

Technical Information

Antibiotic MiVeg Assay Medium No.39

Product Code : VM2142

Application:- Antibiotic MiVeg Assay Medium No.39 is recommended for microbiological assay of Neomycin and Streptomycin using *Klebsiella pneumoniae* as the test organism.

Composition

Ingredients	Gms / Litre
MiVeg peptone	5.000
MiVeg extract	1.500
Yeast extract	1.500
Dextrose	1.000
Sodium chloride	3.500
Dipotassium phosphate	3.680
Potassium dihydrogen phosphate	1.320
Final pH (at 25°C)	7.9±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Antibiotic MiVeg Assay Medium No. 39 is prepared by vegetable peptones instead of animal peptones, thus the medium becomes BSE-TSE risks free. Grove and Randall have elucidated those antibiotic assays and media in their comprehensive treatise on antibiotic assays (1). Schmidt and Moyer have reported the use of antibiotic assay medium for the liquid formulation used in the performance of antibiotic assay (2). This medium is prepared in accordance with the USP (3) and the FDA (4). This medium serves the same purpose of Antibiotic Medium No. 39 employed widely for turbidometric assay of Neomycin using *Klebsiella pneumonia* and Tylosin using *Staphylococcus aureus* as the test organisms. Turbidimetric methods for determining the potency of antibiotics are inherently more accurate and more precise than comparable agar diffusion procedures

Essential nutrients and growth factors are supplied by ingredients like MiVeg peptone, MiVeg extract and yeast extract. Dextrose is the source of energy. Phosphates act as the buffering system while sodium chloride maintains the osmotic equilibrium in the medium.

Methodology

Suspend 17.5 grams of powder media in 1000 ml purified/distilled water. Mix thoroughly. Heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light yellow coloured clear solution in tubes

Reaction

Reaction of 1.75 % w/v aqueous solution at 25°C pH: 7.9±0.2

pH range

7.70-8.10

Cultural Response/Characteristics

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



Dehydrated Culture Media
Bases / Media Supplements

Organisms (ATCC)	Inoculum (CFU)	Growth	Serial dilution with
<i>Klebsiella pneumoniae</i> ATCC 10031	50-100	luxuriant	Neomycin
<i>Staphylococcus aureus</i> ATCC 9144	50-100	luxuriant	Tylosin

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° 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. Schmidt and Moyer, 1944; J. Bact, 47:199.
3. United States Pharmacopoeia 2011, USP 34/NF 29, US Pharmacopoeial Convention Inc, Rockville, MD.
4. Tests and Methods of Assay of Antibiotics and Antibiotic containing Drugs, FDA, CFR, 1983. Title 21, part 436, Subpart D, Washington, D.C. U.S Government printing office, paragraphs 436, 100-436, 106 pg 242-259 (April 1).

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