

## TM 015 – ANTIBIOTIC ASSAY MEDIUM NO. 3 (ASSAY BROTH)

### INTENDED USE

For microbiological assay of antibiotics.

### PRODUCT SUMMARY AND EXPLANATION

Grove and Randall have elucidated the antibiotic assays and medias in their comprehensive treatise on antibiotic assays. Antibiotic assay Medium No. 3 is used 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.

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.

### COMPOSITION

Ingredients	Gms / Ltr
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

### PRINCIPLE

Peptone, beef extract and yeast extract provide essential nutrients and growth factors for enhanced microbial growth. Sodium chloride maintains the osmotic equilibrium and retains the cell viability and cell integrity. Phosphates in the medium provide good buffering action. Dextrose serves as the carbon and energy source for luxuriant growth.

### INSTRUCTION FOR USE

- Dissolve 17.5 grams in 1000 ml purified/distilled water.
- Heat if necessary to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi 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 SPECIFICATIONS

<b>Appearance of Powder</b>	: Cream to yellow coloured homogeneous free flowing powder.
<b>Appearance of prepared medium</b>	: Light yellow coloured clear solution without any precipitate.
<b>pH (at 25°C)</b>	: 7.0±0.2

### INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Serial dilution with	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	10536	50-100	Luxuriant	Chloramphenicol	30-37°C	18-24 Hours
<i>Klebsiella pneumoniae</i>	10031	50-100	Luxuriant	Capreomycin, Dihydrostreptomycin, Streptomycin, Troleandomycin	30-37°C	18-24 Hours
<i>Staphylococcus aureus</i>	29737	50-100	Luxuriant	Amikacin, Chlortetracycline, Cycloserine, Demeclocycline, Doxycycline, Kanamycin,,, Lincomycin, Methacycline, Oxytetracycline, Rolitetracycline , Tetracyclin, Tobramycin	30-37°C	18-24 Hours
<i>Enterococcus hirae</i>	10541	50-100	Luxuriant	Gramicidin	30-37°C	18-24 Hours
<i>Staphylococcus aureus</i>	9144	50-100	Luxuriant	Tylosin	30-37°C	18-24 Hours

#### PACKAGING:

In pack size of 100 gm and 500 gm bottles.

#### STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 10-25°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.







#### DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

#### REFERENCES

1. Grove and Randall, 1955, Assay Methods of Antibiotics, Medical Encyclopedia, Inc. New York
2. United States Pharmacopoeia 2011, US Pharmacopoeial Convention, Inc., Rockville, MD.



<b>GMP</b> Good Manufacturing Practices Certified	<b>IVD</b> For In Vitro Diagnostic Use	<b>QTY.</b> Quantity	<b>LOT/ B. NO.</b> Lot / Batch Number	<b>REF</b> Catalogue Number	 Manufacturer
 Temperature Unit	<b>EC REP</b> Authorized Representative <small>MedNet GmbH Barkstrasse 10, 48163 Münster, Germany</small>	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

**\*For Lab Use Only**  
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