Phenol Red Sucrose Agar

M273

Phenol Red Sucrose Agar is used for studying sucrose fermentation by the pure cultures of microorganisms.

Composition**

Ingredients	Gms / Litre
Proteose peptone	10.000
Beef extract	1.000
Sodium chloride	5.000
Sucrose	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 to boiling to dissolve the medium completely. Dispense in tubes or as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Allow to cool the tubes in slanted position.

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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 sucrose 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 homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Red coloured 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
7.20-7.60

Cultural Response
M273: Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours

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

Escherichia coli ATCC 25922	50-100	luxuriant	Negative reaction, no colour change	Negative reaction
Klebsiella pneumoniae ATCC 13883	50-100	luxuriant	Positive reaction, yellow colour	Positive reaction
Proteus vulgaris ATCC 13315	50-100	luxuriant	Positive reaction, yellow colour	Positive reaction
Salmonella Typhimurium ATCC 14028		luxuriant	Negative reaction, no colour change	Negative reaction
Shigella flexneri ATCC 12022	50-100	luxuriant	Negative reaction, no colour change	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.

Revision : 2 / 2015