

PRODUCT CODE: 413772

Brain Heart Infusion Agar (BHI) (Dehydrated Culture Media) for microbiology

Preparation

Suspend 52 grams of the medium in one litre of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121°C for 15 minutes. The prepared medium should be stored at 8-15°C.

The colour is clear amber, slightly opalescent. The dehydrated medium should be homogeneous, free-flowing and beige in colour. If there are any physical changes, discard the medium. 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.

Uses

BRAIN HEART INFUSION AGAR (BHIA) 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 supports 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. Inoculate and incubate anaerobically at 35 ± 2°C for 24 - 72 hours. 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 dermatitidis*.

Adding polysorbate to BHIA allows for identification of *Mycobacterium aviumintracellulare* 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.

Composition

See in Data Sheet (TDS).

Microbiological Test

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of 35±2°C, under 5 - 10% CO₂, and observed after 24 - 72 hours. (It is recommended to grow *Aspergillus brasiliensis* and *Saccharomyces cerevisiae* aerobically at 30 ± 2°C).

Microorganism	Growth without blood	Growth with 5% sheep blood
<i>Aspergillus brasiliensis</i> ATCC 16404	Good	Good
<i>Neisseria meningitidis</i> ATCC 13090	Moderate	Good
<i>Saccharomyces cerevisiae</i> ATCC 9763	Good	Good
<i>Streptococcus pneumoniae</i> ATCC 6303	Moderate	Good
<i>Streptococcus pyogenes</i> ATCC 19615	Moderate	Good

Storage

Once opened keep powdered medium closed to avoid hydration.

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