Technical Information

Gassner Lactose MiVeg Agar

Product Code : VM2022

Application:- Gassner Lactose MiVeg Agar is used for detection and isolation of pathogenic *Enterobacteriaceae* from food stuffs and other materials.

Composition

Ingredients	Gms / Litre
MiVeg peptone No.1	7.00
Sodium chloride	5.00
Lactose	50.00
Metachrome yellow	1.25
Water blue	0.625
Agar	13.00
Final pH (at 25°C)	7.2 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Gassner Lactose MiVeg Agar is prepared by using vegetables peptones in place of animal based peptones thus making the medium free from BSE/TSE risk. Gassner Lactose MiVeg Agar is the modification of Gassner Lactose Agar originally developed by Gassner for the isolation and detection of pathogenic *Enterobacteriaceae* from food and other materials (1). This medium is also known as Water-blue Metachrome-yellow Lactose Agar. Metachrome-yellow primarily inhibits gram-positive microorganisms present in the food materials. Water blue indicator turns blue in acidic range and colourless in alkaline range. Acid produced by lactose fermenters, changes the colour of the medium. Original colour of the prepared medium is green, but in the acidic pH range it becomes blue-green to blue while at alkaline range the yellow colour of metachrome yellow becomes increasingly apparent.
MiVeg peptone No. 1 and sodium chloride provides nutrients and maintains osmotic balance respectively. Metachrome yellow and water blue are the pH indicator dyes.

Methodology

Suspend 76.87 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Greenish yellow, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.3% Agar gel.

Colour and Clarity of prepared medium

Dark green coloured, clear to slightly opalescent gel forms in petri plates.

Reaction

Reaction of 7.69% w/v aqueous solution is pH 7.2 ± 0.2 at 25°C.

pH Range

7.0-7.4

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18 – 48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony*	Colour change of medium
Enterococcus faecalis (29212)	10^2-10^3	inhibited	0%	—	—
Escherichia coli (25922)	10^2-10^3	good-luxuriant	>70%	dark green	Blue
Klebsiella pneumoniae (13883)	10^2-10^3	good-luxuriant	>70%	mucoid green	blue
Proteus mirabilis (25933)	10^2-10^3	good-luxuriant	>70%	yellowish green	yellow
Salmonella serotype Typhi(6539)	10^2-10^3	good-luxuriant	>70%	yellow	yellow
Salmonella serotype Typhimurium (14028)	10^2-10^3	good-luxuriant	>70%	yellow	yellow
Salmonella serotype Enteritidis (13076)	10^2-10^3	good-luxuriant	>70%	yellow	yellow
Shigella flexneri (12022)	10^2-10^3	good-luxuriant	>70%	yellow	yellow
Staphylococcus aureus (25923)	10^2-10^3	inhibited	0%	—	—

Note: *Lactose nonfermenters show light green to yellow green surrounded by a yellowish zone. Lactose fermenters like E.coli, coliform bacteria and others show deep blue colony surrounded by a blue zone. However, due to background colour of agar medium, slight variation in observed colour is visualized as interpreted in column above.

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 day.

Further Reading

1. Gassner G., 1918, Centralbl. F. Bakt. I. Orig., 80:219.

Disclaimer :

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