

## TMV 390 – ANTIBIOTIC ASSAY MEDIUM NO.1 (SEED AGAR) (VEG.)

### INTENDED USE

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

### PRODUCT SUMMARY AND EXPLANATION

Antibiotic Veg Assay Medium No.1 (Seed Veg Agar) is prepared by replacing animal based peptones with vegetable peptones, making the medium BSE-TSE risks free. It can be used for the same purpose of Antibiotic Assay Medium No.1 (Seed Agar). The potency of an antibiotic can be determined by chemical, physical and biological assays. Biological assays offer the most convenient method, since a reduction in the antimicrobial activity of a specific antibiotic is not usually displayed in chemical methods. Biological testing may be performed by either dilution (turbidimetric) or diffusion methods. The choice of methodology is often based on many factors, including relative ease of performance, flexibility and use of automated or semi-automated devices for both identification and susceptibility testing. Grove and Randall have elucidated those antibiotic assays and media in their comprehensive treatise on antibiotic assays. Antibiotic Veg Assay Medium No.1 is used in the microbiological assay of  $\beta$ -lactam and other antibiotics and as seed agar with *Micrococcus luteus* (ATCC 9341) for plate assay of Bacitracin, with *Staphylococcus aureus* (ATCC 29739) for cylinder plate assay of Cephalexin, Cephalothin, Cephapirin, Cloxacillin, Dicloxacillin, Methicillin, Nafcillin, Oxacillin, Penicillin-G and Staphylococcus epidermidis (ATCC 12228) for plate assay of Novobiocin. This media can be used according to the specifications detailed in various pharmacopoeias.

Antibiotic assays are normally performed in freshly prepared media. Test organisms are spread evenly over the surface of solidified base agar. After incubation, the concentration of the antibiotic being assayed is determined by measuring the zone of inhibition obtained, with that of reference standard antibiotic. All conditions in the microbiological assay must be carefully controlled. The use of standard culture media in the test is one of the important steps for good results.

### COMPOSITION

Ingredients	Gms / Ltr
Veg peptone	6.000
Veg hydrolysate	4.000
Yeast extract	3.000
Veg extract	1.500
Dextrose	1.000
Agar	15.000

### PRINCIPLE

Nutrients and growth factors are supplied by the Veg peptone, Veg hydrolysate, yeast extract and Veg extract. Dextrose is supplemented as a carbon and energy source.

### 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, Cephalexin, Cephaloglycin, Cephradine, Cephaloridine, Cephalothin, Cephaperin, Cephazolin, Cloxacillin Cycloserine, Dicloxacillin, Methicillin, Nafcillin, Novobiocin, Oxacillin, Penicillin-G and Phenoxyethyl Penicillin.

### QUALITY CONTROL SPECIFICATIONS



**Appearance of Powder** : Cream to yellow homogeneous free flowing powder.  
**Appearance of prepared medium** : Yellow coloured clear to slightly opalescent gel forms in Petri plates.  
**pH (at 25°C)** : 6.6±0.2

### 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	Luxuriant	≥70%	Colistimethate sodium, Colistin, Polymyxin B	-	32-35°C	18-24 Hours
<i>Escherichia coli</i>	10536	50-100	Luxuriant	≥70%	Chloramphenicol	-	32-35°C	18-24 Hours
<i>Klebsiella pneumoniae</i>	10031	50-100	Luxuriant	≥70%	Capreomycin, Dihydrostreptomycin, Neomycin, Streptomycin, Troleandomycin	-	36-37.5°C	18-24 Hours
<i>Micrococcus luteus</i>	9341	50-100	Luxuriant	≥70%	Erythromycin	-	32-35°C	18-24 Hours
<i>Micrococcus luteus</i>	10240	50-100	Luxuriant	≥70%	Bacitracin	Bacitracin	32-35°C	18-24 Hours
<i>Pseudomonas aeruginosa</i>	25619	50-100	Luxuriant	≥70%	Carbenicillin		36-37.5°C	18-24 Hours
<i>Staphylococcus epidermidis</i>	12228	50-100	Luxuriant	≥70%	Gentamicin, Netilmicin, Neomycin, Novobiocin, Paromomycin, Sisomicin	Novobiocin	32-35°C	18-24 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	18-24 Hours
<i>Bacillus subtilis</i>	6633	50-100	Luxuriant	>=70%	Framycetin, Josamycin, Josamycin in propionate, Kanamycin, B, Spiramycin, Streptomycin	Streptomycin	32-35°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. Pelczar M. J. Jr., Reid R. D., Chan E. C. S., 1977, Microbiology, 4th Ed, Tata McGraw-Hill Publishing Company Ltd, New Delhi
2. The United States Pharmacopoeia 2011, USP 34/NF 29, The United States Pharmacopoeial Convention, Rockville, MD.
3. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
4. Grove and Randall, 1955, Assay Methods of Antibiotics Medical Encyclopedia, Inc. New York.
5. European Pharmacopoeia, 2011, European Department, for the Quality of Medicines
6. British Pharmacopoeia, 2011, The Stationery office British Pharmacopoeia
7. 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).



 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP MedNet GmbH Buckstrasse 10 48163 Muenster, Germany Authorized Representative	 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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