4% glycerol.

Various cofactors may also need to be added to the broth if working with certain types of bacteriophages.

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For example, bacteriophage lambda requires an excess of magnesium in the broth to properly infect bacteria.

The cultivation in LB Broth allows the cells with an insert plasmid, to begin to express the genes on the transformed plasmid, including the antibiot ic resistance gene. If the transformed E.coli are plated directly onto selective agar media (LB Agar containing antibiotic), fewer transformed colonies will appear per ml plated. Growing the transformed cells in LB broth will increase the number of transformed cells per ml . To select the bacteria with the plasmid , it is necessary to subcultivate an inoculum from LB Broth to a LB Agar plate with the antibiotic added.

The Agars are qualified be microbiological test with different type cultures after incubation at a temperature of 35 ± 2°C and observed after 18 - 24 hours.

References –

- Bertani, G. (2004). Lysogeny at mid-twentieth century: P1, P2, and other experimental systems. J. Bacteriology. 186:595-600. PMID 14729683
- Bertani, G. (1951). Studies on lysogenesis. I. The mode of phage liberation by lysogenic Escherichia coli. J. Bacteriol. 62:293-300. PMID 14888646

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- Atlas, R.M., L.C. Parks (1993) Handbook of Microbiological Media. CRC Press, Inc. London
- Lennox.(1955). Virology 1:190.
- Sambrook, Fritsch and Maniatis.(1989). Molecular cloning: a laboratory manual, 2nd ed. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y.

N1398A
- The condensed protocols from molecular cloning: a laboratory manual/ Joseph Sambrook, David W .Russell

96381A
- Miller J. H.: Experiments in Molecular Genetics, Cold Spring Harbor Laboratory (1972).

Related products

Same products but without agar: see LB Broths FT-N1398A:

LB Broth (Miller) – N1398A (10g/L NaCl)
LB Broth (Lennox) T3752A – medium salt (5g/L NaCl)
LB Broth (Luria) 96381A – minimal salt (0.5g/L NaCl)

Catalog size quantities and prices may be found at http://www.interchim.com.
Please inquire for higher quantities (availability, shipment conditions).

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