OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

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Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

Brain Heart Infusion Agar (BHI Agar)

Principle

The medium contains protease peptone and infusions from calf brain and beef heart which serve as sources of carbon, nitrogen, essential growth factors, amino acids and vitamins. Dextrose is used as a source of energy. Disodium phosphate helps in maintaining the buffering action of the medium whereas sodium chloride maintains the osmotic equilibrium of the medium. Defibrinated sheep blood added to the basal medium provides essential growth factors for the more fastidious fungal organisms. It is a highly nutritious and can support luxuriant growth of wide variety of microorganisms. It can be further enriched by the addition of blood or rendered selective by adding different antibiotics. It is also used in the aminoglycoside and vancomycin screen test for resistant enterococci. BHA with 5-10% sheep blood and chloramphenicol (16 µg/ml) and gentamicin (5 µg/ml) will inhibit the growth of bacteria while allowing growth of dimorphic fungi.15 This agar can be used as a primary plating medium. This medium used for primary isolation of aerobic bacteria from clinical specimens. BHI with 0.5% Polysorbate 80 can be used for detecting Mycobacterium avium-intracellulare complex organisms and *M. tuberculosis* from blood cultures.

Use: Recommended for cultivation of fastidious pathogenic bacteria, yeasts and molds.

Contents*

Ingredients	Gram/Litre
Beef Heart Infusion (From 250g)	5.00
Protease Peptone	10.00
Calf Brains Infusion (From 200g)	12.50
Dextrose	2.00
Sodium Chloride	5.00
Disodium Phosphate	2.50
Agar	15.00
pH at 25˚C	7.4 ±0.2

*** Formula adjusted for optimum performance and parameters**

Directions: Dissolve 52.00 grams in 1000 ml distilled. 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 in petri plates and allow to solidify. Ensure complete solidification and inoculate test sample aseptically.

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Specimens' types analyzed

Pharmaceutical samples, clinical and non-clinical samples 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, hygroscopic homogeneous powder**
Reaction of 5.2% solution	**7.4 ±0.2 at 25 ˚C**
pH	**7.20- 7.60**
Gelling	**Firm comparable with 1.5% agar gel**
Color and clarity of ready medium	**Light yellow to slight amber colored opalescent gel**
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
Prepare medium with and without 5% sheep blood per label directions. Inoculate and incubate Aspergillus aerobically at 30 ± 2°C for 18-72 hours; incubate all other organisms aerobically at 35 ± 2°C with 5-10% CO_2 for 18-48 hours.

Organism	ATCC	Inoculum	Growth	Growth without 5% Sheep blood
Aspergillus brasilliensis	16404	100-150	Luxurious	Luxurious
Staphylococcus aureus	25923	100-150	Luxurious	Luxurious

Storage and Shelf Life: Hygroscopic; keep container tightly closed. Store in cool dry place.

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. **Ajello, L., L. K. Georg, W. Kaplan, and L. Kaufman. (1966), *Laboratory manual for medical mycology* (CDC), U.S. DHEW, Center for Disease Control, Atlanta, GA.**
2. **Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.**
3. ***Difco Manual* (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.**
4. **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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