



Phenol Red Lactose Broth

M275I

Phenol Red Lactose Broth is recommended for lactose fermentation studies.

Composition**

Ingredients	Gms / Litre
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.

Quality Control

Appearance

Light yellow to pink 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

M275I: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours (longer if necessary)

Organism	Inoculum (CFU)	Growth	Acid	Gas
Cultural Response				
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	positive reaction, yellow colour	positive reaction
<i>Enterobacter aerogenes</i> ATCC 13048	50-100	luxuriant	positive reaction, yellow colour	positive reaction
<i>Klebsiella pneumoniae</i> ATCC 13883	50-100	luxuriant	positive reaction, yellow colour	positive reaction

<i>Proteus vulgaris</i> ATCC 13315	50-100	luxuriant	negative reaction	negative reaction
<i>Salmonella Typhimurium</i> ATCC 14028	50-100	luxuriant	negative reaction	negative reaction
<i>Shigella flexneri</i> ATCC 12022	50-100	luxuriant	negative reaction	negative reaction

Storage and Shelf Life

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

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.

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