

M-Brilliant Green HiVeg™ Broth**MV1102**

M-Brilliant Green HiVeg Broth is used as a selective and differential medium for primary screening of *Salmonella* in polluted water using membrane filter technique.

Composition ** :

Ingredients	Grams/Litre
HiVeg peptone No. 3	20.0
Yeast extract	6.0
Lactose	20.0
Saccharose	20.0
Sodium chloride	10.0
Phenol red	0.16
Brilliant green	0.025

Final pH (at 25°C) 6.9 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 76.19 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 35°C and saturate sterile absorbent cotton pad with 2 ml of the broth. The medium should be used within 24 hours of rehydration.

Principle and Interpretation :

M-Brilliant Green HiVeg Broth is developed by using HiVeg peptone No.3 in place of Proteose peptone which makes the medium free from BSE/TSE risks. Geldreich and Jeter (1) developed membrane screening technique. Kabler and Clark (2) applied M-Brilliant Green Broth for primary screening of *Salmonella* in polluted water. This selective differential medium is a modification of Brilliant Green Agar without agar in double strength (3). M-Brilliant Green HiVeg Broth serves the same purpose.

In this technique, suitable and known quantity of water is passed through membrane filter and this filter is then kept on a absorbent pad saturated with M-Tetrathionate HiVeg Broth Base (MV1115). It is then incubated in humid atmosphere for 3 hours at 35-37°C and then the membrane is transferred to another absorbent pad saturated with M-Brilliant Green HiVeg Broth and the incubation is continued for 15 more hours at 35°C. After the total of 18 hours incubation, the membrane is transferred to a fresh pad soaked in urease test reagent (20 grams urea, 0.16 grams bromo thymol blue, 0.2 grms phenol red, all components in a litre of distilled water). Urease test reaction is recorded after 20 minutes.

HiVeg peptone No. 3 provides nitrogenous source, Yeast extract is the vitamin source. Lactose and Saccharose are the carbohydrates useful for growth of the bacteria, sodium chloride maintains the osmotic equilibrium where as phenol red is the pH indicator. Brilliant green serves as the selective agent.

Product Profile :

Vegetable based (Code MV)☉		Animal based (Code M)	
MV1102 HiVeg peptone No. 3		M1102 Proteose peptone	
Recommended for	:	Selective and differential medium for primary screening of <i>Salmonella</i> in polluted water using membrane filter technique	
Reconstitution	:	76.19 g/l	
Quantity on preparation (500g):	:	6.56 L	
pH (25°C)	:	6.9 ± 0.2	
Supplement	:	None	
Sterilization	:	Boiling (DO NOT AUTOCLAVE).	
Storage : Dry Medium - Below 30°C, Use freshly prepared medium.			

Quality Control :**Appearance of powder**

Pink coloured, homogeneous, free flowing powder.

Colour and Clarity

Greenish brown coloured, slightly opalescent solution.

Reaction

Reaction of 7.62% w/v aqueous solution is pH 6.9 ± 0.2 at 25°C

Cultural Response

Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours in humid atmosphere.

Organisms (ATCC)	Inoculum (CFU)	Growth	Colour of colony*
<i>Escherichia coli</i> (25922)	10-100	poor-good	yellowish green
<i>Salmonella</i> serotype Enteritidis (13076)	10-100	luxuriant	pink to red
<i>Salmonella</i> serotype Typhi (6539)	10-100	poor-good	pink to red
<i>Salmonella</i> serotype Typhimurium (14028)	10-100	luxuriant	pink to red
<i>Staphylococcus aureus</i> (25923)	10-100	inhibited	-

Key : * = on membrane filter

References :

- Geldreich E. E. and Jeter M. L., 1952, Bact. Proc. SAB, Boston, P. 33.
- Kabler P. W. and Clark H. F., 1952, American J. Publ. Hlth., 42:390.
- Kauffmann F., 1935, Z. Hyg. Infektionskr., 117:26.