Voges Proskauer Medium , Modified

M070F

Voges Proskauer Medium, Modified is recommended for the performance of the Voges- Proskauer test in differentiation of *Bacillus cereus* in accordance with FDA BAM, 1998.

Composition**

Ingredients	Gms / Litre
Proteose peptone	7.000
Dextrose	5.000
Sodium chloride	5.000
Final pH (at 25°C)	6.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 17 grams in 1000 ml of distilled water. Heat if necessary to dissolve the medium completely. Distribute in test tubes in 10 ml amounts and sterilize by autoclaving at 15 lbs pressure (121°C) for 10 minutes.

Principle And Interpretation

Voges Proskauer Medium, Modified is recommended for the performance of the Voges- Proskauer test in differentiation of *Bacillus cereus* in accordance with FDA BAM, 1998. Methyl Red and Voges-Proskauer tests are among the two various tests used in the biochemical identification of bacterial species. These tests were originally studied by Voges and Proskauer (1) and subsequently by Clark and Lubs (2) to differentiate between members of the coli- aerogens group. Both the tests are based on the detection of specific breakdown products of carbohydrate metabolism. In MR-VP Broth, after 18-24 hours of incubation, fermentation produces acidic metabolic byproducts. MR-negative organisms further metabolize the initial fermentation products by decarboxylation to produce neutral acetyl methylcarbinol (acetoin), which results in decreased acidity in the medium and raises the pH towards neutrality (pH 6.0 or above) (3). In the presence of atmospheric oxygen and alkali, the neutral end products, acetoin and 2, 3-butanediol, are oxidized to diacetyl, which react with creatine to produce a red colour.

Inoculate 5 ml medium with 3 mm loopful of culture and incubate tubes 48 ± 2 h at 35°C. Test for production of acetylmethyl-carbinol by pipetting 1 ml culture into 16 × 125 mm test tube and adding 0.6 ml of 5% alpha-naphthol (RM1392) solution and 0.2 ml 40% potassium hydroxide (RM1015). Shake, and add a few crystals of creatine. Observe results after holding for 1 h at room temperature. Test is positive if pink or violet color develops. Proteose peptone and dextrose provide necessary growth requirements to the medium and sodium chloride maintains the osmotic equilibrium.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Light yellow coloured clear solution without any precipitate

Reaction
Reaction of 1.7% w/v aqueous solution at 25°C. pH : 6.5±0.2

pH
6.30-6.70

Cultural Response
Cultural characteristics observed after an incubation at 35°C for 46-50 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	VP Test

Cultural Response

Bacillus cereus ATCC 10876	50-100	luxuriant	positive reaction, eosin pink / red colour within 2-5 minutes

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1.Voges O. and Proskauer B., 1898, Z. Hyg. Infektionskr., 28:20.
2.Barry A. L., Bernsohn K. L., Adams A. B., Thrup L. D., Appl. Microbiol., 1970, 20 (6), 866-870.
3.MacFaddin J. F., 2000, Biochemical tests for Identification of Medical Bacteria, 3rd Ed., Lippincott, Williams and Wilkins, Baltimore.

Revision : 2 / 2015