PRODUCT SPECIFICATION SHEET

Litmus Lactose Agar (DM393)

Intended Use
Litmus Lactose Agar (DM393) is recommended for differentiation of lactose fermenting and lactose non-fermenting microorganisms.

Product Summary and Explanation
For the differentiation of lactose-fermenters and lactose non-fermenters, numerous plating media are in use today. 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. Wurtz[1] designed Litmus Lactose Agar for the differentiation of lactose fermenting and lactose non-fermenting bacteria.

Principles of the Procedure
Litimus Lactose agar contains meat peptone and beef extract in the medium which provides nitrogenous nutrients to the organisms. Lactose is a fermentable carbohydrate, which 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.[2]

Formula / Liter

Ingredients	Gms / Liter
Meat peptone	5.00
Beef extract	3.00
Lactose	10.00
Litmus	1.00
Agar	10.00
Final pH: 7.0 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions
1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions
1. Suspend 29 grams of the medium in one litre distilled water.
2. Heat to boiling, to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Mix well and pour into sterile Petri plates.

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Quality Control Specifications

Dehydrated Appearance	Light purple to greyish yellow homogeneous free flowing may contain minute to small particles
Prepared Medium	Dark purple coloured clear to slightly opalescent gel forms in Petri plates
Reaction of 2.9% solution	pH : 7.0 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.0% Agar gel

Expected Cultural Response : Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Sr. No.	Organisms	Results to be achieved			
		Inoculum (CFU)	Growth	Recovery	Colour of colony
1.	*Escherichia coli ATCC 25922*	50-100	good-luxuriant	>=70%	red
2.	*Klebsiella pneumoniae ATCC 13883*	50-100	good-luxuriant	>=70%	red
3.	*Pseudomonas aeruginosa ATCC 27853*	50-100	good-luxuriant	>=70%	deep blue violet
4.	*Salmonella Typhi ATCC 6539*	50-100	good-luxuriant	>=70%	deep blue violet
5.	*Shigella flexneri ATCC 12022*	50-100	good-luxuriant	>=70%	deep blue violet

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure
Refer appropriate references for specific test procedures.

Results
Refer appropriate references and test procedures for interpretation of results.

Storage
Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration
Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure
1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging
Product Name : Litmus Lactose Agar
Product Code : DM393
Available Pack sizes : 500gm

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References

1. Wurtz R., 1897, Technique Bacteriologique, Paris, Masson.
2. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.

Further Information

For further information please contact your local MICROMASTER Representative.

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