Technical Information

Vogel-Johnson MiVeg Agar Base w/o Tellurite (V.J. MiVeg Agar)

Product Code : VM1023

Application:- V.J. MiVeg Agar with addition of Potassium Tellurite is recommended for the selective detection of coagulase positive and mannitol fermenting *Staphylococcus aureus* from heavily contaminated foods and clinical specimens.

Composition**

Ingredients	Gms / Litre
MiVeg hydrolysate	10.0
Yeast extract	5.0
Mannitol	10.0
Dipotassium phosphate	5.0
Lithium chloride	5.0
Glycine	10.0
Phenol red	0.025
Agar	16.0
Final pH (at 25°C)	7.2 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Vogel-Johnson Agar Base w/o tellurite (V.J. MiVeg Agar) is prepared by adding MiVeg hydrolysate in place of casein enzymic hydrolysate thereby making the medium BSE/TSE risks free. Vogel-Johnson MiVeg Agar Base is the modification of Vogel- Johnson Agar Base which was developed as per Vogel and Johnson (1) formula, who modified the medium developed by Zebovitz (2) by adding phenol red as a pH indicator and increased the mannitol quantity. This medium is a selective medium as it can selectively detect coagulase positive *Staphylococci*.

MiVeg hydrolysate and yeast extract supply nitrogenous compounds, vitamin B complex and other essential growth nutrients. Dipotassium phosphate buffers the medium. During first 24 hours of incubation, contaminating organisms are almost inhibited by tellurite, lithium chloride and high glycine content. *Staphylococcus aureus* can also be inhibited by these inhibitors but they get compensated by mannitol and glycine. Coagulase-positive *Staphylococci* reduce potassium tellurite to metallic free tellurium and thus produce black colonies surrounded by yellow zones. The yellow halos/zones arround the colonies is due to the presence of pH indicator which turns yellow under acidic environment created by mannitol fermentation. Prolonged incubation may result in the growth of black coagulase negative colonies.

Methodology

Suspend 61 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. Cool to 45°C and add 20 ml of sterile 1% Potassium Tellurite solution (MS2052). Mix gently and pour into sterile petri plates.

Warning : Lithium Chloride is very harmful. Avoid bodily contact and vapours inhalation. On contact with skin, immediately wash with plenty of water.

Quality Control

Physical Appearance

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

Gelling

Firm, comparable with 1.6% Agar gel.

Colour and Clarity of prepared medium

Orangish pink coloured, slightly opalescent gel forms in petri plates.

Reaction

Reaction of 6.1% w/v aqueous solution is pH 7.2 ± 0.2 at 25°C.

pH Range

7.0-7.4

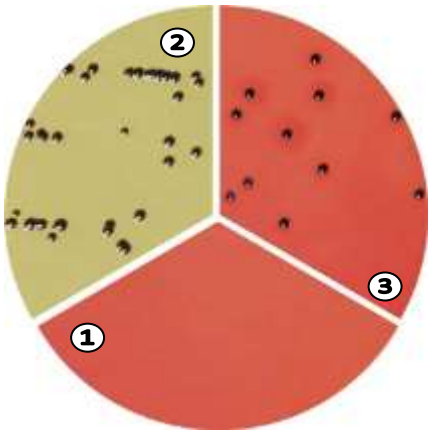
Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35 -37°C for 18 - 24 hours with added 1% Potassium Tellurite solution (MS2052).

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of Colony
Escherichia coli (25922)	10^2-10^3	Inhibited	0%	-
Proteus mirabilis (25933)	10^2-10^3	Poor	>20%	Black
Staphylococcus aureus (25923)	10^2-10^3	Luxuriant	>50%	Black with yellow halo
Staphylococcus epidermidis (12228)	10^2-10^3	Fair	>30%	translucent to blackish

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.



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1. Control
2. *Staphylococcus aureus*
3. *Staphylococcus epidermidis*

Further Reading

1. Vogel and Johnson, 1960, Public Health Lab., 18:131.
2. Zebovitz, Evans and Niven, 1955, J. Bacteriol., 70:686.

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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