

Mueller Kauffman Tetrathionate HiVeg™ Broth Base**MV876**

Mueller Kauffman Tetrathionate HiVeg Broth Base is used for improved enrichment and isolation of *Salmonellae*.

Composition ** :

Ingredients	Grams/Litre
HiVeg hydrolysate	9.75
Papaic digest of soyabean meal	2.3
Sodium chloride	2.3
Calcium carbonate	25.0
Sodium thiosulphate	40.7
Synthetic detergent No. II	2.0

** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 82.05 grams in 1000 ml distilled water. Heat just to boiling. DO NOT AUTOCLAVE. Cool and just before use aseptically add 19 ml of iodine solution (20 g iodine and 25 g potassium iodide in 100 ml sterile distilled water) and 9.5 ml of 0.1% brilliant green solution. Mix well before dispensing in the sterile tubes to disperse calcium carbonate uniformly.

Note : Due to the presence of calcium carbonate the prepared medium form opalescent solution with white precipitate.

Principle and Interpretation :

Mueller Kauffman Tetrathionate HiVeg Broth Base is prepared by completely replacing animal based peptones with vegetable peptones, so that medium is free of BSE/TSE risks. Mueller Kauffmann Tetrathionate HiVeg Broth Base is the modification of Mueller Kauffmann Tetrathionate Broth Base which was originally developed by Mueller (1) and later modified by Kauffman (2, 3) and recommended by APHA (4) for enrichment and isolation of *Salmonellae*. The addition of brilliant green and synthetic detergent helps to suppress commensal organisms and thus improve the isolation of *Salmonellae*. Brilliant green is added after heating as the heating impairs its selective action. If desired 4 mg of Novobiocin per litre of broth can be added to suppress *Proteus* species (5).

HiVeg hydrolysate, Papaic digest of soyabean meal provides essential growth nutrients. Add approximately 10 grams of sample to 100 ml of broth. Shake well and place the flask in a 45°C water bath for 15 minutes. Remove the flasks and place in an incubator or water bath at 43°C. After 18-24 hours and 48 hours subculture on Brilliant Green HiVeg Agar (MV016).

This medium is not suitable for the growth of *Salmonella* serotype Typhi, *Salmonella* serotype Sendai, *Salmonella* serotype Pullorum etc.

Product Profile :

Vegetable based (Code MV) ©		Animal based (Code M)	
MV876	HiVeg hydrolysate Synthetic detergent No. II	M876	Casein enzymic hydrolysate Ox-bile
Recommended for	:	Improved enrichment and isolation of <i>Salmonellae</i> .	
Reconstitution	:	82.05 g/l	
Quantity on preparation (500g)	:	6.09 L	
pH (25°C)	:	-	
Supplement	:	Iodine & Brilliant green solution	
Sterilization	:	Boiling (DO NOT AUTOCLAVE)	
Storage	:	Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.	

Quality Control :**Appearance of powder**

Cream coloured may have slightly greenish tinge homogeneous, free flowing powder.

Colour and Clarity

Complete medium (8.2% w/v aqueous solution with added brilliant green and iodine solution), yields light green coloured, opalescent solution with heavy white precipitate.

Cultural Response

Cultural characteristics observed after an incubation at 43°C for 18-48 hours and subcultured on Brilliant Green HiVeg Agar Base (MV016). Incubation of MV016 is done at 35-37°C for 18-24 hours.

Organisms (ATCC)	Recovery	Colour of Colony on MV016
<i>Escherichia coli</i> (25922)	little-none	yellowish green
<i>Salmonella</i> serotype Paratyphi A	excellent	pink white
<i>Salmonella</i> serotype Paratyphi B	excellent	pink white
<i>Salmonella</i> serotype Enteritidis (13076)	excellent	pink white
<i>Salmonella</i> serotype Typhi (6539)	inhibited	-
<i>Salmonella</i> serotype Typhimurium (14028)	excellent	pink white
<i>Shigella flexneri</i> (12022)	inhibited	-

References :

- Mueller L., 1923, C.R. Soc. Biol. (Paris), 89:434.
- Kauffmann F., 1930, Z.f. Hyg., 113:148.
- Kauffmann F., 1935, Z.f. Hyg., 117:26.
- Speck M. (Ed.), 1984, Compendium of Methods for Microbiological Examination of Foods, 2nd ed., APHA, Washington, D.C.
- Jeffries L., 1959, J. Clin. Path., 12:568.