Phenol Red Lactose Broth

M275I

Recommended for Lactose fermentation studies of coliforms. The composition and performance criteria are in accordance with ISO 9308-1:2014.

Composition**

Ingredients	g / L
Peptic digest of animal tissue	10.000
Sodium chloride	5.000
Lactose	10.000
Phenol red	0.018
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 25.02 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely.Dispense in tubes with inverted Durhams tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Lactose fermentation is a characteristic that is of great practical importance in the primary isolation of pathogenic enterobacteria. This single characteristic makes possible an immediate presumptive distinction between the intestinal commensals of various genera which ferment lactose and those of the intestinal pathogens i.e. *Salmonella*, *Shigella*, which do not ferment lactose (1). Phenol Red Lactose Broth is formulated as recommended by ISO Committee (2) for studying lactose fermentation by coliforms, which is an important differentiating characteristic for the members of *Enterobacteriaceae* (3).

Peptic digest of animal tissue provides nitrogenous compounds and other essential growth nutrients. Phenol red is the pH indicator, which turns yellow in acidic condition. 18-24 hours old pure culture is inoculated and incubated at 35 to 37°C for 18-24 hours or upto 30 hours).

Type of specimen

Water samples

Specimen Collection and Handling:

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..This media is used confluence with other biochemical test to identify cultures of isolated microorganisms.
2. Further biochemical and serological tests must be carried out for further 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

Light yellow to pink coloured homogeneous free flowing powder

Colour and Clarity of prepared medium
Red coloured clear solution without any precipitate
Reaction
Reaction of 2.5% w/v aqueous solution at 25°C. pH : 7.5±0.2 pH : 7.5±0.2
pH
7.30-7.70
Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours (longer if necessary)

Organism	Growth	Acid	Gas
Cultural Response			
Escherichia coli ATCC 25922	luxuriant	positive reaction, yellow colour	positive reaction
# Klebsiella aerogenes ATCC 13048	luxuriant	positive reaction, yellow colour	positive reaction
Klebsiella pneumoniae ATCC 13883	luxuriant	positive reaction, yellow colour	positive reaction
$ Proteus hauseri ATCC 13315	luxuriant	negative reaction	negative reaction
Salmonella Typhimurium ATCC 14028	luxuriant	negative reaction	negative reaction
Shigella flexneri ATCC 12022	luxuriant	negative reaction	negative reaction

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

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°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 (5,6).

Reference

1. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), 1996, Mackie and McCartney, Practical Medical Microbiology, 14th Edition, Churchill Livingstone
2. International Organization for Standardization, 1990, Draft ISO/DIS 9308-1.
3. Finegold S. M. and Baron E. J., 1986, Bailey and Scotts Diagnostic Microbiology, 7th Ed., The C.V. Mosby Co., St. Louis.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition
5. 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.

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