

Dey-Engley Neutralizing HiVeg™ Agar / Broth / MV186/MV1062/MV187 Broth Base

Dey-Engley Neutralizing HiVeg media are used in disinfectant testing where neutralization of the antiseptics and disinfectants is important for determining its bactericidal activity.

Composition** :

Ingredients	MV186 Grams/Litre	MV1062 Grams/Litre	MV187 Grams/Litre
HiVeg hydrolysate	5.00	5.00	5.00
Yeast extract	2.50	2.50	2.50
Dextrose	10.00	10.00	10.00
Sodium thiosulphate	6.00	6.00	—
Sodium thioglycollate	1.00	1.00	—
Sodium bisulphite	2.50	2.50	—
Lecithin	7.00	7.00	—
Polysorbate 80	5.00	5.00	—
Bromo cresol purple	0.02	0.02	0.02
Agar	15.00	—	—

Final pH (at 25°C) 7.6 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Directions :

Suspend 54 grams of MV186 or 39 grams of MV1062 or 17.5 grams of MV187 in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle and Interpretation :

These media are prepared by using HiVeg hydrolysate in place of Casein enzymic hydrolysate which are free from BSE/TSE risks. Dey-Engley Neutralizing HiVeg media are modification of the media formulated as per the procedure described by Engley and Dey (1). The Dey-Engley Neutralizing HiVeg media neutralizes a broad spectrum of antiseptics and disinfectants including quaternary ammonium compounds, phenolics, iodine and chlorine preparations, mercurials, formaldehyde and glutaraldehyde. Sodium thioglycollate, sodium thiosulphate, sodium bisulphite, soya lecithin and polysorbate 80 act as neutralizing components. HiVeg hydrolysate, yeast extract and dextrose provide carbon, nitrogen and other essential factors for enhanced growth.

For testing disinfectants, prepare two sets of test tubes, one containing 9 ml Dey-Engley Neutralizing HiVeg Broth (MV1062) and other with 9 ml Dey-Engley Neutralizing HiVeg Broth Base (MV187). Add 1 ml of disinfectant under test. Mix well and allow it to stand for 15 minutes. Inoculate 0.1 ml of 1:100,000 dilution of overnight broth cultures and incubate at 37°C for 48 hours. Growth is indicated by a colour change from purple to yellow or pellicle formation. Growth in Neutralizing HiVeg Broth and no growth in Neutralizing HiVeg Broth Base indicates neutralization of disinfectant. To check bactericidal activity, both broth tubes are inoculated on D/E Neutralizing HiVeg Agar (MV186). Positive growth from negative tubes of Neutralizing HiVeg Broth Base indicates bacteriostatic substance while negative growth indicates a bactericidal disinfectant. All positive tubes should show growth on Dey-Engley

Product Profile :

Vegetable based (Code MV)®	Animal based (Code M)
MV186/MV1062/MV187 HiVeg hydrolysate	M186/M1062/M187 Casein enzymic hydrolysate
Recommended for	: Disinfectants testing where neutralization of the antiseptics and disinfectants is important for determining its bactericidal activity.
Reconstitution	: (MV186) : 54.0 g/l : (MV1062) : 39.0 g/l : (MV187) : 17.5 g/l
Quantity on preparation (500g):	(MV186) : 9.25 L
	(500g): (MV1062) : 12.82 L
	(500g): (MV187) : 28.57 L
pH (25°C)	: 7.6 ± 0.2
Supplement	: None
Sterilization	: 121°C / 15 minutes.
Storage	: Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.

Neutralizing HiVeg Agar. The control disinfectants used in test procedure are 2% chlorine, 2% formaldehyde, 1% glutaraldehyde, 2% iodine, 2% phenol, 1/750 quaternary ammonium compounds, 1/1000 mercurials etc.

Quality Control :

Appearance of Powder

Bluish grey coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel of MV186.

Colour and Clarity

Purple coloured, opalescent gel forms in petri plates, clear solution in tubes.

Reaction

Reaction of 5.4% w/v of MV186 or 3.9% w/v of MV1062 or 1.75% w/v of MV187 aqueous solution is pH 7.6 ± 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
<i>Bacillus subtilis</i> (6633)	10 ² -10 ³	luxuriant	>70%
<i>Escherichia coli</i> (25922)	10 ² -10 ³	luxuriant	>70%
<i>Pseudomonas aeruginosa</i> (27853)	10 ² -10 ³	luxuriant	>70%
<i>S. serotype Typhimurium</i> (14028)	10 ² -10 ³	luxuriant	>70%
<i>Staphylococcus aureus</i> (25923)	10 ² -10 ³	luxuriant	>70%

References :

1. Engley and Dey, 1970, CSMA Proceedings.