

Technical Information

Antibiotic MiVeg Assay Medium No.19

Product Code : VM1101

Application:- Antibiotic MiVeg Assay Medium No.19 is used for the microbiological assay of Amphotericin B, Netamycin and Nystatin using *Saccharomyces cerevisiae*.

Composition

Ingredients	Gms / Litre
MiVeg peptone	9.400
Yeast extract	4.700
MiVeg extract	2.400
Dextrose	10.000
Sodium chloride	10.000
Agar	23.500
Final pH (at 25°C)	6.1±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Antibiotic MiVeg Assay Medium No.19 is prepared by vegetable peptones instead of animal peptones, which makes the medium free from BSE/ TSE risks. This can serve the same purpose of Antibiotic Assay Medium No.19 for the assay of various antibiotics. Grove and Randall have elaborately elucidated the methods to perform these assays and various media used for the same (1). Schmidt and Moyer have reported the use of antibiotic assay medium for the liquid formulation used in the performance of antibiotic assay (2). These media are also recommended by USP (3) and FDA (4). This medium is as per specification of Krishbaum and Arett (5), used as seed agar for assay of antifungal agents like Amphotericin B, Nystatin, Netamycin and Candidicin etc. For similar type of applications, this medium can be used. The indicator organism used is *Saccharomyces cerevisiae*. This medium can also be used for maintenance and inoculum development of *Saccharomyces cerevisiae* as well as for assaying mycostatic activity in pharmaceutical formulations.

Nutrients and growth factor is provided by MiVeg Peptone, yeast extract and MiVeg extract and the energy source is supplied by dextrose. Sodium chloride maintains the osmotic equilibrium of the medium.

It is preferable to use freshly prepared plates for antibiotic assays. Prediffusion of antibiotics for 20 minutes in the agar by incubating at temperature below the optimal growth temperature for microorganisms facilitates better diffusion of antibiotics followed by incubation of the plates at optimal temperature for microbial growth. Test organisms are inoculated in sterile seed agar precooled to 40-45°C and spread evenly over the surface of solidified base agar.

Methodology

Suspend 60.0 grams of powder media in 1000 ml purified/distilled water. Mix thoroughly. Heat to boiling 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 Amphotericin B, Candidicin, Netamycin and Nystatin.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 2.35% Agar gel.

Colour and Clarity of prepared medium

Yellow coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 6.0 % w/v aqueous solution at 25°C pH: 6.1±0.2

pH range

5.90-6.30

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 29-31°C for 24-48 hours

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Antibiotics assayed
<i>Saccharomyces cerevisiae</i> ATCC 2601	50-100	luxuriant	≥70%	Nystatin
<i>Saccharomyces cerevisiae</i> ATCC 9763	50-100	luxuriant	≥70%	Amphotericin B, Candididin

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).
5. Krishbaum A and Areet B, 1967, J. Pharm Sci, 56: 512.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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