Hektoen Enteric HiVeg™ Agar MV467

Hektoen Enteric HiVeg Agar is recommended for differential and selective isolation of *Shigella* and *Salmonella* species from enteric pathological specimens.

Composition** :

Ingredients	Grams/Litre
HiVeg peptone No.3	19.00
Yeast extract	3.00
Lactose	12.00
Sucrose	12.00
Salicin	2.00
Synthetic detergent No. I	2.00
Sodium chloride	5.00
Sodium thiosulphate	5.00
Ferric ammonium citrate	1.50
Acid fuchsin	0.10
Bromo thymol blue	0.065
Agar	15.00

Final pH (at 25°C) 7.5 ± 0.2
** Formula adjusted, standardized to suit performance parameters

Directions :

Suspend 76.67 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE.

Principle and Interpretation :

Hektoen Enteric HiVeg Agar is formulated by replacing animal base Proteose peptone by HiVeg peptone No. 3 making it free from BSE/ TSE. Hektoen Enteric HiVeg Agar is the modification of Hektoen Enteric Agar which was formulated by King and Metzger (1) and recommended by APHA (2). The increased concentration of carbohydrate and vegetable peptone helps to reduce the inhibitory effect of synthetic detergent and the indicators allow good growth of *Salmonella* and *Shigella* species while inhibiting the normal intestinal flora. The medium contains three carbohydrates lactose, sucrose and salicin for optional differentiation of enteric pathogens. The higher lactose concentration aids in the visualization of enteric pathogens and minimizes the problem of delayed lactose fermentation. Due to the combination of thiosulphate with ferric ammonium citrate, hydrogen sulphide (H_2S)-producing colonies form black centres.

Hoben et al (3) added Novobiocin (15 mg/litre) to improve the selectivity of the conventional medium by inhibiting *Citrobacter* and *Proteus* species. Taylor and Schelhaut (4) found the medium valuable for differentiating pathogenic organisms and for better growth of *Shigellae*. Inoculate the medium with fresh faeces suspended in Ringers solution or inoculate directly with rectal swabs. Spread out the inoculum to obtain isolated colonies and incubate at 35°C for 18-24 hours. Further incubation will improve differentiation between *Salmonellae* and *Shigellae*. *Proteus* species may resemble *Salmonellae* or *Shigellae*, hence further testing must be carried out for confirmation.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV467 HiVeg peptone No. 3 Synthetic detergent No.I	**M467** Proteose peptone Bile salts mixture

Recommended for	:	Isolation of *Salmonella* and *Shigella* species from enteric pathological specimens.
Reconstitution	:	76.67 g/l
Quantity on preparation (500g)	:	6.52 L
(100g)	:	1.3 L
pH (25°C)	:	7.5 ± 0.2
Supplement	:	None
Sterilization	:	Boiling (DO NOT AUTOCLAVE).

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

Quality Control :

Appearance of Powder

Light yellow w/ tan cast coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity

Green coloured, clear to slightly opalescent gel forms in petri plates.

Reaction

Reaction of 7.67% w/v solution is pH 7.5 ± 0.2 at 25°C.

Cultural Response

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

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of Colony
Enterobacter aerogenes (13048)	10^2 - $3x10^2$	fair-good	>30%	Salmon-orange
Enterococcus faecalis (29212)	10^2 - 10^3	inhibited	0%	—
Escherichia coli (25922)	10^2 - $3x10^2$	fair	>20%	Orange
Salmonella serotype Enteritidis (13076)	10^2 - $3x10^2$	luxuriant	>50%	greenish blue*
Salmonella serotype Typhimurium (14028)	10^2 - $3x10^2$	luxuriant	>50%	greenish blue*
Shigella flexneri (12022)	10^2 - $3x10^2$	luxuriant	>50%	greenish blue

Key : * = may have black centers (H_2S production).

References :

1. King, K.S. and Metzger W.I., 1968, Appl.Microbiol., 16:577, 579.
2. Frances Pouch Downes and Keith Ito (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
3. Hoben D.A., Ashton D.H.A. and Peterson A.C., 1973, Appl. Microbiol., 21:126.
4. Taylor W.I. and Schelhaut, 1971, Appl.Microbiol., 21:32.

◉Prepared from GMO free Vegetable proteins replacing Animal based peptones. Freedom from BSE/TSE worries.