Technical Information

Motility Nitrate MiVeg Medium, Buffered

Product Code : VM1630

Application:- Motility Nitrate MiVeg Medium, Buffered is used for isolation and detection of *Clostridium perfringens* on the basis of motility and nitrate test.

Composition

Ingredients	Gms / Litre
MiVeg peptone	5.0
MiVeg extract	3.0
Galactose	5.0
Potassium nitrate	5.0
Disodium phosphate	2.5
Agar	3.0
Final pH (at 25°C)	7.3±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Motility Nitrate MiVeg Medium Buffered is prepared by using vegetable peptones in place of animal based peptones which makes the medium free of BSE/ TSE risks. This medium is the modification of Motility Nitrate Medium, Buffered which is formulated in accordance with FDA (1) and APHA (2).

It contains MiVeg peptone and MiVeg extract, galactose which supplies essential nutrients for growth. Potassium nitrate serve as substrate for nitrate reduction which is detected with the help of two reagents, viz. sulfanilic acid (1 gm in 125 ml 5 N acetic acid) and N-(1-naphthyl) ethylene diamine dihydrochloride (0.25gm in 200 ml 5N acetic acid). The presence of less quantity of agar in the medium makes it semisolid which allows detection of motility.

The pure cultures obtained from Fluid Thioglycollate MiVeg Medium (VM009) or Tryptone Sulphite Cycloserine MiVeg Agar (VM1837) are inoculated on Motility Nitrate MiVeg Medium, by stabling and incubated at 35°C for 24 - 48 hours.

Methodology

Suspend 23.5 grams of powder media in 1000 ml distilled water containing 5 ml glycerol. Mix thoroughly. Heat to boiling to dissolve the medium completely. Dispense in test tubes to make them half full. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool quickly in cool running water and allow the tubed medium to solidify in an upright position.

Quality Control

Physical Appearance

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

Gelling

Semisolid, comparable with 0.3% Agar gel.

Colour and Clarity of prepared medium

Light amber coloured, clear semi solid gel forms in tubes as butt.

Reaction

Reaction of 2.35 % w/v aqueous solution pH: 7.3 ±0.2 at 25°C

pH range

7.1-7.5

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours

Organisms (ATCC)	Inoculum (CFU)	Motility	Nitrate reduction
Clostridium absonum (27555)	luxuriant	W	±
Clostridium perfringens (12924)	luxuriant	-	+

Key : + = red-violet colour
± = weak or negative reaction
- = growth along stabline (non motile)
W = weakly motile

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. Bacteriological Analytical Manual, 1995, Food and Drug Administration, 8th ed., AOAC International, USA.
2. Frances Pouch Downes and Keith Ito (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.

Disclaimer :

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