



## Antibiotic assay medium No. 37

MU1667

Antibiotic assay medium No. 37 is used for cultivation of a wide variety of microorganisms and sterility testing of moulds in accordance with United States Pharmacopoeia.

### Composition\*\*

Ingredients	Gms / Litre
Pancreatic digest of casein	17.000
Soybean peptone	3.000
Dextrose	2.500
Sodium chloride	5.000
Dipotassium phosphate	2.500
Final pH ( at 25°C)	7.3±0.1

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 30 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 25°C and store in cool dark place preferably below 25°C.

### Principle And Interpretation

Grove and Randall have elucidated the antibiotic assays and medias in their comprehensive treatise on antibiotic assays (1). Antibiotic assay Medium No. 37 is recommended for the cultivation of a wide variety of microorganisms and sterility testing of pharmaceutical preparations. This medium is also used for the sensitivity testing by the tube dilution method for antimicrobial agents (3). This medium is formulated in accordance with The United States Pharmacopoeia (2).

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.

The combination of pancreatic digest of casein and Soybean peptone makes this medium nutritious by providing amino acids and long chain peptides for the growth of microorganisms. Dextrose serves as the carbohydrate source and dipotassium phosphate facilitates buffering in the medium. Sodium chloride maintains the osmotic balance of the medium.

### Quality Control

#### Appearance

Cream to yellow coloured homogeneous free flowing powder

#### Colour and Clarity of prepared medium

Light yellow coloured clear solution without any precipitate

#### Reaction

Reaction of 3.0% w/v aqueous solution. pH : 7.3±0.1

#### pH

7.20-7.40

#### Cultural Response

MU1667: Cultural characteristics observed (i) for Bacteria at 30-35°C after 18-48 hours (ii) for Fungi at 20-25°C after 2-5 days

Organism	Inoculum (CFU)	Growth
<i>Staphylococcus aureus</i> ATCC 6538	50-100	luxuriant

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<i>Escherichia coli</i> ATCC 8739	50-100	luxuriant
<i>Pseudomonas aeruginosa</i> ATCC 9027	50-100	luxuriant(when incubated anaerobically)
<i>Bacillus subtilis</i> ATCC 6633	50-100	luxuriant
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	good-luxuriant
<i>Candida albicans</i> ATCC 10231	50-100	luxuriant
<i>Candida albicans</i> ATCC 2091	50-100	luxuriant
<i>Aspergillus brasiliensis</i> ATCC 16404	50-100	luxuriant

### Storage and Shelf Life

Store below 30°C and the prepared medium at 2 - 8°C. Use before expiry date on the label.

### Reference

1. Grove and Randall, 1955, Assay Methods of Antibiotics, Medical Encyclopedia, Inc. New York
2. United States Pharmacopoeia 1985, US Pharmacopoeial Convention, Inc., Rockville, MD.
3. Wright and Welch, 1959-60, Antibiotics Ann., 61.

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