OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

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TECHNICAL DATA SHEET

Antibiotic Assay Medium No.3 (Assay Broth)

Principle

The media is composed according to the USP, recommended as antibiotic assay medium. It is composed of peptone, yeast extract, meat extract, sodium chloride, dextrose, dibasic potassium phosphate and monobasic potassium phosphate. Peptone, yeast extract and meat extract provide nitrogen, carbon, vitamins essential nutrients. Sodium chloride maintains osmatic balance in medium. Dextrose serves as energy source. Dibasic and monobasic potassium phosphate acts as buffing agent. The media is used for estimating the concentration of antibiotic by biological assay or turbidimetric antibiotic assay for clear solution only. A uniform concentration of microorganism suspension is inoculated in series of antibiotic assay medium (5-10 ml) containing working dilution of antibiotic (varying concentration of antibiotic). After incubation, the amount of growth is determined by measuring the light transmittance using spectrophotometer. The concentration of antibiotic is estimated by associating amounts of growth obtained with the given by the reference standard solutions.

Use: For microbiological assay of antibiotics.

Contents*

Ingredients	Gram/Litre
Peptone	5.000
Yeast Extract	1.500
Meat Extract#	1.500
Sodium Chloride	3.500
Dextrose	1.000
Dibasic Potassium Phosphate	3.680
Monobasic Potassium Phosphate	1.320
pH after sterilization at 25˚C	7.0 ±0.05

***Formula adjusted for optimum performance and parameters # Equivalent of Beef Extract**

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Directions: Dissolve 17.50 grams in 1000 ml distilled water. Boil to dissolve the medium completely and distribute in test tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 min, cool it to 42-45 °C and add desired amount of antibiotic solution in it and inoculate uniform volume of bacterial suspension in series of tubes.

Specimens types analyzed

Recommended for clear solutions only *etc*.

Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	**Beige colored free flowing, homogeneous powder**
Reaction of 1.75% solution	**7.0 ±0.05 at 25 ˚C**
pH	**6.95- 7.05**
Color and clarity of ready medium	**Light amber colored opalescent solution**
Growth Promotion properties	**Best at ≤ 100 CFU at 32-37 ºC for 18-72 h**
Indicative properties	**Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h**
Negative control	**Performed using sterile distilled water**

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Different Microbial Response: Cultural characteristics observed after incubation at 35±2°C for 18-24 hours.

Organism	ATCC	Inoculum (CFU)	Growth	Serial dilution with
Escherichia coli	8739	50-100	Luxuriant	Chloramphenicol
Escherichia coli	10536	50-100	Luxuriant	Chloramphenicol
Staphylococcus aureus	6538	50-100	Luxuriant	Amikacin, Kanamycin, Tetracycline
Bacillus subtilis	6633	50-100	Luxuriant	---
Salmonella typhimurium	14028	50-100	Luxuriant	----

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. **Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.**
2. ***Difco Manual* (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.**
3. ***The United States Pharmacopoeia*, (2014), The United States Pharmacopeial Convention. 12601 Twinbrook Parkway, Rockvukke, MD 20852.**

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