

BRAIN HEART INFUSION (BHI) AGAR

INTENDED USE

Remel Brain Heart Infusion Agar is a solid medium recommended for use in the cultivation of a wide variety of microorganisms including pathogenic fungi.

SUMMARY AND EXPLANATION

Brain Heart Infusion (BHI) Agar is a nutritious base medium suitable for the cultivation of a wide variety of microorganisms including bacteria, yeasts, and molds.¹ With the addition of 5-10% sheep blood, BHI Agar can be used for the isolation of dimorphic fungi which may grow poorly on nonenriched media. Rosebury et al. tested the suitability of BHI Agar to support the growth of *Actinomyces*.² Dolan determined optimal concentrations of chloramphenicol for the isolation of pathogenic fungi and *Nocardia asteroides*.³ BHI Agar is recommended by the Association of Official Analytical Chemists (AOAC) and the American Public Health Association (APHA).^{4,5}

PRINCIPLE

Casein and meat peptones provide nitrogen, amino acids, and peptides necessary for bacterial growth. Brain heart infusion also supplies peptones and dextrose which are rich in nitrogen, carbon, sulfur, and vitamins. Sheep blood is a source of growth factors essential for isolation of fastidious fungi. Yeast extract may be added to serve as a growth stimulant. Selective agents, such as gentamicin, chloramphenicol, penicillin, and streptomycin, may be added to inhibit a range of gram-positive and gram-negative bacteria. Cycloheximide inhibits rapidly growing saprophytic fungi that may overgrow slower-growing pathogens; however, it also inhibits the growth of some significant pathogens (e.g., *Cryptococcus neoformans*, some *Candida* spp., some *Aspergillus* spp., and zygomycetes).

REAGENTS (CLASSICAL FORMULAE)*

Casein Peptone.....	14.5 g	Disodium Phosphate	2.5 g
Meat Peptone	7.0 g	Dextrose	2.0 g
Brain Heart Infusion Solids.....	6.0 g	Sheep Blood (optional).....	6 %
Sodium Chloride.....	5.0 g	Agar	15.0 g
		Demineralized Water	1000.0 ml

pH 7.4 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PRECAUTIONS

This product is For Laboratory Use only. It is not intended for use in the diagnosis of disease or other conditions.

PREPARATION OF DEHYDRATED CULTURE MEDIUM

1. Suspend 52 g of medium in 1000 ml of demineralized water.
2. Heat to boiling with agitation to completely dissolve.
3. Sterilize by autoclaving at 121°C for 15 minutes or following established laboratory procedures.
4. Aseptically add sheep blood (6% concentration) and/or antimicrobial supplements, if desired.

PROCEDURE

Consult current editions of appropriate references for the recommended procedure for sample preparation, inoculation, testing, and interpretation.

QUALITY CONTROL

Each lot number of Brain Heart Infusion Agar has been manufactured, packaged, and processed in accordance with current Good Manufacturing Practice regulations. All lot numbers have been tested using the following quality control organisms and found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, sample results should not be reported.

CONTROL

Candida albicans ATCC® 10231
Cryptococcus neoformans ATCC® 14116
Escherichia coli ATCC® 25922
Staphylococcus aureus ATCC® 25923
Trichophyton mentagrophytes ATCC® 9533

INCUBATION

Aerobic, up to 72 h @ 25-30°C
Aerobic, up to 72 h @ 25-30°C
Aerobic, 18-24 h @ 33-37°C
Aerobic, 18-24 h @ 33-37°C
Aerobic, up to 72 h @ 25-30°C

RESULTS

Good growth
Good growth
Good growth
Good growth
Good growth

BIBLIOGRAPHY

1. Murray, P.R., E.J. Baron, J.H. Jorgensen, M.L. Landry, and M.A. Pfaller. 2007. Manual of Clinical Microbiology. 9th ed. ASM Press, Washington, D.C.
2. Rosebury, T., L.J. Epps, and A. R. Clark. 1944. Infect. Dis. 74:131-149.
3. Dolan, C.T. 1971. Appl. Microbiol. 21:195-197.
4. Food and Drug Administration. 1995. Bacteriological Analytical Manual. 8th ed. AOAC International, Gaithersburg, MD.
5. Downes, F.P. and K. Ito. 2001. Compendium of Methods for the Microbiological Examination of Foods. 4th ed. APHA, Washington, D.C.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, sample collection, storage and transportation, materials required, quality control, and limitations.

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