Blood Agar Base, HiVeg™ / with low pH, HiVeg™ MV073 / MV089

Blood Agar Base, HiVeg / with low pH, HiVeg is recommended as a base to which blood may be added for use in the isolation and cultivation of fastidious pathogenic microorganisms like *Neisseria, Streptococci* etc.

Composition** :

Ingredients	MV073 Grams/Litre	MV089 Grams/Litre
HiVeg infusion	10.00	10.00
HiVeg hydrolysate No. 1	10.00	10.00
Sodium chloride	5.00	5.00
Agar	15.00	15.00
Final pH (at 25°C)	7.3 ± 0.2	6.8 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Directions :

Suspend 40 grams of MV073 or MV089 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. Cool to 50°C and aseptically add 5% v/v sterile defibrinated blood. Mix well and pour into sterile petri plates.

Principle and Interpretation :

Blood Agar Base, HiVeg / with low pH, HiVeg is prepared by using HiVeg hydrolysate No.1 and HiVeg infusion, thus making the media free of BSE/TSE risks. These media are used as a base for preparation of blood agar. Blood Agar Base, HiVeg / with low pH, HiVeg are highly nutritious media and can also be used as a general purpose growth media without adding blood. If the culture medium base is to be used without blood, the pH should be adjusted to 7.2 to 7.4 since most bacteria can grow better in a slightly alkaline medium. The pH value of 6.8 stabilizes the red blood corpuscles and favours the formation of clear zone of haemolysis (1) and is advantageous for cultivation of *Streptococci* and *Pneumococci*. These media like the conventional media can be used with added phenolphthalein phosphate (2) for the detection of phosphatase producing *Staphylococci,* with added salt and agar for assessment of surface contamination on equipment and pig carcasses (3) and to determine salinity range of marine flavobacteria (4). It can be used for preparation of *S.* serotype Typhi antigens (5). This medium can be further enriched with added serum or blood. With added blood it is suitable for detection of typical haemolytic reactions. However, haemolytic reactions depend on the animal blood used. Sheep blood gives best results for Group A *Streptococci* (6). When horse blood is used, *Haemophilus haemolyticus* colonies produce haemolysis and mimic *Streptococcus pyogenes* (7).

HiVeg infusion and HiVeg hydrolysate No. 1 provides nitrogen, carbon, amino acids and vitamin sources. Sodium chloride maintain osmotic equlibrium.

Quality Control :

Appearance of Powder

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

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV073/MV089 HiVeg hydrolysate No. 1 HiVeg infusion	**M073/M089** Tryptose Heart infusion

Recommended for	:	Isolation and cultivation of fastidious organisms.
Reconstitution	:	(MV073) : 40.0 g/l
	:	(MV089) : 40.0 g/l
Quantity on preparation (500g)	:	(MV073) : 12.5 L
(100g)	:	(MV073) : 2.5 L
(500g)	:	(MV089) : 12.5 L
(100g)	:	(MV089) : 2.5 L
pH (25°C)	:	(MV073) : 7.3 ± 0.2
	:	(MV089) : 6.8 ± 0.2
Supplement	:	Defibrinated blood
Sterilization	:	121°C / 15 minutes

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

Gelling

Firm comparable with 1.5% Agar gel of MV073 and MV089.

Colour and Clarity

Basal medium yields light amber coloured clear to slightly opalescent gel. Addition of 5% v/v sterile defibrinated blood yields cherry red opaque gel in petri plates.

Reaction

Reaction of 4.0% w/v aqueous solution of MV073 is pH 7.3 ± 0.2 at 25°C and of MV089 is pH 6.8 ± 0.2 at 25°C.

Cultural Response

Cultural characteristics observed after an incubation at 35 - 37°C for 18-48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth w/o blood	Growth w/blood	Recovery w/blood	Haemolysis
Neisseria meningitidis (13090)	10^2-10^3	luxuriant	luxuriant	>70%	none
Staphylococcus aureus (25923)	10^2-10^3	luxuriant	luxuriant	>70%	beta
Staphylococcus epidermidis (12228)	10^2-10^3	luxuriant	luxuriant	>70%	none
Streptococcus pneumoniae (6303)	10^2-10^3	fair to good	luxuriant	>70%	alpha
Streptococcus pyogenes (19615)	10^2-10^3	fair to good	luxuriant	>70%	beta

References :

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4. Hayes P.R., 1963, J. Gen. Microbiol., 30:1.
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6. Snavely J.G. and Brahier J., 1960, Am. J. Clin. Pathol., 33:511.
7. Murray PR, Baron, Pfaller and Yolken 2003, In Manual of Clinical Microbiology 8th ed., (Eds.), ASM, Washington, DC.

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