

MR-VP Medium (Glucose Phosphate Broth or Buffered Glucose Broth) BIS

Intended Use

A medium used for the differentiation of coli-aerogenes group by means of Methyl Red and Voges Proskauer reactions in compliance with BIS.

Summary

MR-VP Medium (Glucose Phosphate Broth or Buffered Glucose Broth) BIS Medium used to perform the Methyl-red and Voges-Proskauer tests for the differentiation of the coli-aerogenes group of bacteria. Methyl Red and Voges-Proskauer test are among the two various tests used in the biochemical identification of bacterial species. These tests were originally studied by Voges, Proskauer and subsequently by Clark and Lubs to differentiate between members of the coli- aerogenes group. Both the tests are based on the detection of specific breakdown products of carbohydrate metabolism.

Principle

All members of Enterobacteriaceae are, by definition, glucose fermenters. In MR-VP Broth, after 18-24 hours of incubation, fermentation produces acidic metabolic by products. Methyl red-positive organisms produce high levels of acid during fermentation of dextrose, which overcomes the phosphate buffer system and produces a red colour upon the addition of the methyl red pH indicator. In Voges Proskauer test, organisms produces a neutral end product, acetyl methyl carbinol (acetoin) from dextrose metabolism. which results in decreased acidity in the medium and raises the pH towards neutrality. The acetoin is oxidized in presence of oxygen and alkali to produce a red colour. This is a positive Voges Proskauer reaction.

Formula*

Ingredients	g/L
Peptic Digest of Animal Tissue	5.0
Dextrose	5.0
Dipotassium Phosphate	5.0
Final pH (at 25°C)	7.5 ± 0.1

*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.

Type of specimen

Water samples, clinical samples, food and dairy samples.

Specimen Collection and Handling

Ensure that all samples are properly labelled.

Follow appropriate techniques for handling samples as per established guidelines.

Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration.

After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 15.00 g of the powder in 1000 mL of distilled water.
2. Distribute in test tubes in 3 mL amounts or as desired.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control

Dehydrated Appearance: Cream coloured, homogenous, free flowing powder.

Prepared Appearance: Light yellow to amber coloured, clear solution without any precipitate.

Cultural Response: Cultural characteristics observed after an incubation of 18-48 hours at 30-35°C. After incubation add 2-3 drops of Methyl Red Indicator for MR Test and for VP Test add 1-2 drops of creatine, 2-3 drops of Barritt Reagent A & 1-2 drops of Barritt Reagent B.

Organisms (ATCC)	Growth	MR Test	VP Test
<i>Escherichia coli</i> (25922)	Good	+ (Red)	- (Yellow)
<i>Enterobacter aerogenes</i> (13048)	Good	- (Yellow)	+ (Red)
<i>Klebsiella pneumoniae</i> (10031)	Good	- (Yellow)	+ (Red)

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. Voges O. and Proskauer B., 1898, Z. Hyg. Infektionskr., 28:20
2. Clark W. M. and Lubs H. K., 1915, J. Infect. Dis., 17:160.
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201131610500	Dehydrated Culture Media	500 g

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.
