

## TM 022 – NEOMYCIN, ERYTHROMYCIN ASSAY AGAR (ANTIBIOTIC ASSAY MEDIUM NO. 11) (as per USP)

### INTENDED USE

For microbiological assay of antibiotics.

### PRODUCT SUMMARY AND EXPLANATION

Antibiotic Assay media are used in the performance of antibiotic assays. Grove and Randall have elucidated those antibiotic assays and media in their comprehensive treatise on antibiotic assays. Schmidt and Moyer have reported the use of antibiotic assay medium for the liquid formulation used in the performance of antibiotic assay. These media are recommended by USP and FDA.

### COMPOSITION

Ingredients	Gms / Ltr
Peptone	6.000
Tryptone	4.000
Yeast extract	3.000
Beef extract	1.500
Dextrose	1.000
Agar	15.000

### PRINCIPLE

The medium contains ingredients like peptone, tryptone, yeast extract and beef extract which are a source of nutrients and growth factors. Dextrose provides the carbon and energy source. Agar provides excellent medium for antibiotic diffusion and gives well defined zones of inhibition. Higher pH provides the optimal conditions for activity of antibiotic and also supports the growth of the test organisms.

Freshly prepared plates should be used for antibiotic assays. Test organisms are inoculated in sterile seed agar pre-cooled to 40-45°C and spread evenly over the surface of solidified base agar. All conditions in the microbiological assay must be controlled carefully.

### INSTRUCTION FOR USE

- Dissolve 30.50 grams in 1000 ml purified distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.
- Mix well and pour into Petri plates.

### QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Light yellow coloured, clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C)	: 8.3 ± 0.2



## INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Antibiotics assayed	Incubation Temperature	Incubation Period
<i>Micrococcus luteus</i>	9341	50-100	Luxuriant	>=70%	erythromycin While assaying Tylosin, Tylosin, tartarate, Vancomycin hydrochloride, adjust the pH to 8.0±0.2	35-37°C	18-24 Hours
<i>Staphylococcus epidermidis</i>	12228	50-100	Luxuriant	>=70%	Gentamicin, Neomycin, Netilmicin, Paromomycin, Sisomicin	35-37°C	18-24 Hours
<i>Staphylococcus aureus</i>	6538p	50-100	Luxuriant	>=70%	Kanamycin monosulphate, Kanamycin acid sulphate, Netilmicin sulphate	35-37°C	18-24 Hours
<i>Bacillus pumilis</i>	14884	50-100	Luxuriant	>=70%	Chlortetracycline , Framycetin, Kanamycin sulphate	35-37°C	18-24 Hours
<i>Bacillus subtilis</i>	8236	50-100	Luxuriant	>=70%	Dihydrostreptomycin sulphate, Streptomycin sulphate	35-37°C	18-24 Hours
<i>Bacillus subtilis subsp. spizizenii</i>	6633	50-100	Luxuriant	>=70%	Dihydrostreptomycin sulphate, Erythromycin estolate, Kanamycin monosulphate, Kanamycin acid	35-37°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 25-30°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. Schmidt and Moyer, 1944; J. Bact, 47:199.



3. United States Pharmacopoeia 2018, US Pharmacopoeial Convention Inc, Rockville, MD
4. Tests and Methods of Assay of Antibiotics and Antibiotic containing Drugs, FDA, CFR, 1983. Title 21, part 436, Subpart D, Washington, D.C. U.S Government printing office, paragraphs 436, 100-436, 106 pg 242-259 (April 1).
5. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock, D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

**\*For Lab Use Only**  
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