Technical Information

DNase Test MiVeg Agar w/ Toluidine Blue

Product Code : VM2041

Application:- DNase Test MiVeg Agar w/Toludine Blue is used to detect the deoxyribonuclease activity of bacteria and fungi, especially for identification of pathogenic *Staphylococci.*

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate No. 1	20.0
Deoxyribonucleic acid (DNA)	2.0
Sodium chloride	5.0
Toluidine blue	0.1
Agar	15.0
Final pH (at 25°C)	7.3±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

DNase Test MiVeg Agar w/Toludine Blue is prepared by using MiVeg Hydrolysate No.1 in place of tryptose thereby making the medium free from BSE/TSE risks. This medium is the modification of DNase Test Agar which is used for detecting deoxyribonuclease activity of bacteria and fungi and particularly for identification of pathogenic *Staphylococci.* With toluidine blue, it is used in differentiation and identification of nonpigmented *Serratia* species isolated from clinical sources that might beimproperly identified as *Enterobacter* and *Klebsiella species.* DNase activity was observed by Weckman and Catlin (1) in *Micrococci* and found the correlation with coagulase activity as coagulase positive species were DNase positive. Di Salvo (2) confirmed the results of Weckman and Catlin and observed accurate correlation of DNase and coagulase activity. In his experiment Di Salvo incorporated DNA and calcium chloride to activate DNase enzyme. DNase medium was modified by adding toluidine blue by Schreier (3). Modified medium achieved faster identification of *Serratia marcescens* and could differentiate *Serratia* from other members of the *Enterobacteriaceae.*

The medium contains MiVeg hydrolysate No.1 which supplies all essential nutrients. DNase depolymerizes the DNA resulting in production of bright pink zones surrounding growth due to the metachromatic property of toluidine blue. Due to toluidine blue some strains of *Staphylococci* may be inhibited on this medium. For the identification further confirmatory tests should be carried out.

Methodology

Suspend 42.1 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling with frequent agitation to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45°C and pour into sterile petriplates.

Quality Control

Physical Appearance

Light yellow coloured w/bluish tinge ,homogeneous, free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Greenish blue coloured clear to slightly opalescent gel forms in petri plates

Reaction

Reaction of 4.21 % w/v aqueous solution pH: 7.3 ±0.2 at 25°C

pH range

7.1-7.5

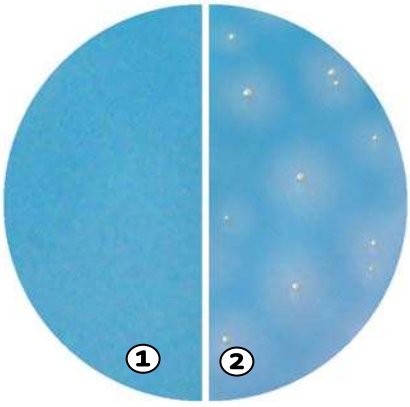
Cultural Response/Characteristics

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

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	DNase Activity
Serratia marcescens (8100)	10^2-10^3	luxuriant	>70%	+
Staphylococcus aureus (25923)	10^2-10^3	luxuriant	>70%	+
Staphylococcus epidermidis (12228)	10^2-10^3	luxuriant	>70%	-
Streptococcus pyogenes (19615)	10^2-10^3	luxuriant	>70%	+

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.



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1. Control
2. *Staphylococcus aureus*

Further Reading

1. Weckman and Catlin, 1957, J. Bact., 73:747.
2. Di Salvo, 1958, Med. Tech. Bull., U.S. Armed Forces Med. J., 9:191.
3. Schreir, 1969, Am. J. Clin. Pathol., 51:711.
4. Streitfeld, Hoffman and Janklow, 1962, J. Bact., 84:77

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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