MYP HiVeg™ Agar Base / Modified MYP HiVeg™ Agar Base

MV636 / MV1139

MYP HiVeg Agar Base / Modified MYP HiVeg Agar Base with added supplements is used for isolation and identification of *Bacillus* species and pathogenic *Staphylococci*.

Composition** :

Ingredients	MV636 Grams/Litre	MV1139 Grams/Litre
HiVeg peptone	10.00	10.00
HiVeg extract No.1	1.00	1.00
D-Mannitol	10.00	10.00
Sodium chloride	10.00	10.00
Phenol red	0.025	0.025
Agar	15.00	12.00

Final pH (at 25°C) 7.1 ± 0.2
** Formula adjusted, standardized to suit performance parameters

Directions :

Suspend 46 grams of MV636 or 43 grams of MV1139 in 900 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 55°C. Aseptically add sterile Polymyxin B Sulphate (FD003) solution to a final concentration of 100 units per ml and 100 ml sterile Egg Yolk Emulsion (FD045) per 1000 ml medium. Mix well and pour into sterile petri plates.

Principle and Interpretation :

These media are prepared by completely replacing animal based peptones with vegetable peptones which makes the media free of BSE/TSE risks. Mannitol Yolk Polymyxin (MYP) HiVeg Agar is the modification Mannitol Yolk Polymyxin (MYP) Agar formulated by Mossel et al (1) and recommended by APHA (2) for enumeration of *Bacillus cereus*. When present in large numbers in certain foodstuffs, *Bacillus cereus* can produce metabolites responsible for the clinical symptoms of food poisoning (3). MYP HiVeg Agar Base and Modified MYP HiVeg Agar Base have similar composition except for agar concentration.

The media contains HiVeg peptone and HiVeg extract No 1 which serves as an nitrogen source. Mannitol fermentation can be detected by phenol red, which imparts yellow colour to the mannitol fermenting colonies. Added egg yolk emulsion helps in differentiation of lecithinase producing colonies which are surrounded by a zone of white precipitate. Addition of Polymyxin B Sulphate helps to restrict growth of gram-negative bacteria such as *Escherichia coli* and *Pseudomonas aeruginosa*. These differentiating media allow differentiation of *Bacillus cereus* from other *Bacillus* species by its inability to ferment mannitol and poor sporulation. Acid produced by organisms other than *Bacillus cereus* often diffuse through the medium, making it difficult to distinguish between mannitol fermenters and non-fermenters. So it is advised to transfer the suspected colonies to a fresh medium to ascertain the true reaction.

Colonies from MYP HiVeg Agar Base are subcultured on Nutrient HiVeg Agar and incubated at 30°C for 24 hours to observe/determine vegetative cells, sporangium and spore morphology and lipid globules within vegetative cell.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV636/MV1139 HiVeg peptone HiVeg extract No.1	**M636/M1139** Peptic digest of animal tissue Meat extract

Recommended for	:	Isolation and identification of *Bacillus* species and pathogenic *Staphylococci*.
Reconstitution	:	(MV636) : 46.0 g/l
	:	(MV1139) : 43.0 g/l
Quantity on preparation (500g)	:	(MV636) : 10.86 L
(500g)	:	(MV1139) : 11.62 L
pH (25°C)	:	7.1 ± 0.2
Supplement	:	Polymyxin B Sulphate (FD003) & Egg Yolk Emulsion (FD045)
Sterilization	:	121°C / 15 minutes.

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

Quality Control :

Appearance of powder
Light pink coloured, homogeneous, free flowing powder.

Gelling
Firm, comparable with 1.5% Agar gel of MV636 or 1.2% Agar gel of MV1139.

Colour and Clarity
Red coloured, clear to slightly opalescent gel forms of basal medium. With addition of Egg Yolk Emulsion light orange coloured opaque gel forms in petri plates.

Reaction
Reaction of 4.3% w/v of MV1139 or 4.6% w/v of MV636 aqueous solution is pH 7.1 ± 0.2 at 25°C.

Cultural Response
Cultural characteristics observed after an incubation at 32°C for 18-40 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony	Lecithinase
Bacillus subtilis (6633)	30 -300	luxuriant	>70%	yellow	-
Bacillus cereus (10876)	30 -300	luxuriant	>70%	red	+
Proteus mirabilis (25933)	30-300	luxuriant	>70%	red	-
Staphylococcus aureus (25923)	30-300	luxuriant	>70%	yellow	+
Escherichia coli (25922)	10^3-2x10^3	none-poor	<20%	-	-
Pseudomonas aeruginosa (27853)	10^3-2x10^3	none-poor	<20%	-	-

Key : + = halo's around the colonies

References :

1. Mossel D.A.A., Koopman M.J. and Jongerium E., 1967, Appl. Microbiol, 15:650.
2. Downes FP and Ito K (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
3. Nygren B., 1962, Acta Path. Microbiol. Scand., 56 : Suppl. 1.

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

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