



Lactose Monohydrate

RDM-S-02

Principle: Lactose is utilized as a carbon and energy source in many bacteriological media. Many microorganisms have capability to ferment lactose to produce energy, acids and gas. Due to lactose breakdown by enzymatic dehydrogenation reaction to yield energy in the form of ATP. Lactose is also used for identification and classification bacteria on basis of lactose fermentation. The most commonly lactose based bacteriological media are lactose broth, MacConkey's agar and broth etc.,

Use: Recommended for media ingredient of basic, selective or differential media and used as carbohydrate source in biochemical characterization of microorganism etc.

Quality Control

Appearance	White colored, crystals or powder or powder free flowing with dry lumps
Solubility (2%)	Soluble in distilled water
Clarity	No visual color solution
Loss on drying	NMT 2%
Residue on ignition	NMT 2 %

Bacteriological testing Bacteriological tests are carried out as per USP 32,NF26 where respective medium is prepared by using dextrose under test.

Test for pathogens:

Total Plate Count	NMT 10000 cfu per gram.
Yeast & Molds	Absent per 10 grams.
<i>Escherichia coli</i>	Absent per 10 grams.
<i>Salmonella</i>	Absent per 10 grams.
<i>Staphylococcus aureus</i>	Absent per 10 grams.

Culture response: The carbohydrate fermentation reactions after an incubation of 18-48 hours at 35-37°C, of various bacteria with lactose.

Organism	Growth	Acid production	Gas production
<i>Escherichia coli</i> (ATCC25922)	Luxurious growth	Yellow color positive reaction	Positive
<i>Salmonella typhimurium</i> (ATCC 14028)	Poor growth	Negative reaction	Negative

Storage and Shelf Life

Store below 30°C in tightly sealed jar or container. Use before expiry date on the label.

Expected performance when stored at optimum conditions and within expiry date.

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

Disclaimer

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