M-Tetrathionate HiVeg™ Broth Base MV1115

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

Composition ** :

Ingredients	Grams/Litre
HiVeg 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.

Directions :

Suspend 3.6 grams in 100 ml distilled water. 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.

Principle and Interpretation :

M-Tetrathionate HiVeg Broth Base is prepared by using vegetable peptones which are free of 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. M-Tetrathionate HiVeg Borth Base is same as Tetrathionate Broth Base except calcium carbonate.

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

Soak the absorbent pads in 5 - 6 cm petri plates with 2 ml of M-Tetrathionate HiVeg 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 2 ml M-Brilliant Green HiVeg Broth (MV1102). 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.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV1115 HiVeg peptone No. 3 Synthetic detergent	**M1115** Proteose peptone Bile salts

Recommended for	:	Selective enrichment of *Salmonellae* using membrane filter technique
Reconstitution	:	36.0 g/l
Quantity on preparation (500g)	:	13.88 L
pH (25°C)	:	8.0 ± 0.2
Supplement	:	Iodine solution
Sterilization	:	Boiling (DO NOT AUTOCLAVE).

Storage : Dry Medium - Below 30°C, Use freshly prepared medium.

Quality Control :

Appearance of powder
Cream coloured, homogeneous, free flowing powder.

Colour and Clarity
Amber coloured, clear solution without any precipitate.

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

Cultural Response
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 (14028)	good-excellent	pink-red	red

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

References :

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.

◉ Prepared from GMO free Vegetable proteins replacing Animal based peptones. Freedom from BSE/TSE worries.

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