

# TM 661 – ANTIBIOTIC ASSAY MEDIUM NO. 41

#### **INTENDED USE**

For the microbiological assay of Thiostrepton using Streptococcus faecium as the test organism.

### PRODUCT SUMMARY AND EXPLANATION

Antibiotic Assay Medium No. 41 is used for turbidimetric microbiological assay of thiostreptone, a polypeptide antibiotic. Grove and Randall have elucidated the antibiotic assays and media in their comprehensive treatise on antibiotic assays. Turbidimetric antibiotic assay is based on the change or inhibition of growth of a test microorganims in a liquid medium containing a uniform concentration of an antibiotic. After incubation of the test orgainism in the working dilutions of the antibiotics, the amount of growth is determined by measuring the light transmittance using spectophotometer. The concentration of antibiotic is determined by comparing amounts of growth obtained with that is given by the reference standard solutions. Use of this method is appropriate only when test samples are clear.

#### COMPOSITION

Ingredients	Gms / Ltr	
Tryptone	9.000	
Dextrose (Glucose)	20.000	
Yeast extract	5.000	
Sodium citrate	10.000	
Potassium dihydrogen phosphate	1.000	
Dipotassium hydrogen phosphate	1.000	

### **PRINCIPLE**

Essential amino acids, mineral and growth factors are supplied by Tryptone and yeast extract in this medium. Dextrose provides carbon and energy source for enhancing the growth of test organism. Good buffering action is maintained by phosphates in the medium. Sodium citrate provides additional source of carbon and energy and promote enhanced growth of the test organism.

# **INSTRUCTION FOR USE**

- Dissolve 46.0 grams in 1000 ml purified / distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense into tubes or flasks as desired.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

# **QUALITY CONTROL SPECIFICATIONS**

**Appearance of Powder** : Cream to yellow homogeneous free flowing powder.

**Appearance of prepared medium**: Light yellow coloured clear solution.

pH (at 25°C) : 6.8±0.2

### **INTERPRETATION**

Cultural characteristics observed after incubation.











Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Serial dilution with	Incubation Temperature	Incubation Period
Enterococcus hirae	10541	50-100	Luxuriant	Thiostrepton	35-37°C	18-24 Hours

## **PACKAGING:**

In pack size of 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.

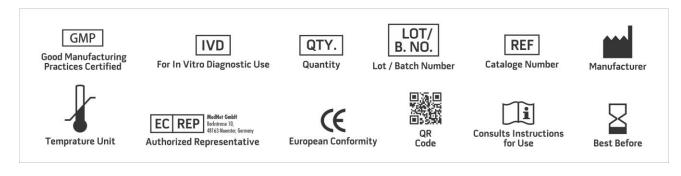
**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

### **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. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition
- 3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual Clinical Microbiology, 11th Edition. Vol. 1.



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

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





