Technical Information

Lactose Broth

Product Code: DM 2003B

Application: -Lactose monohydrate Broth is recommended for detcetion of coliform bacteria in water, foods, dairy products in accordance with British Pharmacopoeia.

Composition**

Ingredients	Gms / Litre
Pancreatic digest of gelatin	5.000
Beef extract	3.000
Lactose monohydrate	5.000
pH after sterilization	6.9±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Lactose Broth is used by British pharmacopoeia (4) for selective pre-enrichment of *Enterobacteriaceae* as well as for *E.coli* and *Salmonella* in water, food and pharmaceutical products. The medium is used for detection of specified microorganisms of non-sterile products according to British Pharmacopoeia. This medium is also recommended by various other pharmacopoeia (5,6,7)

Lactose monohydrate broth is recommended by APHA in the performance and confirmation of the presumptive test for coliform bacteria in water (1), food (2) and milk (3). This medium can be used as an alternate to Buffered sodium chloride-peptone solution pH 7.00 for the revival of Enterobacteriaceae and gram negative bacteria. The medium is incubated for a time sufficient to revive the bacteria but not the multiplication of the bacteria. It is recommended to incubate the medium usually for 2 ours and not for more than 5 hours.(4)

Pancreatic digest of gelatin and beef extract supply essential nutrients to the organisms. Lactose monohydrate is a fermentable carbohydrate.

Methodology

Suspend 13 grams of dehydrated media powder in 1000 ml distilled water. Mix thoroughly & heat if necessary to dissolve the medium completely. For larger inocula (10 ml or more), concentrated medium may be prepared to account for medium dilution by the inoculum. Dispense in tubes containing inverted fermentation vial (Durhams tube) as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Colour and Clarity
Light amber coloured clear solution without any precipitate pH of 3.0% w/v aqueous solution after sterilization.

pH Range
6.70-7.10

Cultural Response
DM 2003B: Cultural characteristics observed after an incubation at 35-37°C for specified time.

Organism	Inoculum (CFU)	Recovery within 2 hours of incubation	Recovery within <=5 hours of incubation
Preparation of test strain			
Escherichia coli ATCC 8739	50 -100	no increase in colony count	no increase in colony count
Pseudomonas aeruginosa ATCC 9027	50 -100	no increase in colony count	no increase in colony count

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and the prepared medium at 2- 8°C. Use before expiry date on the label.
Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Eaton A. D., Clesceri L. S. and Greenberg A W.,(Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st ed., APHA, Washington, D.C.
2. Downes F P and Ito K(Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C
3. Wehr H M and Frank J H., 2004, Standard Methods for the Examination of Dairy Products, 17th ed., APHA Inc., Washington, D.C.
4. British Pharmacopoeia, 2009, The Stationery office British Pharmacopoeia.
5. The United States Pharmacopoeia, 2008, The United States Pharmacopoeia Convention. Rockville, MD.
6. European Pharmacopoeia, 2008, European Department, for the quality of Medicines.
7. The Indian Pharmacopoeia 2007, Govt. of India, 2007. The Controller of Publication, Delhi.

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