Brain Heart Infusion Agar (BHI Agar)

Cat #: MM-M-N048

For the development of fastidious microorganisms

Principles and uses:

Brain Heart Infusion Agar (BHI Agar) is a solid medium rich in nutrients, suitable for the cultivation of several fastidious strains of bacteria, fungi, and yeasts.
Brain Heart Infusion Agar is used for the cultivation of a wide variety of fastidious microorganisms such as streptococci, meningococci and pneumococci. BHIA is recommended in Standard Methods for water testing and in antimicrobial susceptibility tests. The nutritionally rich base of Beef heart and Calf brain infusions and Peptone mixture provide nitrogen, vitamins, minerals and amino acids that support the growth of a variety of microorganisms. Disodium phosphate acts as a buffer. Dextrose is the fermentable carbohydrate providing carbon and energy. Sodium chloride maintains the osmotic balance. Bacteriological agar is the solidifying agent.
If 10% sterile defibrinated blood is added, the medium can be used for the cultivation and isolation of Histoplasma capsulatum. With the addition of antibiotics the medium can be used for the isolation of fungi. Brain Heart Infusion Agar with cycloheximide and chloramphenicol restrict growth of bacteria and saprophytic fungi, and is recommended for the isolation of fungi difficult to grow such as H. capsulatum and Blastomyces dermatiditis. Adding polysorbate to BHIA allows for identification of Mycobacterium avium-intracellular complex organisms and M. tuberculosis from blood cultures. Occasionally BHIA plates are used for general sensitivity tests. However, it is not suitable to determine hemolytic reactions as this medium has a high dextrose concentration and it may give atypical readings.
To prepare a selective medium for fungi, the sterilized and melted medium should be cooled to 45-50°C before adding the appropriate antibiotics. Occasionally a small amount of sediment may appear which should be resuspended with a gentle swirl before dispensing.

Formula per Litre:

Bacteriological agar	15g	Beef heart infusion	10g
Dextrose	2g	Disodium phosphate	2.5g
Peptone mixture	10g	Sodium chloride	5g
Calf brain infusion	7.5g		

Preparation:

Suspend 52 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121ºC for 15 minutes.

Instructions for use:

For clinical diagnosis, for all types of clinical samples:

- Inoculate the surface by streaking in parallel with the handle or hyssop.
- Incubate at a temperature of 35±2ºC under 5-10% CO2 and observe at 24-72 hours.
- It is recommended to incubate Aspergillus brasiliensis and Saccharomyces cerevisiae under aerobic conditions 30±2°C.
- Reading and interpretation of the results.

Quality control:

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Beige	Clear amber, slightly opalescent	7.4±0.2

Microbiological test:

Incubation conditions: (35±2°C, 5-10% CO2 / 24-72 h).

Microorganisms	Specification
Neisseria meningitidis ATCC 13090	Moderate growth without blood - Good growth with 5% sheep blood.
Aspergillus brasiliensis ATCC 16404	Good growth without blood - Good growth with 5% sheep blood. Streptococcus pyogenes ATCC 19615
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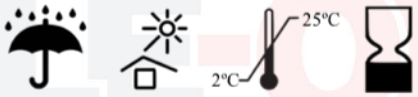
Storage:

Once opened keep powdered medium closed to avoid hydration.



Bibliography:

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