

M-Broth, HiVeg™**MV846**

M-Broth, HiVeg is used for detecting *Salmonellae* in foods and feeds by the accelerated enrichment serology procedures.

Composition ** :

Ingredients	Grams/Litre
HiVeg hydrolysate	12.5
Yeast extract	5.0
D-Mannose	2.0
Sodium chloride	5.0
Sodium citrate	5.0
Dipotassium phosphate	5.0
Manganese chloride	0.14
Magnesium sulphate	0.8
Ferrous sulphate	0.04
Polysorbate 80	0.75

Final pH (at 25°C) 7.0 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 36.23 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.

Principle and Interpretation :

M-Broth, HiVeg is prepared by using vegetable peptones in place of animal based peptones which makes the medium free of BSE/TSE risks. M-Broth, HiVeg is the modification of M-Broth which was developed by Sperber and Diebel (1) to accelerate the detection of *Salmonellae*. The accelerated 50 hour detection procedure consists of 18 hours pre-enrichment, 24 hours selective enrichment, 6 to 8 hours selective enrichment and 2 hours serological testing. This medium contains D-Mannose for the selective enrichment step to avoid nonspecific agglutination, that can occur with dextrose. Fantasia, Sperber and Deibel (2) found that enrichment serology method is rapid and less complicated to perform than the method described in the Bacteriological Analytical Manual (3) by maintaining the accuracy and sensitivity of the method. HiVeg hydrolysate, yeast extract provides organic nitrogen, carbon, sulphur, vitamins and trace elements essential for the growth of *Salmonella* species. Mannose is the fermentable sugar and energy source and it prevents fimbrial agglutination of *Salmonella* (1). The inorganic salts stimulate bacterial growth while polysorbate 80 supplies fatty acids.

10% suspension of sample is prepared in sterile Fluid Lactose HiVeg Broth (MV026) and incubated at 35 ± 2°C for 18 - 24 hours. 1 ml of this pre-enriched culture is added to 9 ml of Selenite Cystine HiVeg Broth Base (MV025) and Tetrathionate HiVeg Broth Base (MV032) and incubated

Product Profile :

Vegetable based (Code MV)®	Animal based (Code M)
MV846 HiVeg hydrolysate	M846 Casein enzymic hydrolysate
Recommended for	: Detection of <i>Salmonella</i> species in foods and feeds by the accelerated enrichment serology procedures.
Reconstitution	: 36.23 g/l
Quantity on preparation (100g):	2.76 L
pH (25°C)	: 7.0 ± 0.2
Supplement	: None
Sterilization	: 121°C / 15 minutes.
Storage	: Dry Medium and Prepared Medium 2 - 8°C.

at 35 ± 2°C for 24 hours. This enriched culture is inoculated in M-Broth HiVeg and incubated at 35 ± 2°C for 6 hours and then H-agglutination test is performed.

Quality Control :**Appearance of powder**

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

Colour and Clarity

Light amber coloured, clear to slightly opalescent solution with slight precipitate.

Reaction

Reaction of 3.62% w/v aqueous solution is pH 7.0 ± 0.2 at 25°C

Cultural Response

Cultural characteristics observed after an incubation at 35 - 37°C for 6-8 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth*
<i>Salmonella</i> serotype Paratyphi A	10 ² -10 ³	luxuriant
<i>Salmonella</i> serotype Paratyphi B	10 ² -10 ³	luxuriant
<i>Salmonella</i> serotype Choleraesuis (12011)	10 ² -10 ³	luxuriant
<i>Salmonella</i> serotype Enteritidis (13076)	10 ² -10 ³	luxuriant
<i>Salmonella</i> serotype Typhi (6539)	10 ² -10 ³	luxuriant
<i>Salmonella</i> serotype Typhimurium (14028)	10 ² -10 ³	luxuriant

Key : * = on membrane filter.

References :

1. Sperber and Deibel, 1969, Appl. Microbiol., 17:533.
2. Fantasia, Sperber and Deibel, 1969, Ibid, 17:540.
3. Bacteriological Analytical Manual, 1969, FDA, Washington, D.C.