



## PRODUCT SPECIFICATION SHEET

### B.T.B. Lactose Agar, Modified (Lactose Blue Agar) (DM526)

#### Intended Use

B.T.B. Lactose Agar, Modified (Lactose Blue Agar) (DM526) is recommended for differentiation of lactose fermenting and non-fermenting bacteria belonging to *Enterobacteriaceae*.

#### Product Summary and Explanation

Lactose Blue Agar is used for differentiating lactose fermenting and non-fermenting bacteria belonging to the family *Enterobacteriaceae*. *Enterobacteriaceae* are a large family of gram-negative bacteria that includes, along with many harmless symbionts, many of the more familiar pathogens. For the primary isolation of *Enterobacteria* from clinical specimens, reactions with lactose are of great practical importance. The specimens e.g. faeces is usually plated on a lactose-containing medium on which lactose fermenters and lactose non-fermenters form coloured and pale colonies respectively due to the dye incorporated. This procedure makes an immediate presumptive distinction between colonies of the true intestinal pathogens possible. The common intestinal commensals, *Escherichia* and *Klebsiella*, which ferment lactose while, *Salmonella* and *Shigella*, which do not ferment lactose.<sup>(1)</sup>

#### Principles of the Procedure

B.T.B. Lactose Agar, Modified contains casein enzymic hydrolysate and peptic digest of animal tissue which provides carbon, nitrogen, vitamins and other essential nutrients for bacterial metabolism. Lactose is a fermentable carbohydrate source for the enteric bacteria. Bromo thymol blue is the pH indicator for indicating acid production due to carbohydrate fermentation. The dye turns yellow at acidic pH and imparts yellow colour to the colony. Alkalinization produces a blue coloration. To suppress the swarming of *Proteus* species, Winkle<sup>(2)</sup> recommended addition of 0.28g/l metachrome yellow.

#### Formula / Liter

Ingredients	Gms / Liter
Peptic digest of animal tissue	3.50
Casein enzymic hydrolysate	3.50
Sodium chloride	5.00
Lactose	15.50
Bromo thymol blue	0.04
Agar	13.00

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 40.54 grams of the medium in one liter of 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	Cream to greenish yellow homogeneous free flowing powder
Prepared Medium	Green coloured, clear to slightly opalescent gel forms in Petri plates
Reaction of 4.05% Solution	pH : 7.0 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.3% 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.	<i>Escherichia coli</i> ATCC 25922	50-100	good-luxuriant	≥70%	yellow, opaque
2.	<i>Salmonella enteritidis</i> ATCC 13076	50-100	good-luxuriant	≥70%	bluish
3.	<i>Salmonella typhi</i> ATCC 6539	50-100	good-luxuriant	≥70%	bluish
4.	<i>Staphylococcus aureus</i> ATCC 25923	50-100	good-luxuriant	≥70%	deep yellow

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

### Test Procedure

1. Prepare agar slants and aseptically pipette 3 ml sterile tap water on the slant surfaces.
2. Inoculate and incubate at room temperature until turbid growth develops in liquid layer.
3. The cells remain viable for 3 months at refrigeration temperature.
4. 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 : B.T.B. Lactose Agar, Modified (Lactose Blue Agar)

Product Code : DM526

Available Pack sizes : 500gm





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### References

1. Cruikshank R., Duguid J. P., Marmion B. P., Swain R. H. A., (Eds.), 1975, Medical Microbiology, The Practice of Medical Microbiology, 12th Edition, Vol. II, Churchill Livingstone.
2. Winkle S., 1947, Zbl. Bakt. I. Orig., 152:103.

### Further Information

For further information please contact your local MICROMASTER Representative.



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