

Technical Information

Semisolid IMRV MiVeg Medium Base

Product Code : VM2427

Application:- Semisolid IMRV MiVeg Medium Base is used for simultaneous enrichment as well as isolation of motile *Salmonella* from other competitive organisms.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	13.5
MiVeg peptone	13.5
Saccharose	7.5
Lactose	0.5
Ammonium ferric sulphate	0.2
Sodium thiosulphate	0.8
Potassium dihydrogen phosphate	1.47
Magnesium chloride	10.91
Malachite green	0.037
Bromo cresol purple	0.08
Agar	2.7
Final pH (at 25°C)	5.5 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Semisolid IMRV MiVeg Medium Base is prepared by adding MiVeg hydrolysate and MiVeg peptone in place of Casein enzymic hydrolysate and Peptic digest of animal tissue respectively, thereby making the medium free from BSE/TSE risks.

Semisolid IMRV MiVeg Medium Base is used for simultaneous enrichment and isolation of motile *Salmonella* from food and environmental samples. Like conventional medium, this medium is a diagnostic medium that distinguish motile *Salmonella* from non-motile forms (1, 2). Also, *Salmonella* can be isolated from a mixed culture of different gram-negative organisms.

Addition of Novobiocin as a supplement and malachite green in the medium selectively inhibits most of the gram-positive organisms. *Salmonella* generally survives a little high osmotic pressure (due to MgCl₂ (magnesium chloride) in the medium), grows at slightly low pH and are resistant to malachite green compared to other bacteria. Saccharose, Lactose and Bromocresol purple differentiates *Salmonella* from lactose and saccharose (sucrose) fermenting organisms. Ammonium ferric sulphate and Sodium thiosulphate indicates H₂S production.

Thiosulphate is reduced to H₂S by several species of bacteria which in turn combines with ferric ions to produce the insoluble black precipitate of ferrous sulphide as indicated by formation of greyish black colour at the centre of the colony.

Methodology

Suspend 51.2 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat with stirring to dissolve the medium completely. DO NOT AUTOCLAVE / DO NOT OVERHEAT. Cool to 45°C and aseptically add 1 vial of rehydrated contents of IMRV/ RV Selective Supplement (MS2193). Mix well before pouring into sterile petri plates.

Note: The motility of *Salmonellas* can be drastically reduced when the agar surface becomes too dry. Hence the plates should be well dried before use. If visible moisture occurs on the lid of the plates or the surface of agar, it must be removed. While incubation, incubate the plates aerobically in an upright position for no longer than 24 hours at 42°C.

Quality Control

Physical Appearance

Light yellow coloured, may have slightly opalescent tinge, homogeneous, free flowing powder.

Gelling

Firm, comparable with 0.27% Agar gel.

Colour and Clarity of prepared medium

Dark green coloured, clear to slightly opalescent semisolid medium forms in petriplates.

Reaction

Reaction of 5.12% w/v aqueous solution is pH 5.5 $\pm$ 0.2 at 25°C.

pH Range

5.3 - 5.7

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 42°C for 18-24 hours, when one drop of culture is inoculated in the center of the medium plate.

Organisms (ATCC)	Inoculum (CFU)	Growth	Motility
<i>Citrobacter freundii</i> (8090)	10 ² -10 ³	Inhibition	-
<i>Pseudomonas aeruginosa</i> (9027)	10 ² -10 ³	Inhibition	-
<i>Salmonella</i> serotype Typhimurium (14028)	10 ² -10 ³	good	+ *

Key : * = development of purple halos of growth originating from the inoculation spot.

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 day.

Further Reading

1. Vander Zee H, and Van Netten P. 1992 Proc. Symp. "Salmonella and Salmonellosis". Ploufragan ; 69.
2. Puzickova, V; Karpiskova, R. and Pakrova, E. 1996. Vet Med. Praha. 41 (9): 283-288.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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