Fluid Lactose Medium

Intended Use
Fluid Lactose Medium is a pre-enrichment medium used for detection of coliform bacteria in water, dairy products and food samples.

Summary
Coliforms, Gram-negative, lactose-fermenting organisms, 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. Since these bacteria are present in low numbers in food and other products, before subjecting them to selective enrichment, a pre-enrichment is necessary for maximum recovery. Also, the presence of non-coliform bacteria and flora indigenous to the sample may interfere with the growth and recovery of coliforms. Therefore, pre-enrichment in a non-selective medium facilitates detection of sub lethally 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. A resulting drop in pH generates a bacteriostatic effect on the other competing lactose utilizing 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.

Formula*
Ingredients	**g/L**
Pancreatic Digest of Gelatin	5.0
Lactose	5.0
Beef Extract	3.0
Final pH (at 25°C)	6.9 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2ºC-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen
Food and dairy samples
Water samples

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.
The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 13.00 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Boil with frequent agitation to dissolve the powder completely.
4. Distribute into tubes containing inverted Durham's tubes.
5. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control

Dehydrated Appearance: Light yellow coloured, homogenous, free flowing powder.
Prepared Appearance: Light yellow to medium amber coloured, clear solution without any precipitate.
Growth Promotion Test: Growth promotion is carried out in accordance with the harmonized method of USP/EP/JP/IP and growth is observed after an incubation at 30°C-35°C for 18-48 hours.
Growth Promoting Properties: The test results observed are within the specified temperature and shortest period of time specified in the test, inoculating ≤100 cfu of appropriate microorganism at 30°C-35°C for 18 hours.

Organism (ATCC)	Growth	Gas
Klebsiella aerogenes (13048)	Good	+
Escherichia coli (8739)	Good	+
Pseudomonas aeruginosa (9027)	Good	-
Enterococcus faecalis (29212)	Good	-
Escherichia coli (25922)	Good	+
Pseudomonas aeruginosa Strain Boston 41501 (27853)	Good	-

Key:
For Gas (+) - Positive reaction (Bubble formation in Durham's tube)
For Gas (-) - Negative reaction (No Bubble formation in Durham's tube)

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

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.
4. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201060020100	Dehydrated Culture Media	100 g
201060020500	Dehydrated Culture Media	500 g
203060170100	Bottle Media	100 mL