



Coliform Broth

M1211

Coliform Broth is recommended for isolation and cultivation of coliform organisms from cream, yogurt and raw milk

Composition**

Ingredients	Gms / Litre
Proteose peptone	10.000
Yeast extract	6.000
Bile salts	20.000
Sodium deoxycholate	0.100
Lactose	20.000
Sodium lauryl sulphate	1.000
Bromocresol purple	0.035
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 57.14 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Bacteriological Examination of water samples to determine its suitability for drinking and other domestic purpose has traditionally been done by the most probable number (MPN) procedures or the membrane filter (MF) technique (2). The presence of total coliforms, faecal coliforms or *Escherichia coli* is well recognized as an indication of unsafe or poor water quality for which corrective measures should be taken. Coliform Broth is recommended for isolation and cultivation of coliforms organisms from cream yogurt and raw milk (1).

Proteose peptone and yeast extract provides nitrogenous and carbonaceous compounds, vitamin B complex. Lactose is the fermentable carbohydrate. Bromo cresol purple is the pH indicator. Coliforms that ferment lactose produce acid and gas. The acidity formed is indicated by a colour change of the medium from purple to yellow, indicated by the pH indicator dye bromo cresol purple. Sodium deoxycholate and bile salts inhibit gram positive bacteria. Sodium lauryl sulphate is inhibitory to many organisms but not to coliforms. A distinct yellow colour results from the fermentation of lactose and gas production can be detected as bubbles with gentle shaking.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Purple coloured, clear solution without any precipitate

Reaction

Reaction of 5.71% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH

6.80-7.20

Cultural Response

M1211: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Acid	Gas
Cultural Response <i>Enterobacter aerogenes</i> ATCC 13048	50-100	good - luxuriant	positive reaction, yellow colour	positive reaction

<i>Escherichia coli</i> ATCC 25922	50-100	good - luxuriant	positive reaction, yellow colour	positive reaction
<i>Staphylococcus aureus</i> ATCC 25923	$\geq 10^3$	inhibited		
<i>Salmonella Typhimurium</i> ATCC 14028	50-100	good - luxuriant	negative reaction, no colour change	negative reaction

Storage and Shelf Life

Store below 30°C in tightly closed container and prepared medium at 2-8°C. Use before expiry date on the label.

Reference

1. Atlas R. M., 2004, Handbook of Microbiological Media, Lawrence C. Parks (Ed.), 3rd Edition, CRC Press.
2. Eaton A. D., Clesceri L. S., Rice E. W. and Greenberg A. E., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.

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