



## Horie Arabinose Ethyl Violet Broth

M924

Horie Arabinose Ethyl Violet Broth is used for the enrichment of *Vibrio* species.

### Composition\*\*

Ingredients	Gms / Litre
Peptic digest of animal tissue	5.000
Beef extract	3.000
Sodium chloride	30.000
Bromothymol blue	0.030
Ethyl violet	0.001
Arabinose	5.000
Final pH ( at 25°C)	9.0±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 43.03 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense as desired.

### Principle And Interpretation

*Vibrio parahaemolyticus* is frequently isolated from coastal waters and seafood in temperate zones throughout the world. *V. parahaemolyticus* cells are often injured during food processing. Such injured cells may not be fully recovered by plating on selective media. Therefore, enrichment should involve special media to ensure the optimum recovery of both injured and healthy cells. Horie Arabinose Ethyl Violet Broth (HAE, pH 9.0) was recommended for recovering *V. parahaemolyticus* from refrigerated and frozen oyster homogenates (1, 2, 3).

Peptic digest of animal tissue and beef extract in the medium are sources of carbon, nitrogen, vitamins and minerals. Sodium chloride at 3.0% concentration protects cold and heat injured cells against inactivation (4). Due to fermentation of arabinose, the medium turns yellow under acidic conditions. Bromothymol blue and ethyl violet are the pH indicators.

Weigh 50 grams of seafood sample into a blender. Add 450 ml Phosphate Buffer Saline dilution water and blend for 1 minute at 8000 rpm. This constitutes the 1:10 dilution. Prepare further dilutions and inoculate in 10 ml of Horie Arabinose Ethyl Violet Broth for enrichment. Incubate the tubes overnight at 35°C and streak a loopful from the top of the broth tubes containing the highest dilution showing growth onto TCBS Agar (M189).

### Quality Control

#### Appearance

Light yellow to greenish blue homogeneous free flowing powder

#### Colour and Clarity of prepared medium

Blue coloured, clear solution without any precipitate

#### Reaction

Reaction of 4.3% w/v aqueous solution at 25°C. pH : 9.0±0.2

#### pH

8.80-9.20

#### Cultural Response

M924: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Colour of medium
<i>Vibrio cholerae</i> ATCC 15748	50-100	good-luxuriant	yellow

*Vibrio parahaemolyticus* 50-100 good-luxuriant yellow  
ATCC 17802

### Storage and Shelf Life

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

### Reference

- 1.Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd Ed., APHA, Washington, D.C.
- 2.Wong, H. 2003. Journal of Food and Drug Analysis Vol. 11. No. 2.p.79.
- 3.Horie S., Saheki K., Kozima T., Nara M. and Sekine Y., 1964, Bull. Jpn. Soc. Sci. Fish, 30: 786.
- 4.Beuchat L. R., 1977, Can.J. Microbiol., 23: 630.

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