www.tmmedia.in PRODUCT DATA SHEET

FLUID LACTOSE MEDIUM (LACTOSE BROTH) (as per USP) TM 1537

INTENDED USE

For detection of coliform bacteria in water, foods and dairy products

COMPOSITION

Ingredients	Gm\Ltr.
Pancreatic digest of gelatin	5.000
Beef extract	3.000
Lactose	5.000

PRODUCT SUMMARY AND EXPLANATION

Coliforms are rod shaped gram-negative organisms that ferment lactose with the production of acid and gas. They are regarded as bacterial indicators of sanitary quality of foods and water. *Salmonella* is a rod shaped gram-negative enterobacteria commonly implicated in foodborne illness. These bacteria are present in low numbers in food and other products and also may be in a stressed condition. Before subjecting them to selective enrichment, for maximum recovery a pre-enrichment is necessary. Also, the presence of non-coliform bacteria and substances indigenous to the sample may interfere with the growth and recovery of coliforms. Therefore pre-enrichment in a non-selective medium facilitates detection of sublethally injured cells. Fluid Lactose Medium is a pre-enrichment medium, recommended by APHA, for the detection of coliform bacteria in water, dairy products and food samples. When competing lactose utilizing bacteria are present in the test sample, a resulting drop in pH generates a bacteriostatic effect on the competing microflora. It is also used in the performance of microbial limit test for Salmonella species and Escherichia coli .

PRINCIPLE

Beef extract and pancreatic digest of gelatin provide essential nutrients for bacterial metabolism. Lactose is the sole source of fermentable carbohydrate. Growth with gas formation is a presumptive test for coliforms. Whenever there is larger inoculum multiple strength lactose broth is used.

INSTRUCTION FOR USE

1. Dissolve 13 grams in 1000 ml distilled water.
2. Heat if necessary to dissolve the medium completely.
3. Mix well and distribute into tubes with inverted Durhams tubes.
4. Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
5. The concentration of medium is adjusted in accordance with sample.

QUALITY CONTROL SPECIFICATIONS

Appearance of dehydrated Powder: Cream to yellow homogeneous free flowing powder
Appearance of prepared medium: Light amber coloured, clear solution without any precipitate
pH: 6.9±0.2

Cultural Response

Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 48 hours.

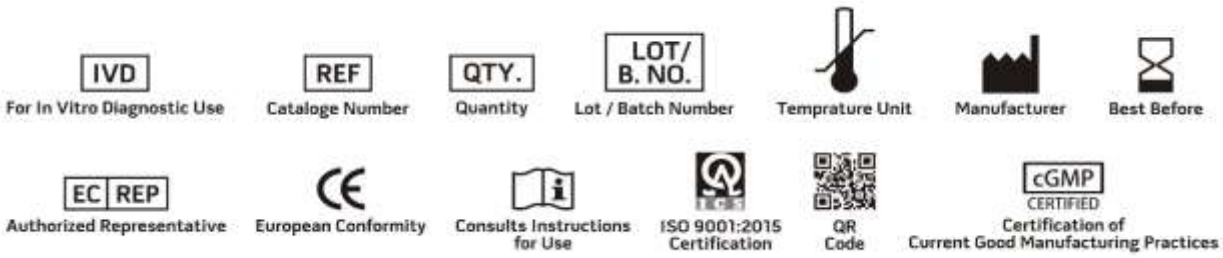
Organism	ATCC	Inoculum (CFU)	Growth	Gas
Enterobacter aerogenes	13048	50-100	Good- Luxuriant	Positive reaction
Escherichia coli	25922	50-100	Good- Luxuriant	Positive reaction
Enterococcus faecalis	29212	50-100	Good-Luxuriant	Negative reaction
Pseudomonas aeruginosa	27853	50-100	Good- Luxuriant	Negative reaction

STORAGE & STABILITY

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

REFERENCES

1. Greenberg A. E., Clesceri L. S. and Eaton A. D., (Eds.), 1998, Standard Methods for the Examination of Water and Waste Water, 20th Ed., APHA, N.Y.
2. Marshall R. T., (Ed.), 1992, Standard Methods for the Examination of Dairy Products, 16th Ed., APHA, N.Y.
3. Downes F. P. and Ito K. (Ed.). 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.