Technical Information

S.F.P. MiVeg Agar Base

Product Code : VM2005

Application:- S.F.P. MiVeg Agar Base with added supplements and selective enrichment is used for the presumptive identification and enumeration of *Clostridium perfringens* in foods.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate No. 1	15.0
Papaic digest of soyabean meal	5.0
Yeast extract	5.0
Sodium bisulphite	1.0
Ferric ammonium citrate	1.0
Agar	20.0
Final pH (at 25°C)	7.6 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

S.F.P. MiVeg Agar Base is prepared by adding MiVeg hydrolysate No.1 in place of Tryptose thereby making the medium free from BSE/TSE risks. S.F.P. MiVeg Agar Base is the modification of S.F.P. (Shahidi-Ferguson Perfringens) Agar Base which was formulated as described by Shahidi and Ferguson (1). Addition of Egg yolk emulsion and Supplement containing Kanamycin and Polymyxin B imparts high degree of selectivity for growth of *Clostridium perfringens*.

MiVeg hydrolysate No.1, Papaic digest of soyabean meal and yeast extract provides nitrogenous compounds, carbon, sulphur, vitamin B complex etc. necessary for the growth of *Clostridia*. Sodium bisulphite and ferric ammonium citrate are the hydrogen sulphide (H_2S) indicators. *Clostridia* reduce sulfite to sulfide, which reacts with iron and forms a black iron sulfide precipitate and this results in the formation of black colonies. Kanamycin and Polymyxin B used in the medium allows a better recovery of vegetative cells and spores of *Clostridium perfringens* than either Polymyxin B or Sulphadiazine alone (2). Due to lecithinase activity of certain strains of *Clostridium perfringens,* may form an opaque zone around their colonies. Lecithinase positive facultative anaerobes may grow on S.F.P. MiVeg Agar Base making the plates completely opaque and thus may mask the egg yolk reaction of *Clostridium perfringens.* Black colonies appearing on this medium may be of organisms other than *Clostridium perfringens,* therefore further confirmatory tests should be carried out for identification.

Methodology

Suspend 23.5 grams of powder media in 475 ml distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and 25 ml of Egg Yolk Emulsion (MS2045) and 1 vial of reconstituted contents of S.F.P. Supplement(MS2013) added to the medium. Mix well before pouring into sterile petri plates.

Quality Control

Physical Appearance

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

Gelling

Firm, comparable with 2.0% Agar gel.

Colour and Clarity of prepared medium

Basal medium yields, amber coloured slightly opalescent gel. With addition of Egg Yolk Emulsion (MS2045), yellow coloured opaque gel forms in petri plates.

Reaction

Reaction of the medium (4.7gm in 95 ml distilled water) is pH 7.6 ± 0.2 at 25°C.

pH Range

7.4 - 7.8

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35 - 37°C for 40 - 48 hours, under anaerobic condition with added Egg Yolk Emulsion (MS2045) and S.F.P. Supplement (MS2013).

Organisms (ATCC)	Inoculum (CFU)	Growth	Colour of colony	Lecithinase
Clostridium perfringens(12924)	10^2-10^3	luxuriant	black	+
Escherichia coli (25922)	10^2-10^3	luxuriant	-	-

Key : + = Opaque zone around the colony.

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. Shahidi S.A. and Ferguson A.R., 1971, Appl. Microbiol., 21:500.
2. Harmon S.M., Kautter D.A. and Peeler J.T., 1971, Appl. Microbiol., 21:922.

Disclaimer :

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