Technical Information

MYP MiVeg Agar Base

Product Code : VM1636

Application:- MYP MiVeg Agar Base with added supplements is used for isolation and identification of Bacillus species and pathogenic Staphylococci.

Composition

Ingredients	Gms / Litre
MiVeg peptone	10.00
MiVeg extract No.1	1.00
D-Mannitol	10.00
Sodium chloride	10.00
Phenol red	0.025
Agar	15.00
Final pH (at 25°C)	7.1±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

MYP MiVeg Agar Base is prepared by using vegetable peptone in place of animal based peptones thereby making the media free from BSE/TSE risks. This medium is the modification of Mannitol Yolk Polymyxin (MYP) Agar formulated by Mossel et al (1) and recommended by APHA (2) for enumeration of *Bacillus cereus*. In certain foodstuffs, *Bacillus cereus* can produce metabolites responsible for the clinical symptoms of food poisoning when present in large numbers (3). MYP MiVeg Agar Base and Modified MYP MiVeg Agar Base have similar composition except for agar concentration.

It contains MiVeg peptone and MiVeg extract No 1 that serves as an nitrogen source. Phenol red indicates Mannitol fermentation by imparting yellow colour to the mannitol fermenting colonies. Added egg yolk emulsion helps in differentiation of lecithinase producing colonies which are surrounded by a zone of white precipitate. Addition of Polymyxin B Sulphate helps to restrict growth of gram-negative bacteria such as *Escherichia coli* and *Pseudomonas aeruginosa*. This medium allows differentiation of *Bacillus cereus* from other *Bacillus* species by its inability to ferment mannitol and poor sporulation. Acid produced by organisms other than *Bacillus cereus* often diffuse through the medium, making it difficult to distinguish between mannitol fermenters and non-fermenters. So it is suggested to transfer the suspected colonies to a fresh medium to ascertain the true reaction.

Colonies from this medium are subcultured on Nutrient MiVeg Agar and incubated at 30°C for 24 hours to observe vegetative cells, sporangium and spore morphology and lipid globules within vegetative cell.

Methodology

Suspend 46 grams of powder media in 900 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 55°C. Aseptically add sterile Polymyxin B Sulphate (MS2003) solution to a final concentration of 100 units per ml and 100 ml sterile Egg Yolk Emulsion (MS2045) per 1000 ml medium. Mix well and pour into sterile petri plates.

Quality Control

Physical Appearance

Light pink coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Red coloured, clear to slightly opalescent gel forms of basal medium. With addition of Egg Yolk Emulsion light orange

coloured opaque gel forms in petri plates.

Reaction

Reaction of 4.6 % w/v aqueous solution pH: 7.1 ±0.2 at 25°C

pH range

6.9-7.3

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 32°C for 18-40 hours

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony	lecithinase
Bacillus subtilis (6633)	30 -300	luxuriant	>70%	Yellow	-
Bacillus cereus (10876)	30 -300	luxuriant	>70%	Red	+
Proteus mirabilis (25933)	30 -300	luxuriant	>70%	red	-
Staphylococcus aureus (25923)	30 -300	luxuriant	>70%	Yellow	+
Escherichia coli (25922)	10^3-2x10^3	none-poor	<20%	-	-
Pseudomonas aeruginosa (27853)	10^3-2x10^3	none-poor	<20%	-	-

Key : + = halo's around the colonies

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. Mossel D.A.A., Koopman M.J. and Jongerium E., 1967, Appl. Microbiol, 15:650.

2. Downes FP and Ito K (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.

3. Nygren B., 1962, Acta Path. Microbiol. Scand., 56 : Suppl. 1.

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