



Antibiotic Assay Medium No. 5

MU006

Antibiotic Assay Medium No. 5 is used for microbiological assay of Dihydrostreptomycin using *Bacillus subtilis* in accordance with United States Pharmacopoeia .

Composition**

Ingredients	Gms / Litre
Peptone	6.000
Yeast extract	3.000
Meat extract B #	1.500
Agar	15.000
pH after sterilization	7.9±0.1

**Formula adjusted, standardized to suit performance parameters

Equivalent to Beef extract

Directions

Suspend 25.5 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Advice : Recommended for the Microbiological assay of Dihydrostreptomycin .

Principle And Interpretation

This medium is used in the assay of commercial preparations of antibiotics, as well as for antibiotics in body fluids, feeds etc. Medium composition is in accordance to the specifications detailed in the USP, FDA (1,2) and numerically identical to the name assigned by Grove and Randall (3).

Peptone, yeast and meat extract B provides necessary growth nutrients for the test organisms like *Bacillus subtilis* . This medium provides solidified substratum for growth of organisms. The pH 7.9 maintained in this medium provides optimum growth conditions for *Bacillus subtilis* (4). This medium is used to prepare the base as well as seed layer in the microbiological assay of Dihydrostreptomycin.

To perform the antibiotic assay, the Base Agar should be prepared on the same, inoculated with the standardized test culture can be overlaid. Even distribution of the layer is important.

Quality Control

Appearance

Cream to yellow coloured homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Medium amber coloured slightly opalescent gel forms in Petri plates.

pH

7.80-8.00

Cultural Response

MU006: Cultural characteristics observed after an incubation at 32-35°C for 5 days.

Organism	Inoculum (CFU)	Growth	Antibiotics assayed
<i>Bacillus subtilis</i> ATCC 6633	50-100	good-luxuriant	Dihydrostreptomycin

Storage and Shelf Life

Store below 30°C in tightly closed container and use freshly prepared medium . Use before expiry date on the label.

Please refer disclaimer Overleaf.

Reference

1. United States Pharmacopoeia 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.
3. Grove and Randall, 1955, Assay Methods of Antibiotics Medical Encyclopaedia, Inc. New York.
4. Stearn and Stearn, 1933, J Bacteriol. 26(1): 37-55.

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