

TECHNICAL DATA SHEET

Lactose Broth (Fluid Lactose Medium)

Principle

Lactose medium is composed of peptone, meat extract (equivalent to beef extract) and lactose. Peptone, and meat extract provide nutrients such as amino acids, vitamins, other trace factors which are essential for the growth of fastidious microorganisms. Lactose serves as carbon source and plays a crucial role for selection of lactose fermenting microbes. It is also used as pre-enrichment, non-selective medium used for repair of damaged *Salmonella* cell in processed food and dairy samples. Most of the non-Salmonella bacteria ferment lactose while Salmonella does not. As lactose-fermenting bacteria metabolize lactose and the pH of the medium decreases, creating a bacteriostatic effect on competing microorganisms.

Use: For detection of coliform bacteria in water and food products.

Contents*

Ingredients	Gram/Liter
Meat Extract#	3.00
Peptone	5.00
Lactose	5.00
pH at 25°C	6.9 ±0.2

* Formula adjusted for optimum performance and parameters # Equivalent to Beef Extract

Directions: Dissolve 13.00 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Distribute as desired 5-10 ml in the tubes; placed the inverted fermentation vial (Durham's tube); ensure no gas is trapped in the fermentation tube. Sterilize by autoclaving at 15 lbs. pressure (121 °C) for 15 min, and inoculate test sample aseptically.

Specimens types analyzed

Pharmaceutical samples, clinical and non-clinical samples, water samples etc.

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Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	Light beige colored free flowing, homogeneous powder
Reaction of 1.3% solution	6.9 $\pm$ 0.2 at 25 °C
pH	6.70- 7.10
Color and clarity of ready medium	Light amber, clear solution
Growth Promotion properties	Best at $\leq$ 100 CFU at 32-37 °C for 18-72 h
Indicative properties	Optimum at $\leq$ 100 CFU at 32-37 °C for 18-48 h
Negative control	Performed using sterile distilled water

Different Microbial Response: Prepare media as per label directions. Inoculate and incubate at 35 $\pm$ 2°C for 18-48 hours.

Organism	ATCC	Inoculum (CFU)	Growth	Gas production
<i>Escherichia coli</i>	8739	50-100	Luxuriant	Positive
<i>Escherichia coli</i>	25922	50-100	Luxuriant	Positive
<i>Klebsiella aerogenes</i>	13048	50-100	Luxuriant	Positive
<i>Salmonella typhimurium</i>	14028	50-100	Luxuriant	Negative
<i>Pseudomonas aeruginosa</i>	10145	50-100	Luxuriant	Negative
<i>Enterococcus faecalis</i>	14506	50-100	Luxuriant	Negative

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Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

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