

Tergitol-7 HiVeg™ Agar Base/ Agar H/ Broth**MV616/MV850/MV851**

Tergitol 7 HiVeg Agar / Broth is recommended as a selective medium for enumeration of coliform organisms.

Composition ** :

Ingredients	MV616	MV850	MV851
	Grams/ Litre	Grams/ Litre	Grams/ Litre
HiVeg peptone No.3	5.00	5.00	5.00
Yeast extract	3.00	3.00	3.00
Lactose	10.00	10.00	10.00
Sodium heptadecyl sulphate	0.10	0.10	0.10
Bromo thymol blue	0.025	0.025	0.025
Ferric ammonium citrate	-	0.50	-
Sodium thiosulphate	-	0.50	-
Agar	15.00	15.00	-

Final pH (at 25°C) 6.9 ± 0.2 7.2 ± 0.2 6.9 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 33.13 grams of MV616 or 34.13 grams of MV850 or 18.13 grams of MV851 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 45 – 50°C. Aseptically add 3 ml of 1% 2, 3, 5, Triphenyl Tetrazolium Chloride (TTC) Solution (FD057), if desired.

Principle and Interpretation :

These media are prepared by completely replacing animal based peptones with vegetable peptones that makes the media free of BSE/TSE risks. Tergitol-7 HiVeg Media are the modifications of Tergitol-7 Media originally designed by Chapman (1) and later on modified by incorporating 2,3,5,-Triphenyl Tetrazolium Chloride (TTC) into the medium. These media are selective and differential and are used for the detection and enumeration of coliform organisms. Pollard (2) has reported the selective bactericidal property of sodium heptadecyl sulphate (Tergitol-7). Kulp et al (3) corroborated the use of Tergitol-7 Agar with TTC in routine analysis of water and Mossel(4) used this medium for the examination of food materials. Tergitol-7 HiVeg Media like the conventional media can be corroborated with TTC in the routine analysis of water and examination of food materials. Tergitol-7 HiVeg Agar H is a modification of Tergitol-7 HiVeg Agar and is used for isolation of enteric bacilli from urine samples. It contains sodium thiosulphate as an indicator of H₂S production. Tergitol-7 inhibits gram-positive bacteria and *Proteus* swarming and yields better recovery of coliforms. Bromo thymol blue is the pH indicator. Lactose fermenting

Product Profile :

Vegetable based (Code MV) ©		Animal based (Code M)	
MV616/MV850/MV851 HiVeg peptone No. 3		M616/M850/M851 Proteose peptone	
Recommended for	:	Selective medium for enumeration of coliform organisms.	
Reconstitution	:	(MV616) : 33.13 g/l	
	:	(MV850) : 34.13 g/l	
	:	(MV851) : 18.13 g/l	
Quantity on preparation (500g)	:	(MV616) : 15.09 L	
	:	(MV850) : 14.64 L	
	:	(MV851) : 27. 57 L	
	:	(100g) : (MV616) : 3.01 L	
pH (25°C)	:	(MV616) & (MV851) : 6.9 ± 0.2	
	:	(MV850) : 7.2 ± 0.2	
Supplement	:	TTC Solution (FD057)	
Sterilization	:	121°C / 15 minutes.	
Storage	:	Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.	

organisms form yellow colonies with yellow zones while *Klebsiella* and *Enterobacter* form greenish colonies. Lactose non fermenters produce blue colonies. TTC is reduced in the bacterial cell to form formazan, a red coloured insoluble complex, thereby producing red coloured colonies. HiVeg peptone No.3 is a source of nitrogen, amino acids, carbon. Yeast extract provides trace elements, vitamins and amino acids.

Quality Control :**Appearance of Powder**

Yellow coloured w/ green tinge, homogenous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel of MV616 or MV850.

Colour and Clarity

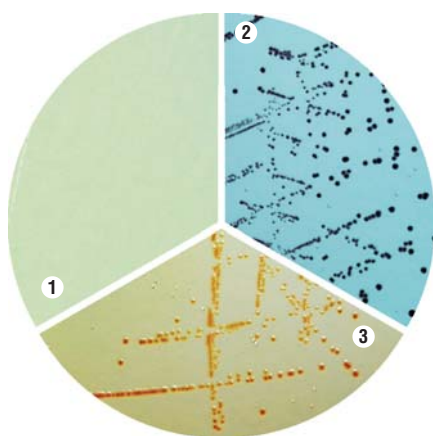
Green coloured, clear to slightly opalescent gel forms in petri plates, clear solution in tubes.

Reaction

Reaction of 3.31% w/v of MV616 and 1.81% w/v of MV851 aqueous solution is pH 6.9 ± 0.2 at 25°C and 3.41% w/v aqueous solution of MV850 is pH 7.2 ± 0.2 at 25°C.

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MV616 Tergitol-7 HiVeg Agar Base

- 1. Control
- 2. *Salmonella* serotype Typhimurium
- 3. *Escherichia coli*

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours on Tergitol 7 HiVeg Agar (MV616)/ Broth (MV851).

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony
<i>Escherichia coli</i> (25922)	10 ² -10 ³	luxuriant	>50%	yellow
<i>Enterobacter aerogenes</i> (13048)	10 ² -10 ³	luxuriant	>50%	yellow
<i>Salmonella</i> serotype Typhimurium (14028)	10 ² -10 ³	luxuriant	>50%	blue
<i>Shigella flexneri</i> (12022)	10 ² -10 ³	luxuriant	>50%	blue
<i>Staphylococcus aureus</i> (25923)	10 ² -10 ³	inhibited	0%	-

Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours on Tergitol-7 HiVeg Agar H (MV850).

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony	H ₂ S
<i>Escherichia coli</i> (25922)	10 ² -10 ³	luxuriant	>50%	yellow	-
<i>Proteus mirabilis</i> (25933)	10 ² -10 ³	luxuriant	>50%	blue	+
<i>Salmonella</i> serotype Enteritidis (13076)	10 ² -10 ³	luxuriant	>50%	blue	+
<i>Klebsiella pneumoniae</i> (13883)	10 ² -10 ³	fair-good	>20%	greenish yellow	-
<i>Enterococcus faecalis</i> (29212)	10 ² -10 ³	inhibited	0%	-	-

References :

- 1. Chapman G. H., 1947, J. Bact., 53:504.
- 2. Pollard A.L., 1946 Science, 103:758.
- 3. Kulp W., Mascoli C. and Tavshanjian O., 1953, Am J. Public Health, 43:1111.
- 4. Mossel D.A.A., 1962, J. Appl.Bact. 25:20.