Technical Information

Sorbitol Iron MiVeg Agar

Product Code : VM1299

Application:- Sorbitol Iron MiVeg Agar is used for cultural identification and differentiation of enteropathogenic *Escherichia coli* which do not ferment sorbitol.

Composition

Ingredients	Gms / Litre
MiVeg extract	3.0
MiVeg peptone No. 3	15.0
D-Sorbitol	2.0
Sodium chloride	5.0
Ferric ammonium citrate	0.5
Sodium thiosulphate	0.5
Phenol red	0.03
Agar	20.0
Final pH (at 25°C)	7.6 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Sorbitol Iron MiVeg Agar is prepared by adding vegetables peptones in place of animal based peptones thereby making the medium free from BSE/TSE risks. Sorbitol Iron MiVeg Agar is the modification of Sorbitol Iron Agar which is a differential tube medium described by Rappaport and Henig (1). Sorbitol Iron MiVeg Agar is a modification of Kligler Iron Agar where Dextrose and Lactose is substituted with D-Sorbitol. The pathogenic strain of *Escherichia coli* (EPEC) is identified on the basis of its inability to ferment sorbitol and produce hydrogen sulfide (H_2S).

Colourless colonies from Sorbitol MiVeg Agar (VM1298) are inoculated into Sorbitol Iron MiVeg Agar (VM1299) by stabbing the butts and streaking the slants. After 18-24 hours of incubation, freshly isolated pathogenic strains of *Escherichia coli* of the serotypes 011 and 055 show neither acid production nor blackening of the medium. Ordinary strains of *Escherichia coli* produce acid and gas on Sorbitol Iron MiVeg Agar. Some pathogenic strains after laboratory cultivation may develop the capacity to ferment sorbitol and produce acid. Subsequent transfer of such cultures on Kliger Iron MiVeg Agar (VM1078) or Triple Sugar Iron MiVeg Agar (VM1021) & Urea Broth Base (DM1111) help in identification. *Proteus* species may or may not blacken the medium and may produce acid in the butt, but these give a positive reaction on Urea Broth Base (DM1111).

Methodology

Suspend 46 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. Dispense in test tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Allow the tubes to cool in a slanted position.

Quality Control

Physical Appearance

Light pink coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 2.0% Agar gel.

Colour and Clarity of prepared medium

Red coloured, clear to slightly opalescent gel forms in tubes as slants.

Reaction

Reaction of 4.6% w/v aqueous solution is pH 7.6 ± 0.2 at 25°C.

pH Range

7.4-7.8

Cultural Response/Characteristics

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

Organisms (ATCC)	Inoculum (CFU)	Growth	Sorbital	H_2S
E. coli (0157:H7)	10^2-10^3	luxuriant	-	-
E.coli serotype 011 and 055 (pathogenic)	10^2-10^3	luxuriant	-	-
Enterobacter aerogenes (13048)	10^2-10^3	luxuriant	+	-
Enterococcus faecalis (29212)	10^2-10^3	luxuriant	+	-
Escherichia coli (25922)	10^2-10^3	luxuriant	+*	-
Klebsiella pneumoniae (13883)	10^2-10^3	luxuriant	+	-
Proteus vulgaris (13315)	10^2-10^3	luxuriant	-	+
Salmonella serotype Typhimurium(14028)	10^2-10^3	luxuriant	+	+
Shigella flexneri (12022)	10^2-10^3	luxuriant	-	-

Key : + = positive reaction, yellow colour or blackening
-- = negative reaction
+* = acid and gas production

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. Rappaport and Henig, 1952, J. Clin. Path., 5:361.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate.
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for in fingement of any patents.Do not use the products if it fails to meet specificatons for identity and performens parameters.