Antibiotic Assay Medium F

M923B

Antibiotic Medium F is used for microbiological assay of Amphotericin B and Nystatin using *Saccharomyces cerevisiae* ATCC 9763 and *Candida tropicalis* CIP 1433-83 in accordance with British Pharmacopoeia.

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

Directions

Suspend 59.09 grams of dehydrated powder in 1000 ml R-water/ purified /distilled water. 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 .

Principle And Interpretation

Grove and Randall have elucidated the antibiotic assays and medias in their comprehensive treatise on antibiotic assays (1). Antibiotic assay Medium F is recommended 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 supply essential nutrients, minerals and growth factors for the growth of the test organisms. Glucose monohydrate in the medium provides enhanced source of carbon and energy. Osmotic equilibrium in the medium is provided 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.

Quality Control

Appearance
Cream to yellow coloured homogeneous free flowing powder

Gelling
Firm, comparable with 2.35% Agar gel.

Colour and Clarity of prepared medium
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
5.90-6.10

Cultural Response

M923B: 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
Saccharomyces cerevisiae ATCC 9763	50-100	luxuriant	>=70%	Amphotericin B, Nystatin	35-37°C 30-32°C
Candida tropicalis CIP 1433-83	50-100	luxuriant	>=70%	Nystatin	30-37°C

Storage and Shelf Life

Store below 30°C in tightly closed container and use freshly prepared medium . Use before expiry date on the label.

Reference

1. Grove and Randall, 1955, Assay Methods of Antibiotics, Medical Encyclopedia, Inc. New York
2. British Pharmacopoeia 2011, The Stationery Office, British Pharmacopoeia

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