

## Technical Information

### Mueller Kauffman Tetrathionate MiVeg Broth Base

#### Product Code :VM1876

**Application:-** Mueller Kauffman Tetrathionate MiVeg Broth Base is used for improved enrichment and isolation of *Salmonellae*.

#### Composition

Ingredients	Gms / Litre
MiVeg 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.

#### Principle & Interpretation

Mueller Kauffman Tetrathionate MiVeg Broth Base is prepared by using MiVeg hydrolysate in place of casein enzymic hydrolysate so the medium becomes free from BSE/ TSE risks. This medium 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*. Brilliant green and synthetic detergent is added to suppress commensal organisms and thus improve the isolation of *Salmonellae*. Brilliant green should be 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).

It contains MiVeg 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 water bath at 45°C for 15 minutes. Then 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 MiVeg Agar (VM1016).

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

#### Methodology

Suspend 82.05 grams of powder media in 1000 ml distilled water. Mix thoroughly. 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.

#### Quality Control

##### Physical Appearance

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

##### Colour and Clarity of prepared medium

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/Characteristics

Cultural characteristics observed after an incubation at 43°C for 18-48 hours and subcultured on Brilliant Green Veg Agar Base (VM1016). Incubation of VM1016 is done at 35-37°C for 18-24 hours.

Organisms (ATCC)	Recovery	Colour of colony
<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	-

## 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° in sealable plastic bags for 2-5 days.

## Further Reading

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

## Disclaimer :

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