Technical Information

Salmonella Differential MiVeg Agar (RajHans MiVeg Medium)

Product Code : VM2078

Application:- Salmonella Differential Agar MiVeg Agar, Modified is recommended for the identification and differentiation of *Salmonella* species from members of *Enterobacteriaceae*, especially *Proteus* species.

Composition

Ingredients	Gms / Litre
Part A	
MiVeg special peptone	8.00
Yeast extract	2.00
Synthetic detergent no. III	1.00
B.C. Indicator	2.000
Agar	12.00
Part B	
Propylene glycol	10.00
Final pH (at 25°C)	7.3 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Salmonella Differential MiVeg Agar, Modified is prepared by using Vegetables peptones in place of animal based peptones thus making it free from BSE/TSE risk. This medium is the modification of Salmonella Differential Agar which in turn itself is a slight modification of original formulation of Rambach (1) used for differentiation of *Salmonella* species from *Proteus* species and other enteric bacteria. Acid production from propylene glycol is a novel characteristic of *Salmonella* species which is utilized in this medium. Many of the media such as SS Agar, XLD Agar recommended for the identification and differentiation of *Salmonella* species (2) are based on lactose fermentation and hydrogen sulphide production.

MiVeg special peptone and yeast extract provides necessary nutrients for the growth of organisms while Synthetic detergent no. III inhibits gram- positive organisms rendering the medium selective for enteric microorganisms. The BC indicator turns pink in presence of acid produced from propylene glycol. Lactose fermenters (ß-galactosidase producing) give rise to blue violet coloured colony (3). Salmonellae produce acid from propylene glycol and on combining with the pH indicator produce pink red colonies whereas other enteric gram-negative bacteria form colourless colonies. *Salmonella* Typhimurium and *Salmonella* Enteritidis produce pink to red colonies. Specimen should be enriched in an appropriate selective enrichment broth. This enriched culture is then inoculated on Salmonella Differential Agar and incubated at 35-37°C for 24-48 hours.

Methodology

Suspend 10 grams of fluid Part B in 1000 ml distilled water. Add 25 grams of Part A. Mix well and heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45-50°C. Mix well before pouring into sterile Petri plates.

Quality Control

Physical Appearance

Part A: Light yellow to light pink coloured free flowing powder.

Part B: Colourless clear liquid.

Gelling

Firm, comparable with 1.2% Agar gel.

Colour and Clarity of prepared medium

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

Reaction

Reaction of 2.5% w/v aqueous solution of Part A is pH 7.3 ± 0.2 at 25°C.

pH Range

7.1-7.5

Cultural Response/Characteristics

VM2078: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organisms (ATCC)	Growth	Colour of colony
Escherichia coli (25922)	luxuriant	blue-green
Klebsiella pneumonia (ATCC 13883)	luxuriant	blue-violet
Proteus mirabilis (ATCC25933)	luxuriant	colourless
Salmonella serotype Typhimurium (14028)	luxuriant	pink-red
Salmonella serotype Enteritidis (13076)	luxuriant	pink-red
Salmonella Typhi (ATCC6539)	luxuriant	colourless
Shigella flexneri (ATCC12022)	luxuriant	colourless
Staphylococcus aureus (ATCC 25923)	inhibited	_

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.

Further Reading

1.Rambach A., 1990, Appl Environ. Microbiol., 56:301.
2.Eaton A.D., Clesceri L.S., Rice E. W. and Greenberg A W., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C
3.Greenwald R., Henderson R W. and Yappaw S., 1991, J. Clin. Microbiol. 29:2354.

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