



## Antibiotic Assay Medium F

MM041

Antibiotic Assay Medium F is used for microbiological assay of tetracycline and oxytetracycline in accordance with Indian Pharmacopoeia.

### Composition\*\*

Ingredients	Gms / Litre
Peptone	6.000
Yeast extract	3.000
Beef extract	1.500
Agar	15.000
pH after sterilization	5.9±0.1

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

### 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.

*Advice : Recommended for the microbiological assay of Tetracycline, Oxytetracycline .*

### Principle And Interpretation

The composition of this medium is in accordance with IP and CFR (1,2). This medium is used to prepare the base layer to assay tetracycline and oxytetracycline.

Peptone, yeast and beef extract provide essential nutritional requirement for the test organisms. This medium provides solidified substratum for growth of organisms. This medium provides the optimal pH 5.8-6.0 for assay of tetracycline as these antibiotics are stable at slightly lower pH(3). This pH condition also supports the growth of test organisms.

To perform the antibiotic assay the Base Agar should be prepared on the same day as the test. The potency of an antibiotic can be demonstrated by its inhibitory effect on microorganisms under suitable conditions .For the cylinder method, a base layer of 21 ml is required. Once the base medium has solidified, seed layer 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

Light amber coloured slightly opalescent gel forms in Petri plates.

#### pH

5.80-6.00

#### Cultural Response

MM041: Cultural characteristics observed after an incubation at 32 - 35°C for 5 days.

Organism	Inoculum (CFU)	Growth	Recovery	Antibiotic assayed
<i>Bacillus cereus var mycoides</i> ATCC 11778	50-100	luxuriant	≥70%	Tetracycline, Oxytetracycline

### Storage and Shelf Life

Please refer disclaimer Overleaf.

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

## Reference

1. Indian Pharmacopoeia 2010, Ministry of Health and Family welfare, Government of India, New Delhi.
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, (April1).
- 3.Chapin-Robertson and Edberg, 1991, Measurement of Antibiotics in Human Body fluids:Techniques and significance. Antibiotics in Laboratory medicine, New York pp 311.

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