

Phenol Red Broth Base

Cat. 1115

For the study of carbohydrate fermentations

Practical information

Applications	Categories
Confirmation	General use

Industry: General cultivation

Principles and uses

Phenol Red Broth Base is a medium without added carbohydrates used as a base for the addition of the carbohydrates for determining the fermentation reactions of microorganisms. It must be capable of supporting the growth of test organisms.

Casein peptone provides nitrogen, vitamins, minerals and amino acids essential for growth, and allows the abundant growth of a wide variety of fastidious microorganisms. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Phenol red is the pH indicator. Vera recommended using Casein peptone in fermentation test media since she found that it could be used with the pH indicator Phenol red in fermentation tests with a high degree of accuracy.

Phenol Red Broth Base is used for the carbohydrate fermentation studies of many microorganisms. Control tubes of the uninoculated medium should be run parallel with inoculated tubes. Tubes should be examined frequently because different carbohydrates are utilized at variable speeds.

Phenol Red Broth Base is an excellent substrate for streptococci, as well for other less fastidious bacteria.

For anaerobes the medium should be used on the day of preparation. If not, the medium must be heated and cooled before use.

Formula in g/L

Casein peptone	10	Phenol red	0,018
Sodium chloride	5		

Preparation

Suspend 15 grams of the medium in one liter of distilled water. Add 5-10 grams/liter of the desired carbohydrate. If the medium is for the cultivation of anaerobes, add 0,5-1 grams of agar. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into tubes with Durham gas collecting tubes for gas detection. Sterilize in autoclave at 116-118 °C for 15 minutes. DO NOT OVERHEAT.

Instructions for use

For clinical diagnosis, the type of sample is bacteria isolated from any clinical sample.

- Inoculate the tubes with the test organism.
- Incubate at 35±2 °C for 18-48 hours.
- Interpretation of the results.
- Observe for color change. The appearance of a yellow color is the indication of fermentation, with or without gas production.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Red-orange	7,4±0,2

Microbiological test

Incubation conditions: (35±2 °C / 18-48 h)

Microrganisms	Specification	Characteristic reaction with glucose	Characteristic reaction with lactose
Salmonella typhimurium ATCC 14028	Good growth	Acid (+), Gas (+)	Acid (-), Gas (-)
Escherichia coli ATCC 25922	Good growth	Acid (+), Gas (+)	Acid (+), Gas (+)
Proteus vulgaris ATCC 6380	Good growth	Acid (+), Gas (+)	Acid (-), Gas (-)

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

Ewing, W.H. 1986. Edwards and Ewing's identification of Enterobacteriaceae, 4th edition. Elsevier Science Publishing Co., Inc. New York. Vera H.D. 1950 Relation of peptones and other culture media ingredients to accuracy of fermentation tests. Am. J. Public Health 0:1 267.
Mac Faddin, J.F. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria. Williams & Wilkins, Baltimore, MD.