Technical Information

Bile Esculin MiVeg Agar

Product Code : VM1972

Application:- Bile Esculin MiVeg Agar is a differential medium recommended for isolation and presumptive identification of Group D *Streptococci* from food and pharmaceutical products.

Composition

Ingredients	Gms / Litre
MiVeg peptone	25.00
MiVeg extract	6.00
Synthetic detergent No.II	2.00
MiVeg hydrolysate	15.00
Esculin	1.00
Ferric citrate	0.50
Agar	15.00
Final pH (at 25°C)	6.6±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Bile Esculin MiVeg Agar is prepared by using vegetable peptones instead of animal based peptones which makes the medium BSE/TSE risks free. This medium is the modification of Bile Esculin Agar which was formulated by Swan (1) for the isolation and identification ofGroup D *Streptococci* from food. Synthetic detergent No II present in the medium inhibits gram positive bacteria other than group D *Streptococci* and *Enterococci*. *Enterococci* and Group D *Streptococci* were able to split esculin to esculetin and dextrose, which reacts with ferric citrate producing brownish black precipitate (2). Ferric citrate serves as an indicator of esculin hydrolysis and resulting esculatin formation. Originally Bile Esculin Test was used for identification of *Enterococci*, but it was found that this test is also shared by Group D *Streptococci* (3) and therefore it is recommended that other tests such as salt tolerance be performed while identifying *Enterococci* (4). Similarly this medium was also shown to aid differentiation of *Enterobacteriaceae*, *Klebsiella, Enterobacter-Serratia* division from other *Enterobacteriaceae* genera (5) on the basis of esculin hydrolysis. Occasional strains of viridans *Streptococci* blacken the medium or display weakly positive reactions (6).

Methodology

Suspend 64.5 grams of powder media in 1000 ml purified/distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Dispense into tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Allow the tubed medium to solidify in slanted position.

Quality Control

Physical Appearance

Brownish 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

Yellow coloured, clear to slightly opalescent gel with a bluish tinge forms in petri plates.

Reaction

Reaction of 6.45 % w/v aqueous solution pH: 6.6±0.2 at 25°C

pH range

6.4-6.8

Cultural Response/Characteristics

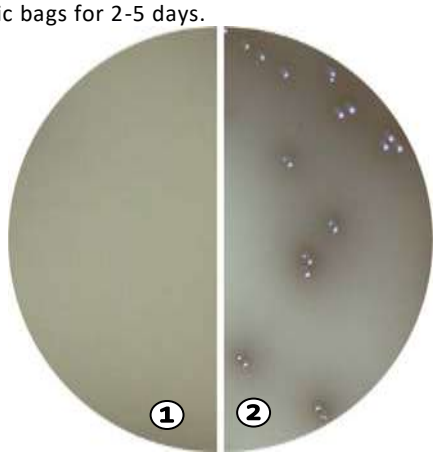
Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours in an increased atmosphere of carbon dioxide

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Esculin hydrolysis
Enterococcus faecalis (29212)	10^2-10^3	luxuriant	>50%	+
Streptococcus pyogenes (19615)	10^2-10^3	None-poor	>10%	-
Proteus mirabilis (25933)	10^2-10^3	luxuriant	>50%	-

Key : + = Blackening of the medium
— = No Change

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.



VM1972 Bile Esculin MiVeg Agar
1. Control
2. *Enteroccocus faecalis*

Further Reading

1. Swan A., 1954, J. Clin. Pathol., 7:160.
2. MacFaddin J.F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
3. Facklam R., 1972, Appl. Microbiol., 23:1131.
4. Facklam R., 1973, Appl. Microbiol., 26:138.
5. Edberg S.C., Pittman S., and Singer J.M., 1977, J. Clin. Microbiol., 6:111.
6. Facklam, etal 1999. In Murray, Baron, pfaller, Tenover and yolken (ed.), Manual of clinical Microbiology, 7th ed. ASM, Washington, D. C.

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