Casman HiVeg™ Agar Base / Broth Base MV201/MV766

Casman HiVeg Agar / Broth Base with blood is used for isolation of fastidious microorganisms such as *Haemophilus influenzae* & *Neisseria gonorrhoeae* from clinical specimens, under reduced oxygen tension.

Composition** :

Ingredients	MV201 Grams/Litre	MV766 Grams/Litre
HiVeg peptone No.3	10.00	10.00
HiVeg hydrolysate No.1	10.00	10.00
HiVeg extract	3.00	3.00
Dextrose	0.50	0.50
Corn starch	1.00	1.00
Sodium chloride	5.00	5.00
Nicotinamide	0.05	0.05
p-Amino benzoic acid (PABA)	0.05	0.05
Agar	14.00	—
Final pH (at 25°C)	7.3 ± 0.2	7.2 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Directions :

Suspend 43.6 grams of MV201 or 29.6 grams of MV766 in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. In case of MV766, cool to 45°-50°C and add 0.5ml of sterile defibrinated rabbit blood to each tube and mix well. While on case of MV201 cool to 45°-50°C and aseptically add 0.15% v/v sterile waterlysed blood (water =blood :: 3:1) of 5% sterile blood. Mix well and dispense as desired.

Principle and Interpretation :

Casman HiVeg Media are prepared by replacing animal based peptones with vegetable peptones which makes these media free of BSE/TSE risks. Members of the genus *Haemophilus* and *Neisseria* are fastidious microorganisms that require addition of growth factors. These media are the modifications of the media described by Casman (1, 2, 3) for cultivation of *Haemophilus* and *Gonococci*, which replaced previous formulations requiring fresh meat infusion, fresh and heated blood etc.

HiVeg peptone No.3, HiVeg hydrolysate No.1 and HiVeg extract provide amino acids and other complex nitrogenous nutrients. Dextrose improves growth of pathogenic cocci. Corn starch prevents fatty acids from inhibiting the growth of *Neisseria gonorrhoeae*, without interfering with the haemolytic reaction and it neutralizes the inhibitory action of dextrose. Addition of blood provides the growth factors required for *Haemophilus influenzae* i.e. hemin or X factor and Nicotinamide Adenine Dinucleotide (NAD) or V factor. Horse and rabbit blood are preferred as they are relatively free of NADase, an enzyme that destroys V factor (4). Nicotinamide is added to the medium to inhibit nucleotidase of erythrocytes that destroys V factor. PABA serves as a growth factor.

Inoculate the medium as soon as the specimen arrives at the laboratory. After incubation *Haemophilus influenzae* produces colourless to grey colonies with a characteristic 'mousy' odour while *Neisseria gonorrhoeae* produces small colourless to greyish-white colonies.

Quality Control:

Appearance of Powder

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

Gelling

Firm, comparable with 1.4% Agar gel of MV201.

Colour and Clarity

Basal medium is yellow coloured, clear to slightly opalescent gel. With addition of blood cherry - red coloured opalescent gel forms in petri plates, cherry red, coloured opalescent solution in tubes.

Reaction

Reaction of 4.36% w/v aqueous solution of MV201 is pH 7.3 ± 0.2 at 25°C.

Reaction of 2.96% w/v aqueous solution of MV766 is pH 7.2 ± 0.2 at 25°C.

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 40-48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery*	Haemolysis*
Haemophilus influenzae (35056)	10^2-10^3	good-luxuriant	>70%	none
Neisseria meningitidis (13090)	10^2-10^3	good-luxuriant	>70%	none
Streptococcus pneumoniae (6303)	10^2-10^3	good-luxuriant	>70%	alpha
Streptococcus pyogenes (19615)	10^2-10^3	good-luxuriant	>70%	beta
Streptococcus mitis (9895)	10^2-10^3	good-luxuriant	>70%	beta

Key: * = on MV201

References :

1. Casman, 1947, Am. J. Clin. Pathol., 17:281.
2. Casman, 1942, J. Bact., 43:33.
3. Casman, 1947, J. Bact., 53:561.
4. Krunveide and Kuttner, 1938, J. Exp. Med., 67:429.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV201/MV766 HiVeg peptone No. 3 HiVeg extract HiVeg hydrolysate No. 1	**M201/M766** Proteose peptone Beef extract Tryptose

Recommended for	:	Isolation of fastidious microorganisms such as *Haemophilus influenzae* & *Neisseria gonorrhoeae* from clinical specimens under reduced oxygen tension
Reconstitution	:	(MV201) : 43.6 g/l
		(MV766) : 29.6 g/l
Quantity on preparation (500g)	:	(MV201) : 11.46 L
	:	(MV766) : 16.89 L
pH (25°C)	:	(MV201) : 7.3 ± 0.2
	:	(MV766) : 7.2 ± 0.2
Supplement	:	(MV766) : Defibrinated rabbit blood (MV201) : Waterlysed blood
Sterilization	:	121°C / 15 minutes.

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

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