



Phenol Red Maltose Agar

M271

Phenol Red Maltose Agar is used for studying maltose fermentation by the pure cultures of microorganisms.

Composition**

Ingredients	Gms / Litre
Proteose peptone	10.000
Beef extract	1.000
Sodium chloride	5.000
Maltose	10.000
Phenol red	0.025
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 41.02 grams in 1000 ml distilled water. Heat with frequent agitation to dissolve the medium completely. Dispense in tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Allow the tubed media to cool in slanted position to form slants with deep butts.

Principle And Interpretation

Phenol Red Agar media are recommended (1, 2, 3) for studying the fermentation of various carbohydrates individually by the pure cultures of microorganisms.

Proteose peptone which is free from fermentable carbohydrates is added in the medium thereby preventing the production of false positive reactions. When Phenol Red Agar with Maltose is used, a positive carbohydrate fermentation reaction is indicated by the production of a yellow colour in agar due to the effect of acid production. Gas production is indicated by the splitting of agar or by the bubbles formation. Plates or tubes may be incubated aerobically or anaerobically depending on the type of the test organism.

Quality Control

Appearance

Light yellow to pink coloured homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Red clear to slightly opalescent gel forms in tubes as slants

Reaction

Reaction of 4.1% w/v aqueous solution at 25°C. pH : 7.4±0.2 pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

M271: Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours

Organism	Inoculum (CFU)	Growth	Acid	Gas
Cultural Response <i>Alcaligenes faecalis</i> ATCC 8750	50-100	luxuriant	Negative reaction, no colour change	Negative reaction

<i>Escherichia coli</i> ATCC 25922	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	Positive reaction, yellow colour	Positive reaction
<i>Salmonella Typhimurium</i> ATCC 14028	50-100	luxuriant	Positive reaction, yellow colour	Positive reaction
<i>Shigella flexneri</i> ATCC 12022	50-100	luxuriant	Positive reaction, yellow colour	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. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
2. Finegold and Baron, 1986, Bailey and Scotts Diagnostic Microbiology, 7th ed., The C.V. Mosby Co., St. Louis.
3. Ewing, 1986, Edwards and Ewings Identification of Enterobacteriaceae, 4th ed., Elsevier Science Publishing Co., Inc., New York.

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