



Lactose Medium (Harmonized)

RDM-H-LM-01

Principle

The lactose medium is prepared in accordance with harmonized principles of JP/EP/IP. Lactose medium is composed of pancreatic digest of casein, meat peptone (equivalent to beef extract) and lactose. The pancreatic digest of casein, meat peptone serves as nutrients such as amino acids, vitamins, other trace factors which are essential for the growth of fastidious microorganisms. The lactose serves as carbon source and plays a crucial role for selection of lactose fermenting microbes.

Use: Recommended for selective isolation and differentiation of Lactose fermenting bacteria from pharmaceutical samples and water, sewage etc. Specifically, the coliforms; *E coli* by using Durham's tube for detection of gas production.

Contents*

Ingredients

	Gram/Litre
Pancreatic Digest of Casein	3.00
Meat 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 and distribute aseptically in tubes with inverted Durham tube, remove bubble. Sterilize by autoclaving at 15 lbs pressure (121 °C) for 15 min, cool it to 42-45 °C and inoculate test sample aseptically.

Specimens types analyzed

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

Precautions to be taken

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 ±0.2 at 25 °C
pH	6.70- 7.10
Color and clarity of ready medium	Light to medium amber, clear without significant precipitate.
Growth Promotion properties	Best at ≤ 100 CFU at 32-37 °C for 18-72 h

Indicative properties	Optimum at ≤ 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 $35 \pm 2^\circ\text{C}$ for 18-48 hours.

Organism	ATCC	Inoculum	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>	9027	50-100	Luxuriant	Negative

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

1. Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.
2. *Difco Manual* (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.
3. *European Pharmacopoeia*, (2011), European Dept. for the quality of Medicines.
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5. Rand, M. C., Arnold E. Greenberg, and Michael J. Taras, (1976), *Standard methods for the examination of water and wastewater*. Prepared and published jointly by American Public Health Association, American Water Works Association, and Water Pollution Control Federation.
6. *The Japanese Pharmacopoeia*, 17th Ed. (2016), The Ministry of Health, Labour And Welfare.

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