Technical Data Sheet

EcoCult®
Lactose broth acc. FDA-BAM

Ordering number: 1.40187.0500 / 1.40187.5000

For the preliminary non-selective enrichment of bacteria, particularly *Salmonella* spp. and as a preliminary test for coliform bacteria, especially *Escherichia coli*.

Lactose broth acc. FDA-BAM is also known as LB.

This culture medium complies with the specifications given by FDA-BAM Medium M74 and APHA.

Mode of Action

Peptone and meat extract provide carbon and nitrogen sources for bacterial growth. Lactose acts as a carbohydrate source and its utilization is indicated by gas production. The gas liberated is collected in DURHAM tubes.

Typical Composition

Specified by FDA-BAM Medium M74		EcoCult® Lactose broth acc. FDA-BAM	
Beef extract	3 g/l	Meat extract*	3 g/l
Peptone	5 g/l	Peptone	5 g/l
Lactose	5 g/l	Lactose	5 g/l
Water	1000 ml/l	Water	n/a
pH at 25 °C	6.9 ± 0.2	pH at 25 °C	6.9 ± 0.2

* Meat extract is equivalent to beef extract.

Preparation

Dissolve 13.0 g in 1 liter of purified water. Dispense into 225 ml aliquots for enrichment or into 10 ml aliquots for MPN (Most Probable Number) method using tubes containing inverted fermentation (DURHAM) tubes and autoclave 15 minutes at 121 °C.

The DURHAM tubes shall not contain any air bubbles after autoclaving.

The dehydrated medium is a powder with yellow colour.

The prepared medium is clear and yellowish. The pH value at 25 °C is in the range of 6.7 – 7.1.

Experimental Procedure and Evaluation

Depend on the purpose for which the medium is used

For use as a pre-enrichment medium, incubate the inoculated broth under aerobic conditions, e.g. acc. to FDA-BAM Chapter No. 5 at (35 ± 2 °C) for (24 ± 2 h).

Transfer material from the resulting culture to a selective enrichment medium or a solid selective medium following the method given by the appropriate standard.

For use as a presumptive test for coliforms, fecal coliforms and *Escherichia coli*, incubate the incubate the inoculated tubes (with DURHAM tubes), e.g. acc. to FDA-BAM Chapter No. 4 at (35 ± 0.5 °C) for (24 ± 2 h).

Examine tubes and record reactions at (24 ± 2 h) for gas, i.e., displacement of medium in the fermentation vial (DURHAM tube) or effervescence when tubes are gently agitated. Re-incubate gas-negative tubes for an additional 24 h and examine and record reactions again at (48 ± 3 h). Perform confirmed test on all presumptive positive tubes showing gas formation in the DURHAM tubes, e.g. as specified by FDA-BAM.

Storage

Store at +10 °C to +30 °C, dry and tightly closed. Do not use clumped or discolored medium. Protect from UV light (including sun light). For *in vitro* use only.

Quality Control

Function	Control strains	Inoculum [cfu]	Incubation	Method of control	Expected results
Productivity	*Escherichia coli* ATCC® 25922 [WDCM 00013]	≤ 100	(48 ± 2h) at (35 ± 1 °C) aerobic	Qualitative	Growth (good to very good turbidity) and gas formation in the Durham tube
	Escherichia coli ATCC® 8739 [WDCM 00012]	≤ 100			
	Salmonella Typhimurium ATCC® 14028 [WDCM 00031]	≤ 100			Growth (good to very good turbidity) without gas formation in the Durham tube
	Salmonella Enteritidis ATCC® 13076 [WDCM 00030]	≤ 100			

Please refer to the actual batch related Certificate of Analysis.

Literature

APHA (2015) Compendium of Methods for the Microbiological Examination of Foods. 5th ed. American Public Health Association, Washington, D.C.

APHA (2004) Standard Methods for the Examination of Dairy Products. 17th ed. American Public Health Association, Washington, D.C.

FDA-BAM (2020): Chapter No. 4: Enumeration of *Escherichia coli* and the Coliform Bacteria. U.S. Food and Drug Administration - Bacteriological Analytical Manual.

FDA-BAM (2020): Chapter No. 5: *Salmonella*. U.S. Food and Drug Administration - Bacteriological Analytical Manual.

FDA-BAM (2018): Media Index for BAM - BAM Media M74: Lactose Broth. Food and Drug Administration - Bacteriological Analytical Manual.

ISO International Standardisation Organisation. Microbiology of food, animal feed and water - Preparation, production, storage and performance testing of culture media + Amendment 1 + Amendment 2. EN ISO 11133:2014/Amd1:2018/Amd2:2020.

Mooijman, K.A. (2012): Culture media for the isolation of *Salmonella*. In: Handbook of Culture Media for Food and Water Microbiology. (Corry, J.E.L., Curtis, G.D.W. and Baird, R.M. eds). pp. 261-286. Royal Society of Chemistry, Cambridge, UK.

Ordering Information

Product	Cat. No.	Pack size
EcoCult® Lactose broth acc. FDA-BAM	1401875000	5 kg
EcoCult® Lactose broth acc. FDA-BAM	1401879010	10 kg
GranuCult® Lactose broth acc. FDA-BAM	1076610500	500 g