Technical Information

Deoxycholate Citrate Agar, MiVeg

Product Code : VM1065

Application:- Deoxycholate Citrate Agar, MiVeg is a selective medium recommended for the isolation of enteric pathogens particularly *Salmonella* and *Shigella species.*

Composition

Ingredients	Gms / Litre
MiVeg infusion	10.0
MiVeg peptone No. 3	13.0
Lactose	10.0
Synthetic detergent No. III	2.0
Neutral red	0.02
Sodium citrate	20.0
Ferric ammonium citrate	2.0
Agar	13.5
Final pH (at 25°C)	7.5±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Deoxycholate Citrate Agar MiVeg is prepared by using vegetable peptone in place of animal peptone which makes the media BSE/TSE risks free. This medium is the modification of Deoxycholate Citrate Agar which is prepared as per the modified formula of Leifson (1). This medium is similar to the medium used for the isolation and maximum recovery of intestinal pathogens belonging to *Salmonella* and *Shigella* groups from foods (2). However, it is recommended to use less inhibitory medium when *Shigellae* have to be isolated (3). The selectivity of this medium permits the use of fairly heavy inocula without danger of overgrowth of the *Shigella* and *Salmonella* by other microflora. For the routine examination of stool and urine specimens, it is suggested that other media such as MacConkey MiVeg Agar (VM1082), Bismuth Sulphite MiVeg Agar (VM1027) etc. be used in conjunction with this medium. It is similar to Deoxycholate agar in comparison but is moderately more selective for enteric pathogens due to increased concentrations of both citrate salt and synthetic detergent No. III. Citrate salts, inhibits gram-positive bacteria and most other normal intestinal organisms. Non- Lactose fermenting bacteria produce colourless colonies where as Coliform bacteria, forms pink colonies on this medium. H_2S (Hydrogen sulphide) producing organisms reduces ferric ammonium to iron Sulphide which is indicated by blackening of the central position of the colony.

Methodology

Suspend 70.52 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Avoid excessive heating as it is detrimental to the medium.

Quality Control

Physical Appearance

Pinkish beige coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.35% Agar gel.

Colour and Clarity of prepared medium

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

Reaction

Reaction of 7.0 % w/v aqueous solution pH: 7.5 ±0.2 at 25°C

pH range

7.3-7.7

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
Enterococcus faecalis (29212)	10^2-10^3	inhibited	0%	-
Escherichia coli (25922)	10^2-10^3	poor	>10%	pink
Salmonella serotype Enteritidis (13076)	10^2-10^3	Good-luxuriant	>50%	colourless*
Salmonella serotype Typhimurium (14028)	10^2-10^3	luxuriant	>50%	colourless*
Shigella flexneri (12022)	10^2-10^3	good	>30%	colourless*

Key : * = H S 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 days.

Further Reading

1. Leifson, 1935, J. Path. Bact., 40:581.
2. Speck M. (Ed.), 1984, Compendium of Methods for the Microbiological Examination of Foods, 2nd ed., APHA, Washington, D.C.
3. Frieker C.R., 1987, J. Appl. Bact., 63:99.

Disclaimer :

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