Technical Information

Perfringens MiVeg Agar Base (O.P.S.P.)

Product Code : VM1579

Application:- Perfringens MiVeg Agar Base(O.P.S.P.) with added supplements is used as a selective medium for isolation and enumeration of *Clostridium perfringens* in foods.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	15.0
Papaic digest of soyabean meal	5.0
Yeast extract	5.0
MiVeg extract No. 2	7.0
Ferric ammonium citrate	1.0
Sodium metabisulphite	1.0
Tris buffer	1.5
Agar	15.0
Final pH (at 25°C)	7.3 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Perfringens MiVeg Agar Base is prepared by adding MiVeg hydrolysate and MiVeg extract No.2 instead of Casein enzymic hydrolysate and Liver extract thereby making the medium BSE/TSE risks free. This medium is the modification of Perfringens Agar Base (O.P.S.P.) which is developed as described by Handford (1) and is used as a selective medium for isolation and enumeration of *Clostridium perfringens* in foods (2).

MiVeg hydrolysate, yeast extract, papaic digest of soyabean meal and Miveg extract No.2 supplies all the essential nitrogenous nutrients, vitamin B complex and trace ingredients for the growth of *Clostridium perfringens*. Sodium metabisulphite and ferric ammonium citrate are H_2S indicators that indicates reduction of Sulphite by *Clostridium perfringens*. H_2S production leads to formation of black colonies which in turn is the presumptive identification of *Clostridium perfringens,* further testing must be done for confirmation. Tris buffer helps in maintaining buffering action. Addition of antibiotics Sulphadiazine, Bleandomycin and Polymyxin B makes the medium highly selective thereby inhibiting sulphite reducing bacteria other than *Clostridium perfringens* such as *Salmonellae, Bacillus* species, *Proteus* species, *Staphylococci* etc. Occassional strains of *Enterococci* will grow on this medium as white colonies, easily distinguished from the large black colonies of *Clostridium perfringens*.

Methodology

Suspend 25.25 grams of powder media in 500 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 rehydrated contents of 1 vial of Perfringens Supplement I (MS2011) and Perfringens Supplement II (MS2012) each. Mix well before pouring into sterile petriplates.

Quality Control

Physical Appearance

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

Amber coloured, clear to slightly opalescent gel forms in petri plates.

Reaction

Reaction of 5.05% w/v aqueous solution is pH 7.3 ± 0.2 at 25°C.

pH Range

7.1-7.5

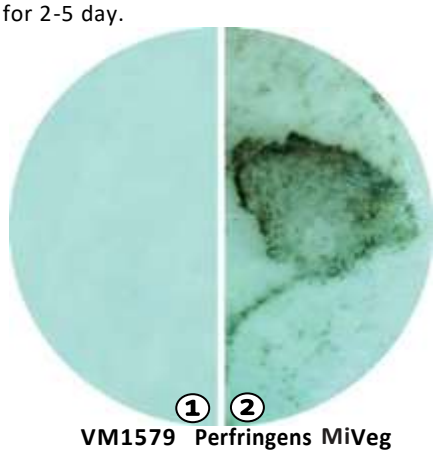
Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours with added Perfringens Supplement I (MS2011) and Perfringens Supplement II (MS2012).

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony
Bacillus subtilis (6633)	10^2-10^3	inhibited	>0%	_
Clostridium bifermentans	10^2-10^3	inhibited	>0%	_
Clostridium butyricum (9690)	10^2-10^3	inhibited	>0%	_
Clostridium perfringens (12924)	10^2-10^3	luxuriant	>70%	black
Enterococcus faecalis (29212)	10^2-10^3	none-poor	<20%	white, if any
Proteus vulgaris (13315)	10^2-10^3	inhibited	>0%	_
Salmonella serotype Typhi (6539)	10^2-10^3	inhibited	>0%	_
Staphylococcus aureus (25923)	10^2-10^3	inhibited	>0%	_

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.



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1. Control
2. *Clostridium perfringens*

Further Reading

1. Handford P.M., 1974, J. Appl. Bact., 37 : 559.
2. Hauschild A.H.W. et al, 1977, ICMSF Methods Studies VIII, Can. J. Microbiol., 23:884.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate.
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