Technical Information

Fermentation MiVeg Medium Base for C. perfringens

Product Code : VM1919

Application:- Fermentation MiVeg Medium Base for C. perfringens is recommended for determination of fermentation reaction of *Clostridium perfringens* with added carbohydrates.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	10.0
MiVeg special peptone	10.0
Sodium thioglycollate	0.25
Agar	2.0
(Final pH (at 25°C)	7.4±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Fermentation MiVeg Medium Base is prepared by adding MiVeg special peptone and MiVeg hydrolysate which are free from the BSE/TSE associated risks. This medium is the modification of Fermentation Medium Base which was formulated by Spray (1) and is recommended by APHA (2) for studying fermentation reaction of *Clostridium perfringens.*

MiVeg hydrolysate and MiVeg special peptone provide necessary growth nutrients to the test organisms. Sodium thioglycollate creates low oxygen tension required in the medium to facilitate the growth of anaerobic organisms. Pure isolate is inoculated into fermentation medium containing 1% Salicin and 1% Raffinose to differentiate *Clostridium perfringens* from other *Clostridia* on the basis of acid production. After incubation at 35 ± 2^{0}C for 24 hr, check for acid production. To test for acid, 1ml of culture is transferred to a test tube and 2 drops of 0.04% bromo thymol blue is added. Acid production is indicated by yellow colour. Salicin is rapidly fermented by *Clostridia* other than *Clostridium perfringens* while *Clostridium perfringens* produces acid from raffinose within 3 days but not by other species.

Methodology

Suspend 22.25 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Distribute into test tubes containing inverted durham's tubes, in 9ml volumes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Just before use, heat in boiling water or free flowing steam for 10 minutes to remove dissolved oxygen and add 1 ml of 1% sterile Salicin and Raffinose solutions in separate tubes.

Quality Control

Physical Appearance

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

Colour and Clarity of prepared medium

Light amber coloured, clear solution without any precipitate.

Reaction

Reaction of 2.22% w/v aqueous solution is pH 7.4 ± 0.2 at 25°C.

pH range

7.2-7.6

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 24-72 hours under anaerobic condition with added 1% Salicin and Raffinose solutions in 2 separate tubes containing media.

Organisms (ATCC)	Growth	Salicin (24 hours)	Raffinose (72 hours)
Clostridium paraperfringens	luxuriant	AG	-
Clostridium perfringens (12924)	luxuriant	-	A

Key : A = Acid production
AG = Acid and Gas production

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. Spray R.S., 1936, J. Bacteriol., 32:135.

2. 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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