

Technical Information

Crystal Violet Tetrazolium MiVeg Agar Base

Product Code : VM1586

Application:- Crystal Violet Tetrazolium MiVeg Agar Base is recommended for detection of gram negative psychrotrophic bacteria causing food spoilage.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	5.0
Yeast extract	2.5
Dextrose	1.0
Crystal violet	0.001
Agar	15.0
Final pH (at 25°C)	7.0±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Crystal Violet Tetrazolium MiVeg Agar Base is prepared by using MiVeg hydrolysate in place of Casein enzymic hydrolysate which makes the medium BSE/TSE risks free. This medium is the modification of Crystal Violet Tetrazolium Agar Base which is based on the original formulation suggested by Olson (1) and recommended by APHA (2) for detecting gram-negative psychrotrophic bacteria causing food spoilage. Species of *Achromobacter*, *Alcaligenes*, *Flavobacterium* and *Pseudomonas* are included among the psychrotrophic bacteria as they have their growth optima below 20°C (3). Many psychrotrophic microorganisms can cause off-flavours and physical spoilage of foods when present in high density. Their growth rate temperature is dependent, if the temperature is reduced their growth rate is slowed down. Therefore the spoilage of refrigerated food is very much dependent on temperature (3, 4). It contains MiVeg hydrolysate and yeast extract which supplies various nitrogenous nutrients to the organisms. Dextrose serves as the carbon or carbohydrate source. Crystal violet is inhibitory to most of the gram-positive organisms, so inclusion of crystal violet in the medium does not affect the growth of psychrotrophic organisms which are mostly gram-negative.

Methodology

Suspend 23.5 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and add 5 ml of sterile 1% solution of 2,3,5-Triphenyl Tetrazolium Chloride (MS2057). Mix well and distribute as desired.

Quality Control

Physical Appearance

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

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Light purple coloured, clear to slightly opalescent gel forms in petri plates.

Reaction

Reaction of 2.35 % w/v aqueous solution pH: 7.0 ±0.2 at 25°C

pH range

6.8-7.2

Cultural Response/Characteristics

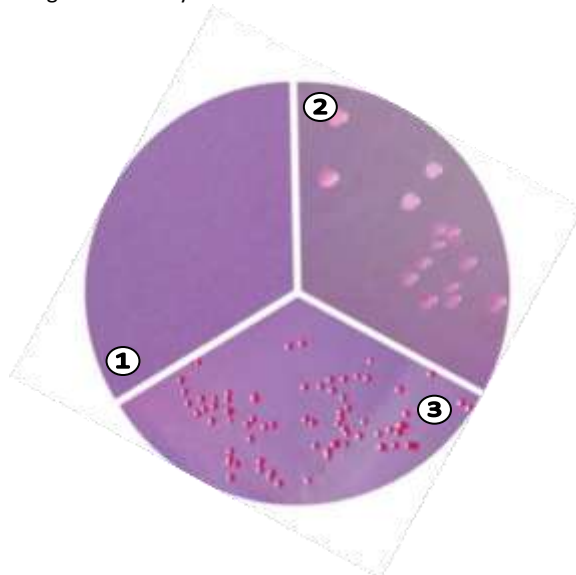
Cultural characteristics observed after an incubation at 20-30°C for 18-48 hours with added 1% T.T.C. solution (MS2057)

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony
<i>Listeria monocytogenes</i> (19118)	10 ² -10 ³	good-luxuriant	>70%	maroon
<i>Pseudomonas aeruginosa</i> (27853)	10 ² -10 ³	good-luxuriant	>70%	maroon
<i>Staphylococcus aureus</i> (25923)	10 ² -10 ³	inhibited	0%	-
<i>Yersinia enterocolitica</i> (27729)	10 ² -10 ³	good-luxuriant	>70%	maroon

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.



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1. Control
2. *Pseudomonas aeruginosa*
3. *Listeria monocytogenes*

Further Reading

1. Olson H.C., 1963, J. Dairy Sci., 46:362.
2. Speck M. (Ed.), 1984, Compendium of Methods for the Microbiological Examination of Foods, 2nd ed., American Public Health Association, Washington, D.C.
3. Tomkin R.B., 1973, Food Technol., 27:54.
4. Elliott R.P. and Michener H.D., 1965, U.S. Dept. Agr. Tech. Bull. No. 1320, p. 110, Washington, D.C.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at CDH is true and accurate
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