Technical Information

Cystine Tryptone Agar, MiVeg

Product Code : VM1159

Application:- Cystine Tryptone Agar, MiVeg is used for maintenance, subculturing, detection of motility etc. With added carbohydrates, it can be also used for fermentation reactions of fastidious organisms.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	20.0
L-Cystine	0.5
Sodium chloride	5.0
Sodium sulphite	0.5
Phenol red	0.017
Agar	2.5
Final pH (at 25°C)	7.3±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Cystine Tryptone Agar, MiVeg is prepared by using MiVeg hydrolysate instead of casein enzymic hydrolysate which makes the media BSE/TSE risks free. This media is the modification of Cystine Tryptone Agar which can be used as a maintenance medium for many fastidious organisms like *Brucella, Corynebacteria, Pasteurella, Pneumococci* and *Streptococci* without added enrichments (1, 2, 3). Anaerobic organisms like *Actinomyces bovis, Bacteroides funduliformis* and *Leptotrichia* (4) grow well on this medium in presence of Carbon dioxide (CO). Cystine & peptone present in medium supplies the nutrients necessary to support the growth of fastidious microorganisms.

In this medium motility can be detected by stabbing the cultures. Motility is indicated by diffuse growth throughout the medium after incubation. Non-motile organisms show growth only in the inoculated area, whereas surrounding area remains clear. This medium is free from fermentable carbohydrates so it can be used as basal medium for studying fermentation reactions of fastidious organisms. Carbohydrate fermentation is detected by the colour change of the medium from red to yellow due to the pH indicator dye, phenol red incorpoarted in the medium. This medium is like the conventional medium requires heavy inoculum and still many times gives delayed results. Inadequate growth in many carbohydrates is due to different strains having various nutritionalrequirements. Addition of more than 0.5% cabohydrates may necessiate pH adjustment. Some times sodium chloride in the medium has inhibitory effect on *Neisseria gonorrhoeae*. Prefere to use freshly prepared medium just before inoculation.

Methodology

Suspend 28.5 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Dispense in tubes in 8-10 ml amounts. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and add appropriate carbohydrate. Mix well and allow the tubed medium to cool in an upright position.

Quality Control

Physical Appearance

Pink coloured, homogeneous, free flowing powder.

Gelling

Semisolid, comparable with 0.25% Agar gel.

Colour and Clarity of prepared medium

Red coloured clear to slightly opalescent gel forms in tubes as butt.

Reaction

Reaction of 2.85 % w/v aqueous solution 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 4-18 hours or longer if necessary.

Organisms (ATCC)	Inoculum (CFU)	Growth	Motility	Acid *
Escherichia coli (25922)	10^2-10^3	good-luxuriant	+	+
Neisseria gonorrhoeae (19424)	10^2-10^3	good	-	+
Neisseria meningitidis (13090)	10^2-10^3	good	-	+
Streptococcus pneumoniae (6303)	10^2-10^3	good	-	+

Key : + = positive reaction, yellow colouration for acid/ diffused growth for motility
- = negative, no colour change / non motile
* = in presence of dextrose

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. Peterson and Hartsell, 1955, J. Inf. Dis., 96:75.
2. Myers and Koshy, 1962, Am. J. Pub. Health, 96:75.
3. Alford, Wiese and Gunter, 1955, J. Bact., 69:518.
4. Kroeger and Sibal, 1961, J. Bact., 50:581.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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