

## TM 164 – LITMUS LACTOSE AGAR

### INTENDED USE

For differentiation of Lactose fermenting and Lactose non-fermenting microorganisms.

### PRODUCT SUMMARY AND EXPLANATION

Numerous plating media are in use today for the differentiation of lactose-fermenters and lactose non-fermenters. Some of these are selective, whereas others are differential. Some lactose fermenting, gram-negative enteric bacteria can tolerate the inhibitory substances present in the media. These bacteria can be recognized readily by their appearance on selective plates. Litmus Lactose Agar is formulated by Wurtz for the differentiation of lactose fermenting and lactose non-fermenting bacteria.

### COMPOSITION

Ingredients	Gms / Ltr
Meat Peptone	5.000
Beef extract	3.000
Lactose	10.000
Litmus	1.000
Agar	10.000

### PRINCIPLE

This medium consists of Meat peptone, beef extract which provide nitrogenous nutrients to the organisms. Lactose is fermented by lactose fermenting bacteria with acid production. Litmus is the pH indicator, which turns red at acidic pH. Colonies of lactose fermenting bacteria are surrounded by a red zone, which distinguishes them from colonies of other organisms that either do not change the surrounding medium or change it to blue due to production of ammonia. Inoculate culture from primary fermentation tubes showing gas either by streaking directly or by pour plate method of serially diluted culture.

### INSTRUCTION FOR USE

- Dissolve 29.0 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.
- Mix well and pour into sterile petri plates.

### QUALITY CONTROL SPECIFICATIONS

<b>Appearance of Powder</b>	: Light purple to greyish yellow homogeneous free flowing may contain minute to small particles.
<b>Appearance of prepared medium</b>	: Dark purple coloured clear to slightly opalescent gel forms in Petri plates.
<b>pH (at 25°C)</b>	: 7.0 ± 0.2

### INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	25922	50-100	Luxuriant	>=70%	Red	35-37°C	18-24 Hours
<i>Klebsiella pneumoniae</i>	13883	50-100	Luxuriant	>=70%	Red	35-37°C	18-24 Hours
<i>Pseudomonas aeruginosa</i>	27853	50-100	Luxuriant	>=70%	Deep blue-violet	35-37°C	18-24 Hours
<i>Salmonella Typhi</i>	6539	50-100	Luxuriant	>=70%	Deep blue-violet	35-37°C	18-24 Hours
<i>Shigella flexneri</i>	12022	50-100	Luxuriant	>=70%	Deep blue-violet	35-37°C	18-24 Hours

**PACKAGING:**

In pack size of 500 gm bottles.

**STORAGE**

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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.

**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.










**DISPOSAL**

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

**REFERENCES**

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
2. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock, D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
3. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
4. Wurtz R., 1897, Technique Bacteriologique, Paris, Masson.



 GMP Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

**\*For Lab Use Only**  
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