Dehydrated Culture Media
Bases / Media Supplements

Technical Information

SS MiVeg Agar (Salmonella Shigella MiVeg Agar)

Product Code : VM1108

Application:- SS MiVeg Agar (Salmonella Shigella MiVeg Agar) is a differential and selective medium used for the isolation of *Salmonella* and some *Shigella* species from pathological specimens, suspected foodstuffs etc.

Composition

Ingredients	Gms / Litre
MiVeg peptone	11.50
MiVeg extract	5.0
Lactose	10.0
Synthetic detergent No. I	2.0
Sodium citrate	10.0
Sodium thiosulphate	8.5
Ferric citrate	1.0
Brilliant green	0.00033
Neutral red	0.025
Agar	15.0
Final pH (at 25°C)	7.0 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

SS MiVeg Agar is prepared by adding vegetable peptones in place of animal based peptone thus making the medium free from BSE/TSE risks. SS MiVeg Agar is the modification of SS Agar which is recommended as a differential and selective medium for the isolation of *Salmonella* and *Shigella* species from pathological specimens (1) and suspected foodstuffs (2, 3, 4, 5).

MiVeg peptone, MiVeg extract supplies all the essential growth nutrients required for the optimum growth of the organisms. Lactose is the fermentable carbohydrate. Brilliant green, synthetic detergent and thiosulphate selectively inhibit gram-positive and coliform organisms. Certain enteric organisms species reduces sodium thiosulphate to sulphite with H_2S production i.e., further detected as an insoluble black precipitate of ferrous sulphide, formed upon reaction of H_2S with ferric ions or ferric citrate, indicated in the centers of the colonies.

SS MiVeg Agar is a highly selective medium, allowing the use of large inoculum directly from different suspected materials like faeces, rectal swabs, contaminated samples containing pathogenic enteric bacilli. Lactose fermention by lactose-fermenters changes the colour of the medium from yellow to red by the pH indicator-neutral red. Thus, these organisms grow as red pigmented colonies whereas lactose non-fermenters grow as translucent colourless colonies with or without black centers. *Salmonella* species appear as colourless colonies with black centers due to H_2S production. Shigella species also grow as colourless colonies which do not produce H_2S. Due to high level of selectivity, some Shigella strains may not grow on SS MiVeg Agar. It is therefore suggested to inoculate samples in parallel on Hektoen Enteric MiVeg Agar (VM1467) or Deoxycholate Citrate MiVeg Agar (VM1065) in parallel with SS MiVeg Agar (VM1108) for easier isolation of *Shigella* species (6).

Methodology

Suspend 63 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat to boiling with frequent agitation to dissolve the medium completely. DO NOT AUTOCLAVE OR OVERHEAT. Overheating may destroy selectivity of the medium. Cool to 50°C. Mix well before pouring into sterile petri plates.

Quality Control

Physical Appearance

Beige to pinkish beige coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Reddish orange coloured, clear to slightly opalescent gel forms in petri plates.

Reaction

Reaction of 6.3% w/v aqueous solution is pH 7.0 ± 0.2 at 25°C.

pH Range

6.8 - 7.2

Cultural Response/Characteristics

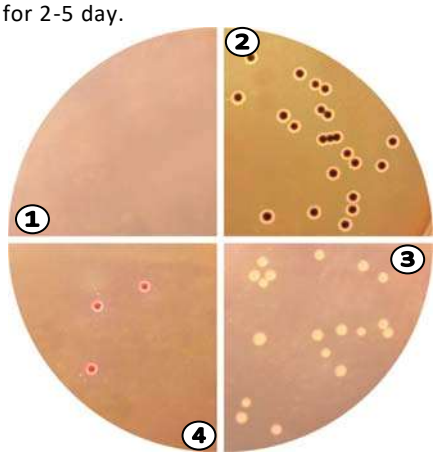
Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony
Enterobacter aerogenes (13078)	10^2-2×10^3	poor-good	>20%	cream-pink
Enterococcus faecalis (29212)	10^2-2×10^3	none-poor	<10%	colourless
Escherichia coli (25922)	10^2-2×10^3	poor-good	>20%	pink
Proteus mirabilis (25933)	10^2-2×10^3	poor-good	>20%	colourless #
Salmonella serotype Enteritidis (13076)	10^2-10^3	good-luxuriant	>50%	colourless with *
Salmonella serotype Typhi (6539)	10^2-10^3	good-luxuriant	>50%	colourless with *
Salmonella serotype Typhimurium (14028)	10^2-10^3	good-luxuriant	>50%	colourless with *
Shigella flexneri (12022)	10^2-10^3	good-luxuriant	>50%	colourless

Key : * = black centre,
= may have black centre

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: 2-8^0 in sealable plastic bags for 2-5 day.



VM1108 SS MiVeg Agar
(Salmonella Shigella MiVeg Agar)

1. Control
2. *Salmonella* serotype Enteritidis
3. *Shigella flexneri*
4. *Escherichia coli*

Further Reading

1. Murray PR, Baron, Pfaller, and Yolken (Eds.), 2003, In Manual of Clinical Microbiology, 8th ed., ASM, Washington, D.C.
2. Frances Pouch Downes and Keith Ito (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
3. Standard Methods for the Examination of Dairy Products. 17th Edition, 2004 Edited by H. Michael Wehr and Joseph H. Frank.
4. Eaton A.D., Clesceri L.S. and Greenberg A.E., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st ed, APHA, Washington, D.C.
5. Williams (Ed.), 2005, Official methods of Analysis of AOAC, 18th ed. AOAC, Washington, D.C.
6. MacFaddin 1985, Media for isolation-cultivation-identification-maintenancemedical bacteria Vol, I, Williams, & Wilkins, Baltimore, M.D.

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