Phenol Red Broth Base

Intended Use
Phenol Red Broth Base is used for determination of fermentation reactions of pure cultures of microorganisms.

Summary
Phenol Red Broth Medium is formulated as per Vera and is recommended to determine the fermentation reaction of carbohydrates for the differentiation of microorganisms. Phenol Red Broth Medium with various added carbohydrates serves as a differential medium by aiding in differentiation of various species and genera by their ability to ferment the specific carbohydrate, with the production of acid or acid and gas.

Principle
Phenol Red Broth Base is a complete medium without added carbohydrate, which can be used with the addition of 5-10 %, desired carbohydrate. It is used as a negative control for studying fermentations or as a base for the addition of carbohydrates. Proteose peptone and beef extract serve as sources for carbon and nitrogen. Sodium chloride is the osmotic stabilizer. Phenol red is the pH indicator, which turns yellow at acidic pH. Gas formation is seen in Durham's tubes. All of the *Enterobacteriaceae* grow well in this medium. In addition to producing a pH colour shift, the production of mixed acids, notably butyric acids, often results in a pungent, foul odour from the culture medium.

Formula*

Ingredients	**g/L**
Proteose peptone	10.0
Beef extract	1.0
Sodium chloride	5.0
Phenol red	0.018
Final pH (at 25°C)	7.4 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling
For clinical samples follow appropriate techniques for handling specimens as per established guidelines.
For food and dairy samples, follow appropriate techniques for handling specimens as per established guidelines.
For water samples, follow appropriate techniques for handling specimens as per established guidelines and local standards.
Specimens should be obtained before antimicrobial agents have been administered.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 16.02 g of the powder in 1000 mL purified / distilled water. Mix well.
2. Heat if necessary, to ensure complete solution.
3. Distribute in fermentation tubes (tubes containing inverted Durham's tubes).
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
5. Aseptically add filter sterilized or autoclave sterilized carbohydrate solution to sterile basal medium.

Quality Control
Dehydrated Appearance: Light pink to red coloured, homogenous, free flowing powder.
Prepared Appearance: Red coloured, clear solution without any precipitate.
Cultural Response: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours. (longer if necessary).

Organism (ATCC)	Growth	without Carbohydrate, (Acid)	without Carbohydrate, (Gas)	with Dextrose, (Acid)	with Dextrose, (Gas)
Citrobacter freundii (8090)	Good	negative reaction no colour change	Negative reaction	Positive reaction Yellow colour	positive reaction
Escherichia coli (25922)	Good	negative reaction no colour change	Negative reaction	Positive reaction Yellow colour	positive reaction
Klebsiella aerogenes (13048)	Good	negative reaction no colour change	Negative reaction	Positive reaction Yellow colour	positive reaction
Klebsiella pneumoniae (13883)	Good	negative reaction no colour change	Negative reaction	Positive reaction Yellow colour	positive reaction
Proteus hauseri (13315)	Good	negative reaction no colour change	Negative reaction	Positive reaction Yellow colour	positive reaction
Salmonella Typhi (6539)	Good	negative reaction no colour change	Negative reaction	Positive reaction Yellow colour	positive reaction
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (14028)	Good	negative reaction no colour change	Negative reaction	Positive reaction Yellow colour	positive reaction
Serratia marcescens (8100)	Good	negative reaction no colour change	Negative reaction	Positive reaction Yellow colour	positive reaction
Shigella flexneri serotype 2b (12022)	Good	negative reaction no colour change	Negative reaction	Positive reaction Yellow colour	Negative reaction

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Koneman E. W., Allen S. D., Janda W.M., Schreckenberger P.C., Winn W.C. Jr., 1992, Colour Atlas and Textbook of Diagnostic Microbiology, 4th Ed., J. B. Lippinccott Company
2. Vera H. D., 1950, Am. J. Public Health, 40, 1267
3. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification –Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
4. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201160090500	Dehydrated Culture Media	500 g