Sellers Differential HiVeg™ Agar MV293

Sellers Differential HiVeg Agar is used for differentiation and identification of gram-negative non-fermentative bacilli especially *Pseudomonas aeruginosa* and *Acinetobacter calcoaceticus.*

Composition ** :

Ingredients	Grams/Litre
HiVeg peptone	20.0
Yeast extract	1.0
L-Arginine	1.0
D-Mannitol	2.0
Sodium chloride	2.0
Sodium nitrate	1.0
Sodium nitrite	0.35
Magnesium sulphate.$7H_2O$	1.5
Dipotassium phosphate	1.0
Bromo thymol blue	0.04
Phenol red	0.008
Agar	15.0

Final pH (at 25°C) 6.7 ± 0.2
** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 44.34 grams of dehydrated medium in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense in test tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool the tubed medium in slanted position. Just before inoculation add 0.15 ml or 2 drops of 50% sterile dextrose solution to each slant.

Principle and Interpretation :

Sellers Differential HiVeg Agar is prepared by using HiVeg peptone in place of Peptic digest of animal tissue making the medium free of BSE/TSE risks. Sellers Differential HiVeg Agar is the modification of Sellers Differential Agar which is formulated as described by Sellers (1) for differentiation and identification of non-fermentative gram-negative bacilli especially *Pseudomonas aeruginosa*, *Acinetobacter calcoaceticus* and also *Alcaligens faecalis*. The medium is complex with differentiation based on oxidation of dextrose, fluorescence, production of nitrogen and pH changes.

Yeast extract and HiVeg peptone are the sources of carbon and nitrogen compounds as well as vitamins and minerals. *Pseudomonas aeruginosa* usually oxidizes glucose, producing an acid reaction; however in this medium it does not, due to the presence of arginine and high peptone concentration. The alkali produced from peptone breakdown neutralizes acid (3). Oxidation of dextrose by the organisms is readily visible as a yellow band at the slant-butt junction. D-Mannitol and magnesium sulphate stimulate fluorescence while nitrogen gas production is stimulated by dipotassium phosphate (1, 2). Sodium nitrate and nitrite serve as substrates for the production of nitrogen gas for denitrifying bacteria. Phenol red and bromo thymol blue are the pH indicators. Arginine dihydrolase positive reaction is indicated by the formation of blue colour.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV293 HiVeg peptone	**M293** Peptic digest of animal tissue

Recommended for	:	Differentiation and identification of gram-negative non-fermentative bacilli especially *Pseudomonas aeruginosa* and *Acinetobacter calcoaceticus.*
Reconstitution	:	44.34 g/l
Quantity on preparation (500g)	:	11.27 L
pH (25°C)	:	6.7 ± 0.2
Supplement	:	50% sterile dextrose
Sterilization	:	121°C / 15 minutes.

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

Quality Control :

Appearance of powder

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

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity

Green coloured, slightly opalescent gel forms in tubes as slants.

Reaction

Reaction of 4.43% w/v aqueous solution is pH 6.7 ± 0.2 at 25°C.

Cultural Response

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

Organisms (ATCC)	Growth	Slant	Butt	Band	Fluorescence*	Nitrogen gas
Acinetobacter calcoaceticus (19606)	good	blue	green	yellow	-	-
Alcaligenes faecalis (8750)	good	blue	blue-green	-	-	+
Pseudomonas aeruginosa (27853)	good	blue-green	blue-green	blue	+	+

Key : * = yellow - green fluorescence under UV light.

References :

1. Sellers W., 1964, J. Bact., 87:46.
2. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
3. Liu P., 1952, J Bacteriol ., 64.,773.

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