Bromo Cresol Purple Agar w/ Lactose

M1905

Intended Use:

Recommended for the isolation of coliforms

Composition**

Ingredients	Gms / Litre
Lactose	10.000
Peptone mixture	5.000
HM peptone B #	3.000
Bromocresol purple	0.025
Agar	10.000
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters
- Equivalent to Beef extract

Directions

Suspend 28.03 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Enteropathogens are well known to be transmitted via contaminated food or water. They are often implicated in major foodborne outbreaks worldwide. The common implications are gastroenteritis, vomiting, diarrhea, nausea, malaise, fever in humans. Enterotoxins produced by members of *Enterobacteriaceae* are important in the pathogenesis. *Salmonella* causes enteric fevers and food poisoning in humans. The most frequent sources of *Salmonella* food poisoning are poultry, meat, milk and milk products. Even salads and uncooked vegetables may cause infection if contaminated. Similarly *Vibrio* can enter the human host through contaminated foods or water, causing intestinal infections and Cholera.

Bromo Cresol Purple Agar w/Lactose is a non-inhibitory medium used for detection and isolation of coliforms and in differential study based on lactose fermentation. All coliforms ferment lactose with acid and gas production.The lactose fermenting organism changes the colour of the medium from purple to yellow. Peptone mixture and HM peptone B provide carbon, nitrogen compounds, vitamins, amino acids. Lactose acts as a source of carbohydrate, while Bromocresol purple is a pH indicator.

Type of specimen

Food and dairy samples; Water samples.

Specimen Collection and Handling

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,6,7).
For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (2).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. The non - lactose fermenting organism does not changes the colour of the medium from purple to yellow.
2. Further biochemical and serological test must be carried out for complete identification.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Cream to greenish yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.0% Agar gel

Colour and Clarity of prepared medium

Light purple coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 3.32% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH

6.60-7.00

Cultural Response

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

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Escherichia coli ATCC 25922 (00013*)	50-100	good-luxuriant	>=70%	yellow
Klebsiella pneumoniae ATCC 13883 (00097*)	50-100	good-luxuriant	>=70%	yellow
# Klebsiella aerogenes ATCC 13048 (00175*)	50-100	good-luxuriant	>=70%	yellow
Salmonella Typhimurium *ATCC 14028* (00031*)	50-100	good-luxuriant	>=70%	colourless
Shigella flexneri ATCC 12022 (00126)*	50-100	good-luxuriant	>=70%	colourless
Proteus vulgaris ATCC 13315	50-100	good-luxuriant	>=70%	colourless

Key : (*) Corresponding WDCM numbers.
(#) Formerly known as *Enterobacter aerogenes*

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference

1. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
2. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. 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.
5. MacFaddin, Jean F., Media for isolation-Cultivation-Identification-Maintenance of Medical Bacteria Vol1,1985 Baltimore, MD.Williams & Wilkins.
6. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
7. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.

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