Technical Information

Sellers Differential MiVeg Agar

Product Code : VM1293

Application:- Sellers Differential MiVeg Agar is used for differentiation and identification of gram-negative non-fermentative bacilli especially *Pseudomonas aeruginosa* and *Acinetobacter calcoaceticus.*

Composition**

Ingredients	Grams/Litre
MiVeg peptone	20.0
Yeast extract	1.0
L-Arginine	1.0
D-Mannitol	2.0
Sodium chloride	2.0
Sodium nitrate	1.0
Sodium nitrite	0.35
Magnesium sulphate.$7H_2O$	1.5
Dipotassium phosphate	1.0
Bromo thymol blue	0.04
Phenol red	0.008
Agar	15.0
Final pH (at 25°C)	6.7 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Sellers Differential MiVeg Agar is prepared by adding MiVeg peptone in place of Peptic digest of animal tissue thereby making this medium BSE/TSE risks free. Sellers Differential MiVeg Agar is the modification of Sellers Differential Agar which is formulated as described by Sellers (1) fordifferentiation and identification of non-fermentative gram-negative bacilli especially *Pseudomonas aeruginosa, Acinetobacter calcoaceticus* and also *Alcaligens faecalis.* This medium differentiates on the basis of dextrose oxidation, fluorescence, production of nitrogen and pH changes.
Yeast extract and MiVeg peptone serve as the sources of carbon and nitrogen compounds as well as vitamins and minerals. *Pseudomonas aeruginosa* usually oxidizes glucose and produces acid however in this medium it does not, due to the presence of arginine and high peptone concentration. The alkali produced from peptonebreakdown neutralizes acid (3). Dextrose oxidation by action of organisms is seen as a yellow band at the slant-butt junction. D-Mannitol and magnesium sulphate stimulate fluorescence while nitrogen gas production is stimulated by dipotassium phosphate (1, 2). Sodium nitrate and nitrite serve as substrates for the nitrogen gas production. Phenol red and bromo thymol blue are the pH indicators. Arginine dihydrolase positive reaction is indicated by the formation of blue colour.

Methodology

Suspend 44.90 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. Cool the tubed medium in slanted position. Add 0.15 ml or 2 drops of 50% sterile dextrose solution to each slant just before the inoculation.

Quality Control

Physical Appearance

Yellow coloured, may have slightly greenish tinge,homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Green coloured, slightly opalescent gel forms in tubes as slants.

Reaction

Reaction of 4.49 % w/v aqueous solution of the medium at 25°C pH 6.7 ± 0.2.

pH range

6.5-6.9

CulturalResponse/Characteristics

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

Organisms (ATCC)	Growth	Slant	Buttt	Band	Fluorescence	Nitrogen gas
Acinetobacter calcoaceticus (19606)	Good	Blue	Green	Yellow	-	-
Alcaligenes faecalis (8750)	Good	Blue	Blue-green	-	-	+
Pseudomonas aeruginosa (27853)	Good	Blue-green	Blue-green	Blue	+	+

Key : * = yellow - green fluorescence under UV light.

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 days

Further Reading

1. Sellers W., 1964, J. Bact., 87:46.
2. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
3. Liu P., 1952, J Bacteriol ., 64.,773.

Disclaimer

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