

Technical Information

Clostridium MiVeg Broth Base

Product Code : VM2315

Application:- Clostridium MiVeg Broth Base is used for identification of spores of *Clostridium tyrobutyricum* which is usually responsible for "late blowing" in cheese.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	15.0
MiVeg extract No.1	10.0
Yeast extract	5.0
Sodium acetate	5.0
L-Cysteine	0.5
Final pH (at 25°C)	6.0±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Clostridium MiVeg Broth Base is prepared by using vegetable peptones in place of animal based peptones which makes it BSE/TSE risk free. This medium is the modification of Clostridial Broth Base recommended for identification of spores of *Clostridium tyrobutyricum* which is usually responsible for "late blowing" of hard cheese.

Clostridium tyrobutyricum ferments lactate and acetate to butyrate, carbon dioxide (CO₂) and water (H₂O) (1,2). They are frequently found as dominating anaerobic spore formers in spoiled cheese, milk products etc. *Clostridium tyrobutyricum* grows in media with lower (acidic) pH (3,4). The acidic pH helps in inhibiting other microbial flora thereby favoring growth of *Clostridium tyrobutyrium*. This media contain Veg hydrolysate, MiVeg extract No.1 and yeast extract provide the essential nutrients mainly the nitrogen compounds. L-Cysteine enhances the growth of *Clostridial* species.

The *Clostridium tyrobutyrium* count is best determined by MPN method. Incubate the tubes with the milk to be tested or dilutions of milk sample. Then overlay the culture medium with a 2 cm layer of melted paraffin and pasteurize for about 10 minutes at -15°C. Incubate for approximately 7 days at 35-37°C.

Positive results are indicated by the paraffin plugs are pushed up in tubes because of gas formation that is due to presence of *Clostridium tyrobutyricum*.

Methodology

Suspend 35.5 grams of powder media in 1000 ml distilled water. Add 10 ml of 50% sodium lactate. Mix thoroughly. Heat if necessary to dissolve the medium completely. Mix well and dispense into tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

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

Colour and Clarity of prepared medium

Yellow coloured clear solution without any precipitate.

Reaction

Reaction of 3.55 % w/v aqueous solution pH: 6.0 ±0.2 at 25°C

pH range

5.8-6.2



Dehydrated Culture Media
Bases / Media Supplements

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 7 days.

Organisms (ATCC)	Growth	Gas
<i>Clostridium perfringens</i> (12924)	luxuriant	-
<i>Clostridium tyrobutyricum</i>	luxuriant	+
<i>Escherichia coli</i> (25922)	good	-
<i>Pseudomonas aeruginosa</i> (27853)	inhibited	-
<i>Staphylococcus aureus</i> (25923)	good	-

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. Brandl E. and Sobeck - Skal E., 1963, Milchwiss. Ber., 13:1.

Disclaimer :

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