



Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Antibiotic Assay Medium No.3

Product Code: DM 1042U

Application: - Antibiotic Assay Medium No.3 is recommended as the broth medium in turbidimetric or serial dilution assay of a wide variety of antibiotics in accordance with United States Pharmacopoeia.

Composition**

Ingredients	Gms / Litre
Peptone	5.000
Yeast extract	1.500
Beef extract	1.500
Dextrose	1.000
Sodium chloride	3.500
Dibasic potassium phosphate	3.680
Monobasic potassium phosphate	1.320
pH after sterilization	7.0±0.05

**Formula adjusted, standardized to suit performance parameters

Principle & 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 recommended as the broth medium in turbidimetric or serial dilution assay of a wide variety of antibiotics. This medium is formulated in accordance with The United States Pharmacopoeia (2).

Turbidimetric antibiotic assay is based on the change or inhibit the 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, beef extract and yeast extract supply essential nutrients and growth factors for enhanced microbial growth. Sodium chloride maintains the osmotic equilibrium and retains the cell viability and cell integrity. Phosphates supply good buffering action in the medium. Dextrose act as the carbon and energy source for luxuriant growth.

Methodology

Suspend 17.5 grams of dehydrated media in 1000 ml distilled water. Mix thoroughly & 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, Capreomycin, Chloramphenicol, Chlortetracycline, Cycloserine, Demeclocycline, Dihydrostreptomycin, Doxycycline, Gramicidin, Kanamycin, Methacycline, Oxytetracycline, Rolitetracycline, Streptomycin, Tetracycline, Tobramycin and Troleandomycin according to official methods.

Quality Control

Appearance

Cream to yellow coloured homogeneous free flowing powder





Dehydrated Culture Media
Bases / Media Supplements

Colour and Clarity

Light yellow coloured clear solution without any precipitate.

Reaction

Reaction of 1.75% w/v aqueous solution at 25°C (after sterilization). pH : 7.0±0.05

pH Range

6.95-7.05

Growth Promotion Test

In Accordance with the harmonized method of USP.

Cultural Response

DM 1042U: Cultural characteristics observed after incubation at specified temperature.

Cultural Response

Organism	Inoculum (CFU)	Growth	Serial dilution with	Incubation temperature / period
Cultural Response				
<i>Escherichia coli</i> ATCC 10536	50-100	luxuriant	Chloramphenicol	32-35°C / 24 hours
<i>Klebsiella pneumoniae</i> ATCC 10031	50-100	luxuriant	Capreomycin, Dihydrostreptomycin, Streptomycin, Troleandomycin	36-37.5°C /16-24 hours
<i>Staphylococcus aureus</i> ATCC 29737	50-100	luxuriant	Amikacin, Chlortetracycline, Cycloserine, Demeclocycline, Doxycycline, Kanamycin,,, Lincomycin, Methacycline, Oxytetracycline, Rolitetracycline , Tetracyclin, Tobramycin,	32-35°C/ 24 hours
<i>Enterococcus hirae</i> ATCC 10541	50-100	luxuriant	Gramicidin	36-37.5°C /16-18 hours
<i>Staphylococcus aureus</i> ATCC 9144	50-100	luxuriant	Tylosin	35-39°C/16-18 hours

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. United States Pharmacopoeia 2011, US Pharmacopoeia Convention, Inc., Rockville, MD.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at CDH is true and accurate
- Central Drug House Pvt. Ltd. reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents. Do not use the products if it fails to meet specification for identity and performance parameters.

