Technical Information

M-CP MiVeg Agar Base

Product Code : VM2354

Application:- M-CP MiVeg Agar Base with selective supplement is recommended for isolation and enumeration of *Clostridium perfringens* from water sample using membrane filtration technique.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate No. 1	30.00
Yeast extract	20.00
Sucrose	5.00
L-Cysteine hydrochloride	1.00
Magnesium sulphate, heptahydrate	0.10
Bromo cresol purple	0.04
Ferric chloride hexahydrate	0.09
Indoxyl β-D-glucoside	0.06
Agar	15.00
Final pH (at 25°C)	7.6 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

M-CP MiVeg Agar Base is prepared by using vegetable peptones in place of animal based peptones thus making the medium free from BSE/TSE risks. M-CP MiVeg Agar Base is the modification of M-CP Agar Base which was formulated as described by Armon and Payment (1). For isolation and enumeration of *Clostridium perfringens* from water sample using membrane filtration technique.

MiVeg hydrolysate No.1 and yeast extract supplies nitrogenous compounds needed for the optimum growth of the organisms. Sucrose serve as a fermentable carbohydrate and bromo cresol purple is the pH indicator of the medium. Indoxyl-β- D-glucoside is a chromogenic substrate for β-D-glucosidase also known as cellobiase. Phenolphthalein diphosphate (MS2154) is used for the detection of acid phosphatase. D-Cycloserine and Polymyxin B (MS2153) inhibits accompanying non *Clostridial* flora and thereby allows analysis of both vegetative cells and spores of *Clostridium*. Further selectivity is provided by incubation under anaerobic conditions. Exposure to ammonia fumes for about 30 seconds turns yellow colonies to old rose to pink red colour and they are then considered to be presumptive *Clostridium perfringens*. Colour differentiation on M-CP MiVeg Agar Base is sometimes difficult, so typical colonies (yellow turning into pink) as well as atypical colonies (green or those that remained yellow upon exposure to ammonia fumes) are picked for confirmation. For further confirmation of *Clostridium perfringens* it is suggested to carry out following biochemical tests (2). Sulphite reduction, gram-reaction, sporulating rods, non-motile, reduction of nitrate, gelatin liquefaction and lactose fermentation.

Methodology

Suspend 35.60 grams of powder media in 485 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. Aseptically add 1 vial of rehydrated contents of M-CP Selective Supplement I (MS2153) and 1 vial of M-CP Selective Supplement II (MS2154). M-CP Selective Supplement Modified (MS2154A). Mix well and pour into sterile petri plates.

Quality Control

Physical Appearance

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

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Purple coloured clear to slightly opalescent gel forms in petri plates.

Reaction

Reaction of 7.1% w/v aqueous solution is pH 7.6 ± 0.2 at 25°C.

pH Range

7.4 - 7.8

Cultural Response/Characteristics

Cultural chracteristics observed after an incubation at 44°C for 24-48 hours, with added M-CP supplement I & II (MS2153) (MS2154) / M-CP SelectiveSupplement, Modified (MS2154A) under anaerobic conditions.

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony
Bacillus subtilis (6633)	10^2-10^3	inhibited	0%	=
Clostridium perfringens (12924)	10^2-10^3	good	>50%	Yellow*
Salmonella serotype Typhi (6539)	10^2-10^3	inhibited	0%	-
Staphylococcus aureus (25923)	10^2-10^3	inhibited	0%	-

Key : *= Colonies become old rose to light pink red upon exposure to ammonia fumes for 30 seconds.

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. Armon R and Payment P (1988) Can. J. Microbiol., 34:78-79.
2. DP Sartory, M. Field, SM. Curbishley, A.M. Pritchard, (1998) Left. Appl. Microbiol. 27:323-327

Disclaimer :

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