# Antibiotics Assay Medium No. 38

M799

## Intended Use:

Recommended for microbiological assay of Ticarcillin using *Pseudomonas aeruginosa.*

## Composition**

| Ingredients | Gms / Litre |
|---|---|
| Peptone | 15.000 |
| Soya peptone | 5.000 |
| Sodium chloride | 4.000 |
| Sodium sulphite | 0.200 |
| L-Cystine | 0.700 |
| Dextrose | 5.500 |
| Agar | 15.000 |
| Final pH ( at 25°C) | 7.0±0.2 |

**Formula adjusted, standardized to suit performance parameters

## Directions

Suspend 45.4 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.

## Principle And Interpretation

This medium follows the specification of CFR (1) and is routinely employed for agar diffusion assay of Ticarcillin using Gram negative test organisms specially *Psuedomonas aeruginosa*. This medium is used as both base agar and seed agar for assay of Ticarcillin.

Peptone and Soya peptone provides essential nutrients and growth factors for the growth of test organims. Dextrose serves as carbon source. Sodium chloride maintains the osmotic equilibrium. L-cystine and sodium sulphite are suphur providers that aids assimilation of sulphur during microbial growth. L-cystine also acts as growth stimulator and enrich the medium with amino acid source for promoting the growth. The high nutritional content along with high sulfur (cystine and sodium sulphite) content improves growth with chromogenicity of test organism *Psuedomonas.*

Freshly prepared plates should be used for antibiotic assays. Test organisms are inoculated in sterile seed agar pre-cooled to 40-45°C and spread evenly over the surface of solidified base agar.

Pharmaceutical sample

### pecimen ollection and andling

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.

### arning and recautions

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 :

## Quality Control

**Appearance**
Cream to yellow homogeneous free flowing powder

**Gelling**
Firm, comparable with 1.5% Agar gel

**Colour and Clarity of prepared medium**
Yellow coloured clear to slightly opalescent gel forms in Petri plates.

**Reaction**
Reaction of 4.54% w/v aqueous solution at 25ºC. pH : 7.0±0.2

**pH**
6.80-7.20

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

| Organism | Inoculum (CFU) | Growth | Recovery | Antibiotics assayed |
|---|---|---|---|---|
| *Pseudomonas aeruginosa ATCC 29336* | 50-100 | luxuriant | >=70% | Ticarcillin |

## Reference

1. Tests and Methods of Assay of Antibiotics and Antibiotic containing Drugs, FDA, CFR, 1983 Title 21, Part436, Subpart D, Washington, D.C.: U.S. Government Printing Office, paragraphs 436, 100-436, 106, p. 242-259, (April)

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