

Technical Information

Modified Duncan Strong (DS) MiVeg Medium

Product Code : VM2237

Application:- Modified Duncan Strong (DS) MiVeg Medium is recommended for isolation and differentiation of *Clostridium perfringens* from other *Clostridia* from foods on the basis of raffinose fermentation.

Composition

Ingredients	Gms / Litre
MiVeg peptone No. 3	15.0
Yeast extract	4.0
Sodium thioglycollate	1.0
Disodium phosphate	10.0
Raffinose	4.0
Final pH (at 25°C)	7.8±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Modified Duncan Strong (DS) MiVeg Medium is prepared using MiVeg peptone No.3 instead of Proteose peptone, which makes the medium BSE/TSE risks free. This medium is the modification of Modified Duncan Strong (DS) Medium which is prepared as per the formulation suggested by Duncan and Strong (1) and is recommended by APHA (2) for the isolation and differentiation of *Clostridium perfringens* from other *Clostridia* from foods on the basis of raffinose fermentation and also for rapid detection of *Clostridium perfringens* enterotoxin (3). It contains MiVeg peptone No.3 and yeast extract which supplies nitrogenous compounds and other nutrients for the growth. Sodium thioglycollate helps to create anaerobic conditions suitable for *Clostridial* growth. Disodium phosphate serve as a buffering agent. *Clostridium perfringens* ferments Raffinose present in the medium to produce acid within 72 hours, but culturally similar species like *Clostridium baratii*, *Clostridium celatum* etc can't ferment raffinose.

Methodology

Suspend 34 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Dispense into sterile tubes. Check one or two tubes for measuring the pH.

Quality Control

Physical Appearance

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

Colour and Clarity of prepared medium

Yellow coloured, clear solution without any precipitate.

Reaction

Reaction of 3.4 % w/v aqueous solution pH: 7.8 ±0.2 at 25°C

pH range

7.6-8.0

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours



Dehydrated Culture Media
Bases / Media Supplements

Organisms (ATCC)	Inoculum (CFU)	Growth	Raffinose fermentation
<i>Clostridium perfringens</i> (12924)	10^2 - 10^3	good-luxuriant	+
<i>Clostridium sporogenes</i> (11437)	10^2 - 10^3	good-luxuriant	-

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° in sealable plastic bags for 2-5 days.

Further Reading

1. Duncan C. and Strong D., 1969, Appl. Microbiol., 16:82.
2. Labbe R.G. and Rey D.K., 1979, Appl. Microbiol., 13:559.
3. 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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