

Technical Information

Antibiotics Assay Medium No. 38

Product Code: DM 1799

Application: - Antibiotic Assay Medium No. 38 is used for the microbiological assay of Ticarcillin, using *Pseudomonas aeruginosa* as the test organism.

Composition**

| Ingredients | Gms / Litre |
|--|-------------|
| Peptic digest of animal tissue (Peptone) | 15.000 |
| Papaic digest of soyabean meal | 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

Principle & Interpretation

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

Peptic digest of animal tissue and papaic digest of soyabean meal provides essential nutrients and growth factors for the growth of test organisms. Dextrose serves as carbon source. Sodium chloride maintains the osmotic equilibrium. L-cystine and sodium sulphite are sulphur providers that help in 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 *Pseudomonas*.

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.

Methodology

Suspend 45.4 grams of powder media in 1000 ml distilled water. Shake well and heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.



Dehydrated Culture Media
Bases / Media Supplements

Quality Control

Physical 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 25°C. pH : 7.0±0.2

pH Range:- 6.80-7.20

Cultural Response/Characteristics

DM1799: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

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

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8⁰ in sealable plastic bags for 2-5 days.

Further Reading

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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