

## TM 1729 – ANTIBIOTIC ASSAY MEDIUM NO.1 (as per USP)

### INTENDED USE

For microbiological assay of  $\beta$ -lactam & other antibiotics.

### PRODUCT SUMMARY AND EXPLANATION

This medium is also used as inoculum and maintenance medium for different test organisms for antibiotic assays. Composition of this medium is in accordance with US Pharmacopoeia and is recommended by FDA and identified numerically with the name assigned by Grove and Randall.

Freshly prepared plates should be preferably used for assaying antibiotics. Test organisms is 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. One of the critical and important step for obtaining good results is use of appropriate standard culture media.

### COMPOSITION

Ingredients	Gms / Ltr
Peptone	6.000
Pancreatic digest of casein	4.000
Yeast extract	3.000
Beef extract	1.500
Dextrose	1.000
Agar	15.000

### PRINCIPLE

Essential nutrients, vitamins, mineral, trace elements and growth factors are supplied by peptone, pancreatic digest of casein, yeast and beef extract. Dextrose in the medium serves as the carbon source for stimulating the growth of the test microorganism. Agar provides excellent medium for antibiotic diffusion and gives well defined zones of inhibition.

### INSTRUCTION FOR USE

- Dissolve 30.5 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.

Advice: Recommended for the microbiological assay of Bacitracin, Nafcillin, Cephalothin, Cephaperin, Cloxacillin, Novobiocin, Penicillin-G

### QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow coloured homogeneous free flowing powder.
Appearance of prepared medium	: Yellow coloured slightly opalescent gel forms in Petri plates.
pH (at 25°C)	: 6.6±0.1

### INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Inoculum medium	Antibiotics assayed	Incubation Temperature	Incubation Period
<i>Bordetella bronchiseptica</i>	4617	50-100	Good-luxuriant	>=50%	Colistimethate sodium, Colistin, Polymyxin B	-	32-35°C	24 Hours
<i>Escherichia coli</i>	10536	50-100	Luxuriant	>=70%	Chloramphenicol	-	32-35°C	24 Hours
<i>Klebsiella pneumoniae</i>	10031	50-100	Good-luxuriant	>=50%	Capreomycin, Dihydrostreptomycin, Neomycin, Streptomycin, Troleandomycin	-	36-37.5°C	16-24 Hours
<i>Micrococcus luteus</i>	9341	50-100	Luxuriant	>=70%	Erythromycin	-	32-35°C	24 Hours
<i>Micrococcus luteus</i>	10240	50-100	Good-luxuriant	>=50%	Bacitracin	Bacitracin	32-35°C	24 Hours
<i>Pseudomonas aeruginosa</i>	25619	50-100	Luxuriant	>=70%	Carbenicillin	-	36-37.5°C	16-24 Hours
<i>Staphylococcus epidermidis</i>	12228	50-100	Good-luxuriant	>=50%	Gentamicin, Netilmicin, Neomycin, Novobiocin, Paromomycin, Sisomicin	Novobiocin	32-35°C	24 Hours
<i>Staphylococcus aureus</i>	29737	50-100	Luxuriant	>=70%	Amikacin, Cephalothin, Cephaperin, Chlortetracycline, Cloxacillin, Cycloserine, Demeclocycline, Kanamycin, Methacycline, Nafcillin, Penicillin-G, Rolitetracycline, Tetracycline, Tobramycin, Tylosin	Cephalothin, Cephaperin, Cloxacillin, Nafcillin, Penicillin-G,	32-35°C	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.

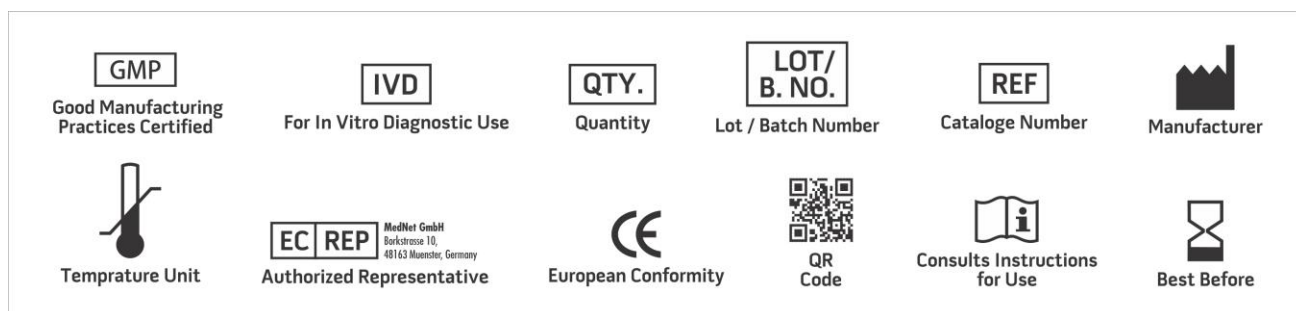
**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

### DISPOSAL

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

### REFERENCES

1. United States Pharmacopoeia USP 2011, US Pharmacopoeial Convention, Inc., Rockville, MD.
2. 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, p. 242-259, (April 1).
3. Grove and Randall, 1955, Assay Methods of Antibiotics Medical Encyclopaedia, Inc. New York



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

**\*For Lab Use Only**  
**Revision: 08 Nov., 2019**