Phenol Red Broth Base w/ Meat extract

M279

Phenol Red Broth Base w/ Meat extract is a highly nutritive basal medium which can be used to study fermentation of carbohydrates.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Meat extract	1.000
Sodium chloride	5.000
Phenol red	0.018
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 16.02 grams in 1000 ml distilled water. Add the test carbohydrate in desired quantity. Heat if necessary to dissolve the medium completely. Mix well and dispense in tubes containing inverted Durhams tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Note :For critical studies, it is recommended to use filter sterilized carbohydrate which is to be incorporated aseptically in the sterile medium base, if desired.

Principle And Interpretation

Phenol Red Broth Base w/ Meat extract is a complete medium without added carbohydrates. The carbohydrate of choice can be added for determination of fermentation reactions of pure cultures of microorganisms (1, 2). It can also be used as a negative control for studying fermentation reactions. Ability of an organism to ferment specific carbohydrate added in a basal medium, results in the production of acid and gas which helps in the differentiation between genera and species.

Casein enzymic hydrolysate and meat extract provide nitrogenous nutrients to the organisms. Phenol red is the pH indicator which turns yellow at acidic pH. Sodium Chloride maintains osmotic equilibrium.

Quality Control

Appearance

Light yellow to pink coloured homogeneous free flowing powder

Colour and Clarity of Prepared Medium

Red coloured clear solution without any haziness

Reaction

Reaction of 1.6% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

M279: Cultural characteristics observed after an incubation at 35 - 37°C for 18-24 hours

Organism	Inoculum (CFU)	Growth	Acid	Gas	Acid w/ addition of dextrose	Gas w/ addition of dextrose
Cultural Response						
Escherichia coli ATCC 25922	50-100	luxuriant	Negative reaction, no colour change	Negative reaction	Positive reaction, yellow colour	Positive reaction
Klebsiella pneumoniae ATCC 13883	50-100	luxuriant	Negative reaction, no colour change	Negative reaction	Positive reaction, yellow colour	Positive reaction

Proteus vulgaris ATCC 13315	50-100	luxuriant	Negative reaction, no colour change	Negative reaction	Positive reaction, yellow colour	Positive reaction
Salmonella Typhimurium ATCC 14028	50-100	luxuriant	Negative reaction, no colour change	Negative reaction	Positive reaction, yellow colour	Positive reaction
Shigella flexneri ATCC 12022	50-100	luxuriant	Negative reaction, no colour change	Negative reaction	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. 1, Williams and Wilkins, Baltimore.
2. Finegold and Barou, 1986, Bailey and Scotts Diagnostic Microbiology, 7th ed., The C.V. Mosby Co., St. Louis.

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