



## Antibiotic Assay Medium No. 41

M1144

### Intended Use:

Recommended for the microbiological assay of Thiostrepton using *Enterococcus hirae* as the test organism.

### Composition\*\*

Ingredients	Gms / Litre
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
Final pH ( at 25°C)	6.8±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 46.0 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

### Principle And Interpretation

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.(1)

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.

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 is given by the reference standard solutions. Use of this method is appropriate only when test samples are clear

### Type of specimen

Pharmaceutical sample

### Specimen Collection and Handling:

For pharmaceutical sample samples follow appropriate techniques for handling specimens as per established guidelines (5). After use, contaminated materials must be sterilized by autoclaving before discarding.

### Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

### Limitations :

1. Freshly prepared medium plates must be used or it may result in erroneous results.
2. Use of this method is appropriate only when test samples are clear.

### Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

## Quality Control

### Appearance

Cream to yellow homogeneous free flowing powder

### Colour and Clarity

Light yellow coloured clear solution

### Reaction

Reaction of 4.6% w/v aqueous solution at 25°C. pH : 6.8±0.2

### pH

6.60-7.00

### Growth Promotion Test

In accordance with the harmonized method of USP

### Cultural Response

Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 24 hours.

Organism	Inoculum (CFU)	Growth	Serial dilution with
<i>Enterococcus hirae</i> ATCC 10541 (00011*)	50-100	luxuriant	Thiostrepton

.H\ &RUUHVSRLQJ : ' &0 QXPEHUV

## 6WRUDJH DQG 6KHOI /LIH

5 V Q Tve d C-30°C!hm!shfgskx!bknrdc!bnmsbhmdd!use freshly prepared medium. rd aden d d h sd nm s d aOm!  
nodmhmf-!osnctbs!rgntkad!osnodskx!rsnsdc!csx-!besds!shfgskx!bboohmf!sgd!ansskd!hmn o dudms tlo en l shnm ctd sn sgd  
gxf nrnbob m st d ne sgd o nctbs- Hlo nod rsn fd ne sgd o nctbs l x d c sn tlo en l shnmStore in dry ventilated area  
protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is  
best if used within stated expiry period.

## Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (1,2).

## Reference

1. Grove and Randall, 1955; Assay methods of Antibiotics Medical Encyclopedia, Inc, New York.

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### Disclaimer :

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