

TECHNICAL DATA SHEET

Antibiotic Assay Medium No.1 (Seed Agar)

Principle

The media is composed according to the USP, recommended as antibiotic assay medium. It is composed of peptone, pancreatic digest of casein, yeast extract, meat extract, dextrose and agar. Peptone, pancreatic digest of casein, yeast extract and meat extract provide nitrogen, carbon, vitamins essential nutrients. Dextrose serves as energy source. This medium is used as seed agar, maintenance agar for the different variety of test microbes used for the antibiotic assay.

Use: For microbiological assay of β -lactam and other Antibiotics

Contents*

| Ingredients | Gram/Litre |
|-----------------------------|---------------|
| Peptone | 6.000 |
| Pancreatic Digest of Casein | 4.000 |
| Yeast Extract | 3.000 |
| Meat Extract# | 1.500 |
| Dextrose | 1.000 |
| Agar pH | 15.000 |
| at 25°C | 6.6 \pm 0.2 |

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

Directions: Dissolve 30.50 grams in 1000 ml distilled water. Boil to dissolve the medium completely and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 min, cool it to 42-45 °C and distribute aseptically in petri plates. Ensure complete solidification and inoculate test sample aseptically.

Specimens types analyzed

Recommended for the seed agar, maintenance agar for the different variety of test microbes *etc.*

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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 3.05% solution | 6.6 ±0.2 at 25 °C |
| pH | 6.40-6.80 |
| Gelling | Firm comparable with 1.5% agar gel |
| Color and clarity of ready medium | Light amber colored opalescent gel |
| Growth Promotion properties | Best at ≤ 100 CFU at 32-37 °C for 18-72 h |
| Indicative properties | Optimum at ≤ 100 CFU at 32-37 °C for 18-48 h |
| Negative control | Performed using sterile distilled water |

Different Microbial Response

Cultural characteristics observed after an incubation at 33-37 °C for 18-48 hrs.

| Organism | ATCC | Inoculum | Growth | Recovery | Antibiotic assayed |
|-------------------------------|-------|----------|-----------|----------|---------------------------|
| <i>Escherichia coli</i> | 10536 | 50-100 | Luxurious | 80-90% | |
| <i>Bacillus spizizenii</i> | 6633 | 50-100 | Luxurious | 80-90% | |
| <i>Salmonella typhimurium</i> | 14028 | 50-100 | Luxurious | 80-90% | |
| <i>Staphylococcus aureus</i> | 29737 | 50-100 | Luxurious | 80-90% | Cloxacillin, Penicillin-G |

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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 Pharmacopoeial Convention. 12601 Twinbrook Parkway, Rockvukke, MD 20852.

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