# Technical Information

## Antibiotic Assay Medium D

## Product Code: DM 1556

**Application: -** Antibiotic Assay Medium D is used for the microbiological assay of Erythromycin estolate using *Klebsiella pneumoniae*.

## Composition**

| Ingredients | Gms / Litre |
|---|---|
| Heart extract | 1.500 |
| Yeast extract | 1.500 |
| Peptone-Casein | 5.000 |
| Glucose monohydrate | 1.000 |
| Sodium chloride | 3.500 |
| Dipotassium hydrogen phosphate | 3.680 |
| Potassium dihydrogen phosphate | 1.320 |
| Potassium nitrate | 2.000 |
| Final pH ( at 25°C) | 7.0±0.2 |

**Formula adjusted, standardized to suit performance parameters

## Principle & Interpretation

Antibiotic Assay Medium D is used for the microbiological assay of Erythromycin estolate using *Klebsiella pneumoniae* .Grove and Randall have elucidated the antibiotic assays and media in their comprehensive treatise on antibiotic assays [1]. Turbidimetric methods for determining the potency of antibiotics are more accurate and precise than agar diffusion procedures.

Combination of peptone, heart extract and yeast extract supplies nutrients and essential mineral and growth factors for enhanced microbial growth. Potassium nitrate serves as inorganic source of nitrogen for the growth of test organism. Sodium chloride maintains the osmotic equilibrium while phosphates are incorporated in the medium to provide good buffering action. Glucose monohydrate serves as the carbon and energy source for faster growth.

Turbidimetric antibiotic assay is based on the change or inhibition of growth of a test microorganism in a liquid medium containing a uniform concentration of an antibiotic. Use of this method is appropriate only when test samples are not turbid.

## Methodology

Suspend 19.40 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. Dispense and sterilize by autoclaving at 15lbs pressure (121°C) for 15 minutes.

Adjust the pH of the medium, using freshly prepared buffer solution as recommended by the European/British Pharmacopoeia for the antibiotic assayed.

## Quality Control

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

**Colour and Clarity of prepared medium**
Light yellow coloured clear solution without any precipitate

**Reaction**
Reaction of 1.94% w/v aqueous solution at 25°C. pH : 7.0±0.2

**pH range** 6.80-7.20

**Cultural Response/ characteristices**
DM 1556: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

| Organism | Inoculum (CFU) | Growth | Serial dilution with |
|---|---|---|---|
| Klebsiella pneumoniae ATCC 10031 | 50-100 | luxuriant | Erythromycin stearate |

## 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**: 2-8° in sealable plastic bags for 2-5 days.

## Further Reading

1. Grove and Randall,1955; Assay methods of Antibiotics, Medical Encyclopedia,Inc. New York.

## Disclaimer :

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