Technical Information

M-Tetrathionate MiVeg Broth Base

Product Code : VM2115

Application:- M-Tetrathionate MiVeg Broth Base with added iodine solution is recommended for preliminary enrichment of *Salmonella* species other than *Salmonella* serotype Typhi using membrane filter technique.

Composition

Ingredients	Gms / Litre
MiVeg peptone No. 3	5.0
Synthetic detergent	1.0
Sodium thiosulphate	30.0
Final pH (at 25°C)	8.0±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

M-Tetrathionate MiVeg Broth Base is prepared by using vegetable peptones in place of animal based peptone which makes the medium free from BSE/TSE risks. This medium is the modification of M-Tetrathionate Broth Base prepared as per the formulation of Kabler and Clark (1) for selective enrichment of *Salmonella* using membrane filter technique. It is same as Tetrathionate Broth Base except calcium carbonate.

This medium contains MiVeg peptone No. 3 which supplies nitrogenous nutrients, vitamins, amino acids and carbon for bacterial metabolism. By the iodide and iodine reaction Tetrathionate is formed in the medium. Along with sodium thiosulphate, tetrathionate inhibits the normal flora of intestine from the faecal organisms (2). Those organisms which have the tetrathionate reductase enzyme can grow only in this medium. Synthetic detergents inhibits many gram-negative organisms and coliforms.

Soak the absorbent pads with 2 ml M- Brilliant green Miveg Broth (MV 2102). Soak another absorbent pad in 5 - 6 cm petri plates with 2 ml of Broth Base and place membrane filter inoculum on them. Incubate at 35 - 37°C for 3 hours and then transfer inoculum membrane filter onto absorbent pads soaked with M-Brilliant Green MiVeg Broth. Incubate at 35-37°C for 15 - 21 hours. After M-BGB incubation add urease test reagent (Urease test reagent- Urea 20 gm, bromothymol blue 0.16 gm and phenol red 0.2 gm in 1000 ml distilled water) to pad and allow to set for 15-20 mins to permit reagent to diffuse throughout the medium for development of colour.

Methodology

Suspend 3.6 grams of powder media in 100 ml distilled water. Mix thoroughly. Heat if necessary to dissolve the medium completely. Cool below 45°C and add 2 ml Iodine solution containing 0.5 grams potassium iodide and 0.6 grams iodine crystals. DO NOT REHEAT MEDIUM AFTER ADDITION OF IODINE. Complete medium should be used on the day of preparation.

Quality Control

Physical Appearance

Cream coloured, homogeneous, free flowing powder.

Colour and Clarity of prepared medium

Amber coloured, clear solution without any precipitate.

Reaction

Reaction of 3.6 % w/v aqueous solution pH: 8.0 ±0.2 at 25°C

pH range

7.8-8.2

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours, with added Iodine solution containing Potassium Iodide and Iodine crystals.

Organisms (ATCC)	Recovery *	Colour of colony**	Colour* **
Escherichia coli (25922)	fair	yellow-green	yellow
Salmonella serotype Enteritidis (13076)	good-excellent	pink-red	red
Salmonella serotype Typhimurium	good-excellent	pink-red	red

Key : * = recovery tested by Mile-Misra Test.
** = on membrane filter (M-Brilliant Green Veg Broth)
*** = after addition of urease test reagent.

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: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. Kabler and Clark, 1952, Am. J. Pub. Hlth., 42:390.
2. MacFaddin J.F., 1985, Vol. I, Media for the Isolation-Cultivation-Identification- Maintenance of Medical Bacteria, Williams and Wilkins, Baltimore

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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