Technical Information

Columbia C.N.A. MiVeg Base w/ 1% Agar

Product Code : VM1560A

Application:- Columbia C.N.A. MiVeg Base w/ 1% Agar is used for selective isolation of pathogenic gram-positive cocci from clinical and nonclinical specimens.

Composition

Ingredients	Gms / Litre
MiVeg peptone No. 5	20.00
MiVeg infusion	3.00
Corn starch	1.00
Sodium chloride	5.00
Colistin sulphate	0.01
Nalidixic acid	0.015
Agar	10.00
Final pH (at 25°C)	7.3±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Columbia C.N.A. MiVeg Base w/ 1% Agar is prepared by using vegetable peptone in place of animal based peptones which makes the medium BSE/TSE risk free. This medium is prepared as per the modified formula of Ellner et al (1) which was originally designed as Columbia Blood Agar Base. Combination of MiVeg peptones and MiVeg infusion provides the rapid and luxuriant growth and sharply defined haemolytic reactions, typical colonial morphology and improved pigment production. Subsequently, Ellner et al found that a medium consisting of 5% sheep blood and 10 µg Colistin and 15 µg Nalidixic acid per ml of medium, suppressed growth of *Proteus, Klebsiella* and *Pseudomonas* species while permitted unrestricted growth of *Staphylococci*, haemolytic *Streptococci* and *Enterococci*. Gram positive bacteria inhibited by Colistin and Nalidixic acid which disrupts the cell membrane and blocks DNA replication respectively (2).

Methodology

Suspend 39.0 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 aseptically add 5% v/v sterile, defibrinated blood. Mix well and pour into sterile petri plates.

Quality Control

Physical Appearance

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

Gelling

Firm, comparable with 1.0% Agar gel

Colour and Clarity of prepared medium

Basal media yields yellow coloured, slightly opalescent gel; with addition of 5% v/v sterile, defibrinated blood cherry red coloured, opaque gel forms in petri plates.

Reaction

Reaction of 4.4 % w/v aqueous solution pH: 7.3 ±0.2 at 25°C

pH range

7.1-7.5

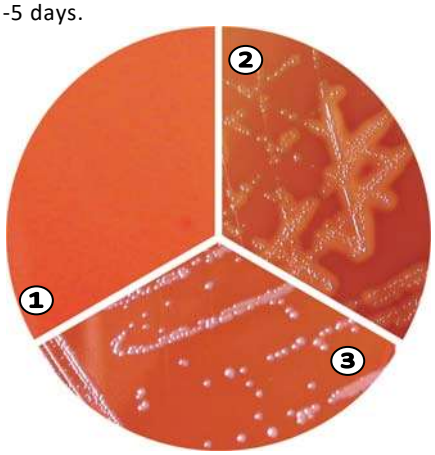
Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 40-48 hours

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Haemolysis
Staphylococcus aureus (25923)	10^2-10^3	luxuriant	>50%	beta/gamma
Staphylococcus epidermidis (12228)	10^2-10^3	luxuriant	>50%	gamma
Streptococcus pneumonia (6303)	10^2-10^3	luxuriant	>50%	alpha
Streptococcus pyogenes(19615)	10^2-10^3	luxuriant	>50%	beta
Escherichia coli (25922)	10^2-10^3	inhibited	0%	-
Neisseria meningitidis(13090)	10^2-10^3	good	>30%	-

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. *Streptococcus pyogenes*
3. *Staphylococcus aureus*

Further Reading

1. Ellner et al, 1966, Am. J. Clin. Path., 45:502.
2. Estevez, 1984, Lab. Med., 15:258.

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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