Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Lactose Broth

Product Code: DM 2003S

Application: - Lactose Broth is used for the detection of coliform bacteria in water, foods, dairy products.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	5.000
Beef extract	3.000
Lactose	5.000
Final pH (at 25°C)	6.9±0.1

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Lactose 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]. Present formulation is recommended as a confirmatory medium [4] by BIS for detection and estimation of coliform bacteria in food stuff. The discrete colonies obtained from EMB Agar Plates (DM1022S) are inoculated in Lactose Broth (DM2003S). Formation of gas in the lactose tubes indicates presence of coliforms. This medium can be used as an alternate to Lauryl Sulphate Broth in the presumptive test of the MPN of standard coliforms.

Peptic digest of animal tissue and beef extract supply essential nutrients to the organisms. Lactose is a fermentable carbohydrate for the coliforms. Tubes of Lactose Broth are inoculated with dilutions of water or milk, etc. under test, and incubated at 35°C and examined for gas formation after 24 and 48 hours. Members of the coliform group are defined as aerobic and facultative anaerobic gram-negative and non-sporing bacilli which ferment lactose with gas formation within 48 hours at 3 5°C. In testing dairy products, Lactose Broth is used only in the completed test [4]. Large water samples may require double strength Lactose Broth to minimize the final volume.

Methodology

Suspend 13 grams of powder media in 1000 ml distilled water. Shake well and heat to dissolve the medium completely. For larger inocula (10 ml or more), concentrated medium may be prepared to take into account for medium dilution by the inoculum. Dispense 5 ml amounts in tubes containing inverted fermentation vial (Durhams tube). Sterilize by autoclaving at 15 lbs pressure (12 1°C) for 15 minutes.

Note: If desired, for detecting acid production, 3 ml of an aqueous solution of bromocresol purple (prepared by grinding 0.5 g of bromocresol purple in 100 ml of 0.01 N sodium hydroxide until dissolved) may be added to one litre of the medium.

Quality Control

Physical Appearance

Yellow coloured homogeneous free flowing powder

Colour and Clarity of prepared medium

Light to medium amber coloured clear solution without any precipitate.

Reaction
Reaction of 1.3% w/v aqueous solution at 25°C. pH : 6.9±0.1

pH Range 6.80-7.00

Cultural Response/Characteristics
DM 2003S: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Gas
Enterobacter aerogenes ATCC 13048	50-100	Luxuriant	Positive reaction
Enterococcus faecalis ATCC 29212	50-100	luxuriant	Negative reaction
Escherichia coli ATCC 25922	50-100	luxuriant	Positive reaction
Pseudomonas aeruginosa ATCC 10145	50-100	luxuriant	Negative reaction

Storage and Shelf Life

Dried media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. Greenberg A. E., Trussell R. R. and Clesceri L. S. (Eds.), 1985, Standard Methods for the Examination of Water and Wastwater, 16th ed., A.P.H.A., Washington, D.C.
2. Speck M. (Ed.), 1984, Compendium of Methods for the Microbiological Examination of Foods, 2nd ed., A.P.H.A., Washington, D.C.
3. Richardson (Ed.), 1985, Standard Methods for the Examination of Dairy Products, 15th ed., A.P.H.A., Washington, D.C.
4. Bureau of Indian Standards, IS : 5401 - 1969 (Second reprint - June 1990).

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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