

Technical Information

Antibiotic Assay Medium F

Product Code: DM 1923B

Application: - Antibiotic Medium F is recommended for microbiological assay of Amphotericin B and Nystatin using *Saccharomyces cerevisiae*

Composition**

Ingredients	Gms / Litre
Peptone	9.400
Yeast extract	4.700
Beef extract	2.400
Sodium chloride	10.000
Glucose monohydrate	10.000
Agar	23.500
pH after sterilization	*6.0±0.1

**Formula adjusted, standardized to suit performance parameters

* While assaying Amphotericin B adjust the pH to 6.1±0.1

Principle & Interpretation

Grove and Randall have elucidated the antibiotic assays and medias in their comprehensive treatise on antibiotic assays (1). Antibiotic assay Medium F is used for the microbiological assay of Nystatin and Amphotericin B using *Saccharomyces cerevisiae* and *Candida tropicalis*. This medium is formulated in accordance with the British Pharmacopoeia (2). Freshly prepared plates should be used for antibiotic assays. Test organisms are inoculated in sterile seed agar cooled to 40-45°C and spread evenly over the surface of solidified base agar. After incubation the concentration of the antibiotic being assayed is determined by measuring the zone of inhibition obtained, with that of reference standard antibiotic. All conditions in the microbiological assay must be carefully controlled. The use of standard culture media in the test is one of the important steps for good results.

Peptone, yeast extract and beef extract provides essential nutrients, minerals and growth factors for the growth of the test organisms. Glucose monohydrate in the medium provides inhibited source of carbon and energy. Osmotic equilibrium in the medium is supplied by sodium chloride thereby maintaining the cell viability and integrity. Higher agar concentration provides solid substratum for growth of colonies and controls the diffusion of antibiotics.

Methodology

Suspend 59.09 grams of dehydrated culture media in 1000 ml distilled water. Mix thoroughly & heat to boiling to dissolve the medium completely. Dispense and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Adjust the pH of the medium, using freshly prepared buffer solution as recommended by the British Pharmacopoeia for the antibiotic assayed.

Advice: Recommended for the microbiological assay of Amphotericin B and Nystatin.

Quality Control

Appearance

Cream to yellow coloured homogeneous free flowing powder

Gelling

Firm, comparable with 2.35% Agar gel.



Dehydrated Culture Media
Bases / Media Supplements

Colour and Clarity

Light yellow coloured clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 5.91% w/v aqueous solution. pH : 6.0±0.1

pH Range

5.90-6.10

Cultural Response

DM1923B: Cultural characteristics observed after an incubation at specified temperature for 18-24 hours. (*-While assaying Amphotericin B, adjust the pH to 6.0-6.20)

Organism	Inoculum (CFU)	Growth	Recovery	Antibiotics assayed	Incubation Temperature
<i>Saccharomyces cerevisiae</i> ATCC 9763	50-100	luxuriant	>=70%	Amphotericin B, Nystatin	35-37°C 30-32°C
<i>Candida tropicalis</i> CIP1433-83	50-100	luxuriant	>=70%	Nystatin	30-37°C

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use freshly prepared medium. Use before expiry date 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. British Pharmacopoeia 2011, The Stationery Office, British Pharmacopoeia

Disclaimer :

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