



Antibiotic Assay Medium C

MM042

Antibiotic Assay Medium C is used as the broth medium in turbidimetric or serial dilution assay of a wide variety of antibiotics in accordance with Indian Pharmacopoeia.

Composition**

Ingredients	Gms / Litre
Peptone	5.000
Yeast extract	1.500
Beef extract	1.500
Dextrose	1.000
Sodium chloride	3.500
Dipotassium hydrogen phosphate	3.680
Potassium dihydrogen phosphate	1.320
pH after sterilization	7.0±0.05

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 17.5 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.

Advice: Recommended for the microbiological assay of Amikacin, Doxycycline, Gentamicin, Neomycin, Novobiocin, Oxytetracycline, Streptomycin, Tetracycline, Tobramycin, Tylosin .

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. 3 is used as the broth medium in the turbidimetric or serial dilution assay of a wide variety of antibiotics. This medium is formulated in accordance with the Indian 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.

Peptone, yeast extract and beef extract are the sources of essential nutrients and growth factors. Dextrose is the source of energy. Sodium chloride maintains the osmotic equilibrium of the medium. Phosphates maintain the buffering action in 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

pH

6.95-7.05

Cultural Response

MM042: Cultural characteristics observed after an incubation at specified temperature for 24 hours.

Organism	Inoculum (CFU)	Growth	Serial dilution with	Incubation Temperature
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<i>Klebsiella pneumoniae</i> ATCC 10031	50-100	luxuriant	Streptomycin	36-37°C
<i>Staphylococcus aureus</i> ATCC 29737	50-100	luxuriant	Amikacin, Doxycycline, Kanamycin sulphate, Oxytetracycline, Tetracycline, Tobramycin, Tylosin	32-35°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 Encyclopaedia, Inc. New York
2. Indian Pharmacopoeia 2010, Ministry of Health and Family welfare, Government of India, New Delhi

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Disclaimer :

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