

## ANTIBIOTIC MEDIUM N° 5 (STREPTOMYCIN ASSAY AGAR) USP

CAT N°: 1524

For use in the potency assay of streptomycin

### FORMULA IN g/l

Gelatin Peptone	6.00	Beef Extract	1.50
Yeast Extract	3.00	Bacteriological Agar	15.00

Final pH 7.9 ± 0.1 at 25°C

This medium has the same formula as Antibiotic Medium N° 2 (Cat.1002) and Antibiotic Medium N° 8 (Cat.1004), with the difference that the pH of the medium has been adjusted to 7.9.

### PREPARATION

Suspend 25.5 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121°C for 15 minutes. The prepared medium should be stored at 8-15°C. The color is amber, slightly opalescent.

The dehydrated medium should be homogeneous, free-flowing and cream in color. If there are any physical changes, discard the medium.

### USES

ANTIBIOTIC MEDIUM N° 5 can be used in the cylinder plate method for the assay of streptomycin, generally with *Bacillus subtilis* as the organism tested.

Gelatin peptone and Beef extract provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Bacteriological Agar is the solidifying agent.

This method is based on the diffusion of an antibiotic solution from a cylinder placed on the surface of an inoculated agar medium. The diameter of an inhibition zone after incubation depends, in part, on the concentration or activity of the antibiotic. This method is used in the assay of commercial preparations of antibiotics, as well as in the quantitative determination of antibiotics in body fluids, animal feeds and other materials.

Plates are prepared and incubated following the FDA and the USP guidelines. The use of standardized culture media and strict control of all test conditions are essential requirements in the microbiological assay of antibiotics in order to obtain satisfactory test results.

### MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of 35 ± 2°C and observed after 18-24 hours.

Microorganisms	Growth	Inhibition zones
<i>Bacillus subtilis</i> ATCC 6633	Good	Gentamicin, Streptomycin

## BIBLIOGRAPHY

Grove and Randall. Assay Methods of Antibiotics, Medical Encyclopedia Inc. New York 1955. United States Pharmacopoeia Convention. 1955. The United States Pharmacopoeia, 23rd Ed. Biological Tests and Assays, p. 1690-1 696. The United States Pharmacopoeia Convention, Rockville, Md.



## STORAGE

Once opened keep powdered medium closed to avoid hydration.

