Phenol Red Maltose Broth

Intended Use
Phenol Red Maltose Broth is used for maltose fermentation studies 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 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. Phenol Red Maltose Broth is used to study maltose fermentation in various bacteria.

Principle
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 i.e. on fermentation of maltose. 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
Maltose	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 21.01 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Heat to dissolve the powder completely.
4. Dispense in tubes containing inverted Durham's tubes.
5. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

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

Organism (ATCC)	Growth	Acid	Gas
Citrobacter freundii (8090)	Good	Positive reaction, yellow colour	Positive reaction
Escherichia coli (25922)	Good	Positive reaction, yellow colour	Positive reaction
Klebsiella aerogenes (13048)	Good	Positive reaction, yellow colour	Positive reaction
Klebsiella pneumoniae subsp. *pneumoniae* (10031)	Good	Positive reaction, yellow colour	Positive reaction
Proteus hauseri (13315)	Good	Positive reaction, yellow colour	Positive reaction
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (14028)	Good	Positive reaction, yellow colour	Positive reaction
Salmonella Typhi (6539)	Good	Positive reaction, yellow colour	Negative reaction
Serratia marcescens (8100)	Good	Positive reaction, yellow colour	Negative reaction
Shigella flexneri serotype 2b (12022)	Good	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
201160140100	Dehydrated Culture Media	100 g