Tryptone Soya Salt HiVeg™ Agar w/ Magnesium Sulphate MV1242

Tryptone Soya Salt HiVeg Agar with Magnesium sulphate is recommended for enumeration of *Vibrio parahaemolyticus* from seafood by membrane filter technique.

Composition ** :

Ingredients	Grams/Litre
HiVeg hydrolysate	50.0
Papaic digest of soyabean meal	5.0
Sodium chloride	30.0
Magnesium sulphate	1.5
Agar	15.0

Final pH (at 25°C) 7.3 ± 0.2
** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 10.15 grams in 100 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle and Interpretation :

This medium is prepared by using HiVeg hydrolysate which is free of BSE/TSE risks associated with animal based Casein enzymic hydrolysate in conventional Tryptone Soya Salt Agar with Magnesium Sulphate (TSAMS) (M1242) recommended by APHA for isolation of *Vibrio parahaemolyticus* from sea foods (1). The equivalent HiVeg media (MV1242) can be used for the same purpose. High level of sodium chloride, 3.0% concentration is used in this media which selectively allows growth of *Vibrio* species. *Vibrio parahaemolyticus*, *Vibrio alginolyticus*, *Vibrio fluvialis* is reported to survive at 8% concentration of sodium chloride whereas *Vibrio vulnificus* tolerates 6% of sodium chloride in growth media (1).
This medium has growth supporting nutrients favourable for *Vibrio* species. The sample can also be diluted and plated for enumeration if pure culture is used. However further confirmation needs to be studied on differential medium. As per APHA, initial use of equivalent media, TSAMS after membrane filtration and impinging on suitable agar media like Vibrio parhaemolyticus Sucrose Agar (VPSA) (M1153), for growth of *Vibrio parahaemolyticus* is cited.
Utilizing hydrophobic grid membrane filter (HGMF), this medium can be used for enumeration of *Vibrio parhaemolyticus* as recommended by APHA (1,2). On similar lines, the suspected seafood samples may be diluted in suitable diluent (PTS- Peptone Tween Salt Diluent) and filtered through membrane. The membrane may then be aseptically transferred on MV1242 and incubated at 35-37°C for 4 hours. After incubation this membrane is transferred on dry Vibrio parahaemolyticus Sucrose HiVeg Agar (MV1153). *Vibrio parahaemolyticus* colonies appear as green to blue colonies while other *Vibrios* appear yellow due to fermentation of sucrose.
Please note that *Vibrio vulnificus* also grows as green to blue coloured colony on MV1153. It can be differentiated from *Vibrio parahaemolyticus* on basis of additional biochemical reactions. *Vibrio parahaemolyticus* does not ferment lactose, cellobiose and is ONPG negative whereas *Vibrio vulnificus* is positive for all these three tests.

Product Profile :

Vegetable based (Code MV)◉	Animal based (Code M)
MV1242 HiVeg hydrolysate	**M1242** Casein enzymic hydrolysate

Recommended for	:	Enumeration of *Vibrio parahaemolyticus* from seafood by membrane filter technique.
Reconstitution	:	101.50 g/l
Quantity on preparation (500g)	:	4.92 L
pH (25°C)	:	7.3 ± 0.2
Supplement	:	None
Sterilization	:	121°C / 15 minutes.

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

Quality Control :

Appearance of powder
Light yellow to yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.
Gelling
Firm, comparable with 1.5% Agar gel.
Colour and Clarity
Yellow coloured, clear to slightly opalescent gel forms in petri plates.
Reaction
Reaction of 10.15% w/v aqueous solution is pH 7.3 ± 0.2 at 25°C
Cultural Response
Cultural characteristics observed after an incubation at 42°C for 18-24 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth
Vibrio alginolyticus (17749)	10^2-10^3	good-luxuriant
Vibrio parahaemolyticus (17802)	10^2-10^3	good-luxuriant
Vibrio vulnificus (29306)	10^2-10^3	good-luxuriant

References :

1. Downes FP and Ito K (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
2. Entis, P. and Boleszcuk, P. 1983, J. Food Prot., 46:783.

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