Technical Information

M-Bismuth Sulphite MiVeg Broth

Product Code :VM2101

Application:- M-Bismuth Sulphite MiVeg Broth is a selective medium recommended for the detection of *Salmonellae* by the membrane filter technique.

Composition

Ingredients	Gms / Litre
MiVeg peptone	20.0
MiVeg extract	10.0
Dextrose	10.0
Disodium phosphate	8.0
Ferrous sulphate	0.6
Bismuth sulphite indicator	16.0
Brilliant green	0.05
Final pH (at 25°C)	7.7±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

M-Bismuth Sulphite MiVeg Broth is prepared by using MiVeg peptone and MiVeg extract in place of animal based peptones and Beef extract respectively so the medium becomes free from BSE/TSE risks. This medium is the modification of M-Bismuth Sulphite Broth which was formulated by Clark et al (1) and is particularly recommended for detection of *Salmonella* serotype Typhi from water and various clinical specimens. Cultures can be directly inoculated to the medium Pre enrichment is not necessary.

It contains MiVeg peptone, MiVeg extract and dextrose which supplies essential growth nutrients. Ferrous sulphate and bismuth sulphite together serve as H_2S indicators. Brilliant green acts as selective agent. Luxuriant growth of *Salmonella* serotype Typhi is obtained at 35°C after 30 hours but metallic sheen and brown-black halo is not developed before 40 hours. The importance of this medium like the conventional medium has been repeatedly mentioned for detection of *Salmonella* serotype Typhi by membrane filter technique (2 - 5).

Methodology

Suspend 64.65 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat if necessary to dissolve the medium completely. DO NOT AUTOCLAVE. The medium usually contains flocculent precipitate which should be dispersed evenly by swirling the flask just before use. Cool to 35°C and saturate sterile absorbent cotton pad with 2 ml of the broth.

Note :- Excessive heating destroys the selective properties of the medium. The medium should be used within 24 hours of rehydration.

Quality Control

Physical Appearance

Greenish yellow coloured, homogeneous, free flowing powder.

Colour and Clarity of prepared medium

Greenish yellow coloured, opaque solution which may contain flocculent precipitate.

Reaction

Reaction of 6.4 % w/v aqueous solution pH: 7.7 ±0.2 at 25°C

pH range

7.5-7.9

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 40-48 hours, in humid atmosphere.

Organisms (ATCC)	Inoculum (CFU)	Growth	Colour of colony*
Escherichia coli (25922)	10^3-2x10^3	inhibited	-
Salmonella serotype Typhi (6539)	10^2-10^3	luxuriant	black with sheen
Salmonella serotype Typhimurium (14028)	10^2-10^3	luxuriant	black with sheen
Staphylococcus aureus (25923)	10^3-2x10^3	inhibited	-

Key : * = on membrane filter

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.

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Salmonella serotype Typhimurium

Further Reading

1. Clark H.F., Geldreich E.E., Jeter M.L. and Kabler P.W. 1951, Publ. Hlth. Reports, 66:951.
2. J. Am. Water Works Assoc., 1951, 43:943.
3. J. Am. Water Works Assoc., 1952, 44:471.
4. J. Am. Water Works Assoc., 1953, 45 and 1196.
5. MacFaddin J.F., 1985, 'Media for Isolation-Identification-Cultivation-Maintenance of Medical Bacteria', vol - 1, Williams and Wilkins, Baltimore.

Disclaimer :

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