

Technical Information

Phenol Red Tartrate MiVeg Agar

Product Code : VM1872

Application:- Phenol Red Tartrate MiVeg Agar is recommended for identification and differentiation of *Enterobacteriaceae* especially *Salmonella* species.

Composition**

Ingredients	Gms / Litre
MiVeg peptone	10.0
Sodium potassium tartrate	10.0
Sodium chloride	5.0
Phenol red	0.024
Agar	15.0
Final pH (at 25°C)	7.6 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Phenol Red Tartrate MiVeg Agar is prepared by adding MiVeg peptone instead of animal based peptone thereby making the medium free from BSE/TSE risks. This medium is the modification of Phenol Red Tartrate Agar which was originally formulated by Brown et al (1) and further modified by Jordon and Harmon (2) for the differentiation of *Enterobacteriaceae* especially *Salmonella* species. Like conventional medium, this medium can be used to differentiate *Vibrio parahaemolyticus* (positive) from *Aeromonas* species (negative) (3) and also with addition of sodium chloride (25.0 g/l) can differentiate halophilic *Vibrio* species e.g. *Vibrio parahaemolyticus*, *Vibrio vulnificus*, *Vibrio aglino-lyticus* and *Vibrio metschnikovii*. *Salmonella* serotype Enteritidis, *Salmonella* serotype Choleraesuis, *Salmonella* serotype Typhi, *Salmonella* serotype Typhimurium, *Escherichia coli*, and *Proteus vulgaris* strains gives an acidic reaction onto this medium whereas, organisms like *Salmonella* serotype Paratyphi and *Salmonella* serotype Schottmuelleri produce an alkaline reaction.

MiVeg peptone supplies all the essential growth nutrients like nitrogenous compounds to the growing organisms. D-Tartaric acid is used most frequently because it is easy to be utilized by the organism. Sodium potassium tartrate corresponds to it in this medium. Tartrate utilization (fermentation) yields an acidic reaction i.e., indicated by the yellow colour formation at the bottom of the tube. Phenol red is the pH indicator while sodium chloride maintains the osmotic balance of the medium. Inoculate cultures isolated on solid medium. Do not take the inoculum from liquid or broth suspension (3).

Methodology

Suspend 40 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. Dispense into tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool the medium in an upright position.

Quality Control

Physical Appearance

Pinkish yellow coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Light pink coloured clear to slightly opalescent gel forms in tubes as butts.

Reaction

Reaction of 4.0% w/v aqueous solution is pH 7.6 ± 0.2 at 25°C.

pH Range

7.4-7.8

Cultural Response/Characteristics

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

Organisms (ATCC)	Growth	Reaction
<i>Escherichia coli</i> (25922)	luxuriant	+
<i>Salmonella</i> serotype Enteritidis (13076)	luxuriant	+
<i>Salmonella</i> serotype Schottmuelleri	luxuriant	-
<i>Salmonella</i> serotype Typhimurium (14028)	luxuriant	+

Key : + = acid yellow

- = no acid, pink

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 day.

Further Reading

1. Brown H.C., Duncan J.T. and Henry T.A., 1924, J.Hyg.(Camb.), 23:1.
2. Jordon E.O. and Harmon, P.H., 1928, J. Infect. Dis., 42:238.
3. MacFaddin J.F., 1985, Media for Isolation-Cultivation-Identification -Maintenance of Medical Bacteria, Vol.1, Williams and Wilkins, Baltimore.

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