Technical Information

Bromothymol Lactose Blue Agar

Product Code: DM 2822

Application: - Selective medium recommended for the isolation of gram negative bacteria from urine and faeces.

Composition**

Ingredients	Gms / Litre
Meat extract	3.000
Fish peptone	3.000
Peptone	20.000
Sodium chloride	7.500
Sodium thiosulphate	1.000
Sodium lauryl sulphate	0.150
Lactose	19.000
Bromo thymol blue	0.083
Agar	19.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Reactions with lactose are of great practical importance for the primary isolation of *Enterobacteria* from clinical specimens. 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. *Salmonella* and *Shigella*, do not ferment lactose while the common intestinal commensals, *Escherichia* and *Klebsiella*, which do ferment lactose (1). Bromothymol Lactose Blue Agar is recommended for differentiating lactose fermenting and non-fermenting bacteria belonging to the family *Enterobacteriaceae*.

Meat extract, fish peptone and peptone supply essential nutrients for bacterial metabolism. Lactose acts as a fermentable carbohydrate and also a 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. Sodium Lauryl sulphate inhibits gram positive organisms. Sodium chloride maintains osmotic balance.

Methodology

Suspend 73.73 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

Quality Control

Appearance
Cream to greenish yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.9% Agar gel

Colour and Clarity
Greenish blue coloured, clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 7.27% w/v aqueous solution at 25°C. pH : 7.4±0.2
pH Range
7.2 - 7.6

Cultural Response
DM 2822: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Cultural Response				
Escherichia coli ATCC 25922	50-100	good-luxuriant	>=50%	yellow
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	0%	-
Salmonella Typhi ATCC 6539	50-100	good-luxuriant	>=50%	blue/colourless
Enterococcus faecalis ATCC 29212	>=10^3	inhibited	0%	-

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.
Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

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

Disclaimer :

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