Technical Information

Campylobacter Nitrate MiVeg Broth

Product Code : VM2240

Application:- Campylobacter MiVeg Nitrate Broth is recommended for identification of *Campylobacter* species on the basis of nitrate reduction.

Composition

Ingredients	Gms / Litre
MiVeg infusion	10.0
MiVeg hydrolysate No. 1	10.0
Sodium chloride	5.0
Potassium nitrate	2.0
Final pH (at 25°C)	7.0±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Campylobacter MiVeg Nitrate Broth is prepared by using MiVeg infusion and MiVeg hydrolysate No.1 instead of Beef heart infusion and Tryptose respectively thereby making the media BSE/TSE risk free. This medium is the modification of Campylobacter Nitrate Broth formulated as per APHA and is used for identification of *Campylobacter* species on the basis of nitrate reduction (1). *Campylobacter* species has been recognized as enteric pathogens and has been found to be clinically important since they do not ferment or oxidize the usual carbohydrate substrates (1). *Campylobacter jejuni* is oxidase positive and reduces nitrates.

It is composed MiVeg infusion and MiVeg hydrolysate No.1 which supplies the essential nutrients including nitrogenous and few carbon compounds to *Campylobacter* species. Sodium chloride maintains the osmotic equilibrium of the medium. Potassium nitrate serves as the nitrate source. Biochemical reactions by which species may be differentiated are relatively few because of their inability to ferment or oxidize the usual carbohydrate substrates.

Preparation of nitrate Test Reagents and Technique :

1. Sulphanilic acid : Dissolve 8 grams of sulphanilic acid in 1 litre 5 N acetic acid.
2. Alpha-naphthylamine reagent : Dissolve 5 grams of alpha- naphthylamine in 1 litre 5 N acetic acid.

For the test : Put 2 - 3 drops of each reagent into the tube containing culture to be tested. A distinct red or pink colour indicates nitrate reduction. A control (uninoculated) tube should also be tested.

Methodology

Suspend 27 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.

Quality Control

Physical Appearance

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

Colour and Clarity of prepared medium

Amber coloured, clear solution without any precipitate.

Reaction

Reaction of 2.7 % w/v aqueous solution pH: 7.0 ±0.2 at 25°C

pH range

6.8-7.2

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours

Organisms (ATCC)	Inoculum (CFU)	Growth	Nitrate Reduction
Acinetobacter calcoaceticus(23055)	10^2-10^3	luxuriant	-

Campylobacter jejuni (29428)	10^2-10^3	luxuriant	+
Enterobacter aerogenes (13048)	10^2-10^3	luxuriant	+
Escherichia coli (25922)	10^2-10^3	luxuriant	+
Salmonella serotype Typhimurium (14028)	10^2-10^3	luxuriant	+

Key : + = red or pink colour
- = no red or pink colour

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. Downes FP and Ito K (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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