



VP Medium

M662

VP Medium is recommended for the isolation of *Vibrio parahaemolyticus*.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Yeast extract	5.000
Sodium taurocholate	5.000
Sodium thiosulphate	10.000
Sodium chloride	20.000
Sodium lauryl sulphate	0.200
Sodium citrate	10.000
Sucrose	20.000
Bromo thymol blue	0.040
Thymol blue	0.040
Agar	20.000
Final pH (at 25°C)	8.6±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 100.28 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Vibrios 's are short, often curved, gram-negative rods that are motile by means of a single polar sheathed flagellum. Their growth is stimulated by Na⁺ ions, which is an absolute requirement for most species. *Vibrio parahaemolyticus*, a halophilic *Vibrio*, is responsible worldwide for outbreaks of gastroenteritis associated with eating many kinds of contaminated sea foods. It has been isolated from raw shellfish and other fish in the warm coastal and estuarine waters (1).

VP Medium is prepared according to formula of De et al (2) and is recommended for selective isolation of *Vibrio* species, especially *V.parahaemolyticus* from clinical specimens, foodstuffs, and environmental sample (3).

The medium contains peptic digest of animal tissue and yeast extract, which provide nitrogenous compounds, vitamin B complex and other essential growth nutrients. Sucrose is added as a fermentable sugar. Sodium citrate, sodium lauryl sulphate, sodium taurocholate and sodium thiosulphate as well as high alkalinity of the medium inhibit most of the contaminating organisms. Bromothymol blue and thymol blue are the pH indicators. The alkaline pH of the medium and higher concentration of sodium chloride improves the recovery of *Vibrio parahaemolyticus*. Sucrose fermenting organisms like *V. cholerae* and *V. alginolyticus* produces yellow coloured colonies.

Vibrio parahaemolyticus is a sucrose non-fermenting organism and produces blue-green colonies, as does *V. vulnificus*. Occasionally a few enteric sucrose non-fermenters may exhibit growth e.g. *Proteus* group (3).

Quality Control

Appearance

Cream to greenish yellow homogeneous free flowing powder

Gelling

Firm, comparable with 2.0% Agar gel.

Colour and Clarity of prepared medium

Bluish coloured clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 10.0% w/v aqueous solution at 25°C. pH : 8.6±0.2

pH

8.40-8.80

Cultural Response

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

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Cultural Response				
<i>Enterococcus faecalis</i> ATCC 29212	50-100	poor	<=10%	yellow
<i>Escherichia coli</i> ATCC 25922	>=10 ³	inhibited	0%	
<i>Shigella flexneri</i> ATCC 12022	>=10 ³	inhibited	0%	
<i>Vibrio cholerae</i> ATCC 15748	50-100	good-luxuriant	>=50%	yellow
<i>Vibrio parahaemolyticus</i> ATCC 17802	50-100	good-luxuriant	>=50%	bluish-green
<i>Vibrio vulnificus</i> ATCC 27562	50-100	good-luxuriant	>=50%	greenish yellow

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.Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone
- 2.De S. P., Sen P., De C., Ghosh A., Pal S. C., 1977, Indian J. Med. Res. 66,398.
- 3.MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria Vol. 1, Williams and Wilkins, Baltimore.

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