

EE HiVeg™ Broth / Modified

MV287/MV287A

EE HiVeg Broth / Modified is used for selective enrichment of *Enterobacteriaceae* in bacteriological examination of foods.

Composition** :

Ingredients	MV287 Grams/Litre	MV287A Grams/Litre
HiVeg peptone	25.00	—
HiVeg peptone No.2	—	25.00
Dextrose	5.00	—
Glucose monohydrate	—	5.00
Synthetic detergent No.II	5.00	5.00
Disodium phosphate	6.45	—
Disodium phosphate dihydrate	—	8.00
Monopotassium phosphate	2.00	2.00
Brilliant green	0.0135	0.15

Final pH (at 25°C) 7.2 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Directions :

Suspend 43.5 grams of MV287 or 45 grams of MV287A in 1000 ml distilled water. Distribute in 100 ml quantities in 250 ml flasks. Stopper with cotton plugs or loose fitting caps. Heat in free flowing steam or boiling water for 30 minutes only. Avoid overheating of the medium as it is heat sensitive. Cool rapidly in cold running water. DO NOT AUTOCLAVE.

Principle and Interpretation :

These media are prepared with animal peptones being replaced by vegetable peptones which makes the media BSE/TSE risk free. EE HiVeg Media are the modification of EE Media which was formulated by Mossel et al and is recommended as an enrichment medium for *Enterobacteriaceae* in bacteriological examination of foods (1) and animal feed stuffs (2).

HiVeg peptone, HiVeg peptone No.2 and dextrose favour the growth of most members of *Enterobacteriaceae*, thus ensuring the detection of *Salmonella* and other lactose negative organisms. Brilliant green and synthetic detergent No.II are the selective agents which inhibit gram-positive bacteria. Acid production causes the colour change from green to yellow, while a negative reaction results in no colour change and the medium remains green. Phosphates provides good buffers in the medium.

Enterobacteriaceae can be injured in food processing procedures, which include exposure to low temperature, sub marginal heat, drying, radiation, preservatives or sanitizers(3). Recovery relies on proper resuscitation of damaged cells. The damaged cells are resuscitated in well-aerated Tryptone Soya HiVeg Broth (MV011) for 2 hours at 25°C prior to enrichment in EE HiVeg Media.

EE HiVeg Media is an enrichment broth and should be used in conjunction with Violet Red Glucose HiVeg Agar (MV581). Subcultures must be made onto lactose differential media as MacConkey HiVeg Agar (MV081), Deoxycholate Citrate HiVeg Agar (MV065) or Brilliant Green HiVeg Agar (MV016) for the detection of lactose negative or delayed lactose fermenters.

Product Profile :

Vegetable based (Code MV)Ⓞ	Animal based (Code M)
MV287/MV287A	M287/M287A
HiVeg peptone HiVeg peptone No. 2 Synthetic detergent No. II	Peptic digest of animal tissue Pancreatic digest of gelatin Oxgall

Recommended for : Selective enrichment of *Enterobacteriaceae*.

Reconstitution : (MV287) : 43.5 g/l

: (MV287A) : 45 g/l

Quantity on preparation (500g) : (MV287) : 11.49 L

(100g) : (MV287) : 2.29 L

(500g) : (MV287A) : 11.11 L

pH (25°C) : 7.2 ± 0.2

Supplement : None

Sterilization : Boiling (DO NOT AUTOCLAVE)

Storage : Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.

Incubation may be carried out at > 42°C for 18 hours, 32°C for 24-48 hours or 4°C for 10 days depending on the temperature characteristics of the organisms to be recovered

Quality Control :

Appearance of Powder

Greenish yellow coloured, homogeneous, free flowing powder.

Colour and Clarity

Emerald green coloured, clear solution without any precipitate.

Reaction

Reaction of 4.35% w/v of MV287 or 4.5% MV287A aqueous solution is pH 7.2 ± 0.2 at 25°C.

Cultural Response

Cultural characteristics was observed after an incubation at 35°C for 20 - 24 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Acid
<i>Enterobacter aerogenes</i> (13048)	10 ² -10 ³	luxuriant	+
<i>Escherichia coli</i> (25922)	10 ² -10 ³	luxuriant	+
<i>Proteus mirabilis</i> (25933)	10 ² -10 ³	luxuriant	+
<i>Staphylococcus aureus</i> (25923)	10 ² -10 ³	inhibited	—
<i>Shigella boydii</i> (12030)	10 ² -10 ³	luxuriant	—
<i>Salmonella</i> serotype Enteritidis (13076)	10 ² -10 ³	luxuriant	±

References :

- Mossel D.A.A., Visser M. and Cornellisen A.M.R., 1963, J. Appl. .,26(3):444.
- VanSchothorst M., et al, 1966, Vet Med., 13(3):273.
- Hartman PA and S.A. Minnich, 1981. J Food Prot. 44 385-386.