

## TM 258 – PHENOL RED MANNITOL BROTH

### INTENDED USE

For determining the ability of microorganisms to ferment mannitol.

### PRODUCT SUMMARY AND EXPLANATION

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 Mannitol Broth is used to study mannitol fermentation in various bacteria.

### COMPOSITION

Ingredients	Gms / Ltr
Proteose peptone	10.000
Beef extract	1.000
Sodium chloride	5.000
Mannitol	5.000
Phenol red	0.018

### PRINCIPLE

The medium consists of Proteose peptone and beef extract which 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 mannitol. Gas formation is seen in Durhams 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.

### INSTRUCTION FOR USE

- Dissolve 21.02 grams in 1000 ml purified/distilled water.
- Heat if necessary to ensure complete solution.
- Distribute in fermentation tubes (tubes containing inverted Durham's tubes). Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

### QUALITY CONTROL SPECIFICATIONS

- Appearance of Powder** : Light yellow to pink coloured homogeneous free flowing powder.
- Appearance of prepared medium** : Red coloured clear solution without any precipitate.
- pH (at 25°C)** : 7.4 ± 0.2

### INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Acid	Gas	Incubation Temperature	Incubation Period
<i>Citrobacter freundii</i>	8090	50-100	Luxuriant	Positive reaction, yellow colour	Positive reaction	35 - 37°C	18 - 24 Hours
<i>Escherichia coli</i>	25922	50-100	Luxuriant	Positive reaction, yellow colour	Positive reaction	35 - 37°C	18 - 24 Hours
<i>Enterobacter aerogenes</i>	13048	50-100	Luxuriant	Positive reaction, yellow colour	Positive reaction	35 - 37°C	18 - 24 Hours
<i>Klebsiella pneumoniae</i>	13883	50-100	Luxuriant	Positive reaction, yellow colour	Positive reaction	35 - 37°C	18 - 24 Hours
<i>Proteus vulgaris</i>	13315	50-100	Luxuriant	Negative reaction, no colour change	Negative reaction	35 - 37°C	18 - 24 Hours
<i>Salmonella Typhi</i>	6539	50-100	Luxuriant	Positive reaction, yellow colour	Negative reaction	35 - 37°C	18 - 24 Hours
<i>Salmonella Typhimurium</i>	14028	50-100	Luxuriant	Positive reaction, yellow colour	Positive reaction	35 - 37°C	18 - 24 Hours
<i>Serratia marcescens</i>	8100	50-100	Luxuriant	Positive reaction, yellow colour	Negative reaction	35 - 37°C	18 - 24 Hours
<i>Shigella flexneri</i>	12022	50-100	Luxuriant	Positive reaction, yellow colour	Negative reaction	35 - 37°C	18 - 24 Hours

**PACKAGING:**

In pack size of 100 gm and 500 gm bottles.

**STORAGE**

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.















**DISPOSAL**

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

**REFERENCES**

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. Lippincott Company
2. Vera H. D., 1950, Am. J. Public Health, 40, 1267
3. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification -Maintenanceof Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
4. Finegold S. M. and Baron E. J., 1986, Bailey and Scotts Diagnostic Microbiology, 7th Ed., The C.V. Mosby Co., St. Louis.
5. Ewing W. H., 1986, Edwards and Ewings Identification of Enterobacteriaceae, 4th ed.,Elsevier Science Publishing Co., Inc., New York.
6. MacFaddin J. F., 2000, Biochemical tests for Identification of Medical Bacteria, 3rd edi., Lippincott, Williams and Wilkins, Baltimore.

 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP Authorized Representative <small>MedNet GmbH Barkhofstrasse 10 48163 Münster, Germany</small>	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

**\*For Lab Use Only**  
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