Technical Information

EE MiVeg Broth, Modified

Product Code :VM1287A

Application:- EE MiVeg Broth, Modified is used for selective enrichment of Enterobacteriaceae in bacteriological examination of foods.

Composition

Ingredients	Gms / Litre
MiVeg peptone No.2	25.00
Glucose monohydrate	5.00
Synthetic detergent No.II	5.00
Disodium phosphate dihydrate	8.00
Monopotassium phosphate	2.00
Brilliant green	0.15
Final pH (at 25°C)	7.2 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

EE MiVeg Broth, Modified is prepared by using vegetable peptones in place of animal based peptones thus making the medium BSE/TSE risk free. This medium is the modification of EE Media which was formulated by Mossel et al and is recommended as an enrichment medium for *Enterobacteriaceae* in biological examination of foods (1) and animal feed stuffs (2).

MiVeg peptone No.2 and dextrose in the medium favours the growth of most members of *Enterobacteriaceae, thus* ensuring the detection of *Salmonella* and other lactose-negative organisms. Addition of Brilliant green and synthetic detergent No.II makes the medium inhibitory to gram-positive bacteria. Acid production causes the colour change from green to yellow, while a negative reaction results in no colour change and the medium remains green. Phosphates act as a buffering system of the medium.

Enterobacteriaceae injured in food processing procedures, like exposure to low temperature, sub marginal heat, drying, radiation, preservatives or sanitizers(3) are resuscitated in well- aerated Tryptone Soya MiVeg Broth (VM1011) for 2 hours at 25°C prior to enrichment.

This medium should be used in conjunction with Violet Red Glucose MiVeg Agar (VM1581). Subcultures must be made onto lactose differential media as MacConkey MiVeg Agar (VM1081), Deoxycholate Citrate MiVeg Agar (VM1065) or Brilliant Green MiVeg Agar (VM1016) for the detection of lactose-negative or delayed lactose-fermenters. Incubation may be carried out at > 42°C for 18 hours, 32°C for 24-48 hours or 4°C for 10 days depending on the temperature characteristics of the organisms to be recovered.

Methodology

Suspend 45 grams of powder media in 1000 ml distilled water. Mix thoroughly. Distribute in 100ml quantities in 250ml flasks. Stopper with cotton plugs or loose fitting caps. Heat in free flowing steam or boiling water for 30 minutes only. Avoid overheating of the medium as it is heat sensitive. Cool rapdily in cold running water. DO NOT AUTOCLAVE.

Quality Control

Physical Appearance

Greenish yellow coloured, homogeneous, free flowing powder.

Colour and Clarity of prepared medium

Emerald green coloured, clear solution without any precipitate.

Reaction

Reaction of 4.5% aqueous solution is pH 7.2 ± 0.2 at 25°C

pH Range

7.0-7.4

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35°C for 20-24 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Acid
Enterobacter aerogenes (13048)	10^2-10^3	luxuriant	+
Escherichia coli (25922	10^2-10^3	luxuriant	+
Proteus mirabilis (25933)	10^2-10^3	luxuriant	+
Staphylococcus aureus (25923)	10^2-10^3	inhibited	-
Shigella boydii (12030)	10^2-10^3	luxuriant	-
Salmonella serotype Enteritidis (13076)	10^2-10^3	luxuriant	±

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. Mossel D.A.A., Visser M. and Cornellisen A.M.R.., 1963, J. Appl. .,26(3):444.
2. VanSchothurst M., et al, 1966, Vet Med., 13(3):273.
3. Hartman PA and S.A. Minnich, 1981. J Food Prot. 44 385-386.

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