



Antibiotic Assay Medium No.13 (Nystatin Assay Broth)

M254

Antibiotic Assay Medium No. 13 (Nystatin Assay Broth) is used for the microbiological assay of Candicidin using *Saccharomyces cerevisiae* ATCC3 9763

Composition**

| Ingredients | Gms / Litre |
|---|-------------|
| Peptic digest of animal tissue(Peptone) | 10.000 |
| Dextrose | 20.000 |
| Final pH (at 25°C) | 5.6±0.2 |

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 30 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool and dispense as desired.

Principle And Interpretation

This medium is formulated in accordance to CFR (1) and is numerically identical with the name assigned by Groove and Randall (2). Schmidt & Moyer has reported the use of antibiotic assay medium for liquid formulation in performance of antibiotic assay (3). This medium is widely used in turbidometric assay of antifungals like candicidin using test organism like *Saccharomyces cerevisiae*. The is medium is also termed Sabouraud Liquid Broth Modified or Fluid Sabouraud Medium.

This medium facilitates enhanced growth of test organism *Saccharomyces cerevisiae* employed in assay of candicidin, a polyene antibiotic with antifungal activity. Assay is performed by enumerating the blastospores or by analysing the turbidity of the medium. Dextrose serves as carbon source and peptic digest of animal tissue provides essential nutrients and growth promoting factors. Optimal pH for growth of *Saccharomyces cerevisiae* is maintained in this medium.

Turbidimetric antibiotic assay is based on the change or inhibition of growth of a test microorganisms in a liquid medium containing a uniform concentration of an antibiotic. After incubation of the test organism in the working dilutions of the antibiotics, the amount of growth is determined by measuring the light transmittance using spectrophotometer. The concentration of antibiotic is determined by comparing amounts of growth obtained with that given by the reference standard solutions. Use of this method is appropriate only when test samples are clear.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light amber coloured clear solution without any precipitate

Reaction

Reaction of 3.0% w/v aqueous solution at 25°C. pH : 5.6±0.2

pH

5.40-5.80

Cultural Response

M254: Cultural characteristics observed after an incubation at 25-30°C for 18-48 hours.

| Organism | Inoculum (CFU) | Growth | Serial dilution with |
|--|----------------|-----------|----------------------|
| Cultural Response <i>Saccharomyces cerevisiae</i> ATCC 9763 | 50-100 | luxuriant | Candicidin |

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. Tests and Methods of Assay of Antibiotics and Antibiotic containing Drugs, FDA, CFR, 1983 Title 21, Part436,Subpart D, Washington, D.C.: U.S. Government Printing Office, paragraphs 436, 100-436, 106, p. 242-259,(April 1).
2. Grove and Randall, 1955, Assay Methods of Antibiotics, Medical Encyclopedia, Inc. New York
3. Schmidt and Moyer, 1944. J.Bact., 47:199.

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