

TECHNICAL DATA SHEET

Aeromonas Selective Agar (BSIBG Agar)

Principle

Aeromonas species occur in soil, water (untreated and chlorinated drinking water), raw food, and raw milk, and they cause disease in fish and amphibians. It is observed that the major cause of gastrointestinal infections by *Aeromonas* species is drinking infected water.

The media was originally formulated for the selective isolation of *Aeromonas* species from faeces. *Aeromonas* selective agar is composed of beef extract, proteose peptone, which provides nitrogen, vitamins, and amino acids; D-xylose is a carbon source. Sodium thiosulfate is a source of sulphur. Brilliant green and bile salt inhibit Gram-positive organisms. Irgasan, an antimicrobial agent, selectively inhibits gram-positive and gram-negative bacteria other than *Aeromonas* species. Neutral red is an indicator dye. *Aeromonas* species do not ferment xylose, so acid is not produced, and the colonies appear colourless or translucent. Agar is a solidifying agent.

Use: For Selective isolation of *Aeromonas* species from food.

Contents*

Ingredients	Gram/Liter
Beef Extract	5.000
Proteose Peptone	5.000
D-Xylose	10.000
Sodium Thiosulfate	5.440
Brilliant Green	0.005
Bile Salt	8.500
Irgasan	0.005
Neutral Red	0.025
Agar	11.500
pH at 25°C	7.0±0.2

* Formula adjusted for optimum performance and parameters

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Directions: Dissolve 45.48 grams in 1000 ml distilled water. Boil to dissolve the medium completely. **DO NOT AUTOCLAVE**, cool it to 42-45 °C and distribute aseptically in desired. Ensure complete solidification and inoculate test sample aseptically.

Specimens' types analyzed

Clinical and non-clinical samples, food and water etc.

Precautions to be taken

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	Buff Yellow, free flowing, homogeneous powder
Reaction of 4.55% solution	7.0 ±0.2 at 25 °C
pH	6.80- 7.20
Gelling	Firm comparable with 1.15% agar gel
Color and clarity of ready medium	Medium to dark brownish colored, slightly opalescent gel
Growth Promotion properties	Best at ≤ 100 CFU at 35 ± 2.0°C for 18-48 hours
Indicative properties	Optimum at ≤ 100 CFU at 35 ± 2.0°C for 18-48 hours
Negative control	Performed using sterile distilled water

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Different Microbial Response

Prepare media as per the label directions. Inoculate and incubate the plates at $35 \pm 2.0^{\circ}\text{C}$ for 18-24 hours.

Organism	ATCC	Inoculum (CFU)	Growth	Recovery
<i>Aeromonas hydrophila</i>	7966	50-100	Luxuriant	$\geq 60\%$
<i>Escherichia coli</i>	8739	50-100	Inhibited	--
<i>Proteus mirabilis</i>	25933	50-100	Inhibited	--

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. Steering Group on the Microbiological Safety of Foods (SGMSF) in *Methods for Use in Microbiological Surveillance*, 1994, MAFF, Ergon House, London SWIP3TR.
3. Isenberg, H.D. *Clinical Microbiology Procedures Handbook* 2nd Edition.
4. Burke V. et al 1984, *Appl. Environ. Microbiol.*, 48:361
5. Rand, M. C., Arnold E. Greenberg, and Michael J. Taras, (1976), *Standard methods for the examination of water and wastewater*. Prepared and published jointly by American Public Health Association, American Water Works Association, and Water Pollution Control Federation.

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