Technical Information

Antibiotic MiVeg Assay Medium No. 2 (Base MiVeg Agar)

Product Code : VM1005

Application:- Antibiotic MiVeg Assay Medium No. 2 (Base MiVeg Agar) is used for microbiological assay of antibiotics.

Composition

Ingredients	Gms / Litre
MiVeg peptone	6.000
MiVeg extact	1.500
Yeast extract	3.000
Agar	15.000
Final pH (at 25°C)	6.6 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Antibiotic MiVeg Assay Medium No. 2 is prepared by vegetable peptones instead of animal peptones, which makes the medium BSE, TSE risks free. It serves the same purpose of Antibiotic Assay Medium No. 2 and is recommended for use as base agar for microbiological agar diffusion assays for wide variety of antibiotics. Agar diffusion assays can be performed by cylinders, punched-hole or paper disc tests. The equivalent animal based medium is identical numerically with the name assigned by Grove and Randall (1) that is equivalent to the Antibiotic Assay Medium No. B of Indian Pharmacopoeia (2). MiVeg Peptone, yeast extract and MiVeg extract provide the nitrogenous, vitamins and mineral requirement for the growth of test organisms. This medium provides solidified substratum for growth of organism and supports the overlayering of soft agar.

This medium is widely used to prepare the base layer in the microbiological assay of antibiotics such as Bacitracin, Cephalexin, Cephalothin, Cephapirin, Cloxacillin, Dicloxacillin, Methicillin, Nafcillin, Oxacillin, Chloramphenicol, Novobiocin and Penicillin. To perform the antibiotic assay the Antibiotic MiVeg Assay medium No.2 is used as base agar. This medium should be freshly prepared on the same day as the test. For the cylinder method, a base layer of 21 ml is required. Once the base medium has solidified, Antibiotic MiVeg assay medium No.1 as seed agar, inoculated with the standardized culture can be overlaid. Even distribution of the layer is important.

Methodology

Suspend 25.5 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Suggestion: *This medium is recommended for the microbiological assay of Bacitracin, Cephalexin, Cephaloglycin, Cephaloridine, Cephalothin, Cloxacillin, Cycloserine, Dicloxacillin, Methicillin, Nafcillin, Novobiocin, Oxacillin, Penicillin-G, Penicillin, Rifampicin, Spiramycin .*

Quality Control

Physical Appearance

Cream to yellow homogeneous, free flowing powder.

Gelling

Firm,comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Amber coloured clear to slightly opalescent gel forms in Petriplates.

Reaction

Reaction of 2.55% w/v aqueous solution at 25°C pH: 6.6±0.2

pH range

6.40-6.80

CulturalResponse/Characteristics

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

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Basal layer
Bacillus subtilis (6633)	50-100	luxuriant	>70%	Spiramycin
Micrococcus luteus ATCC 10240	50-100	luxuriant	>70%	Bacitracin
Staphylococcus aureus ATCC 9144	50-100	luxuriant	>70%	Tylosin
Staphylococcus aureus ATCC 29737	50-100	luxuriant	>70%	Amikacin,Cephalothin,Cephapirin,Chlortetracycline, Nafcillin,Oxytetracycline,Tetracycline,Cloxacillin Rolitetracycline,Cycloserine,Demeclocycline, Doxycycline,Kanamycin, Methacycline
Staphylococcus epidermidis ATCC 12228	50-100	good-luxuriant	>70%	Novobiocin
Klebsiella pneumoniae ATCC 10031	50-100	luxuriant	>70%	Capreomycin, Streptomycin, Troleandomycin
Enterococcus hirae ATCC 10541	50-100	luxuriant	>70%	Gramicidin,Thiostrepton,Tobramycin
Escherichia coli ATCC 10536	50-100	luxuriant	>70%	Chloramphenicol, Spectinomycin

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.

Further Reading

1. Grove and Randall, 1955, Assay Methods of Antibiotics Medical Encyclopedia, Inc. New York.
2. Indian Pharmacopoeia 2010, Ministry of Health and Family Welfare, Govt. of India, Delhi.

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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