

Brain Heart Infusion Broth (BHI Broth)

Cat. 1400

For the growth of pathogenic cocci and other microorganisms including aerobic and anaerobic bacteria from a variety of clinical and nonclinical materials.

Practical information

Applications	Categories
Growth	General use
Confirmation	Coagulase-positive staphylococcus
Enrichment	General use

Industry: Water / Clinical / Food / Antimicrobial susceptibility testing



Principles and uses

Brain Heart Infusion Broth (BHI) is a liquid medium rich in nutrients, suitable for the cultivation of several fastidious strains of bacteria, such as streptococci, meningococci and pneumococci, fungi and yeasts. BHI Broth is recommended in Standard Methods for water testing and in antimicrobial susceptibility tests.

Tubes of 0,5 ml BHI Broth are used to cultivate bacteria used in the preparation of inocula for use in microdilution minimal inhibitory concentration (MIC) and identification (ID) test panels.

BHI Broth is recommended for the preparation of the culture of *S. aureus* for use in coagulase tests according to ISO 6888 Horizontal method for the enumeration of coagulase positive staphylococci.

This medium is very versatile and supports the growth of many fastidious organisms. With the addition of 0,1% agar, the medium is used for the cultivation of anaerobes. Adding 0,1% agar reduces the flow of oxygen convection currents and encourages the development of anaerobes and microorganisms.

The nutritionally rich base of beef heart and calf brain infusions and peptone mixture provide nitrogen, vitamins, minerals and amino acids essential for growth of a variety of microorganisms. Dextrose is the carbon energy source and Sodium chloride maintains the osmotic balance.

Formula in g/L

Dextrose	2	Disodium phosphate	2,5
Gelatin peptone	10	Sodium chloride	5
Heart infusion	10	Brain infusion	7,5

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 37 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. Dispense into appropriate containers and sterilize at 121 °C for 15 minutes.

Instructions for use

- » For clinical diagnosis, the type of sample is any type of clinical sample.
 - Inoculate 10^3 - 10^4 cfu/ml.
 - Incubate at 37 ± 1 °C for 18-24 hours.
 - Read and interpretate of the results.

» For other uses not covered by CE marking:

Confirmation of coagulase-positive staphylococci according to ISO 6888:

- Subculture the presumptive colony into a tube of BHI broth.
- Whitt the same wire, spread the suspension on a non-selective medium and incubate at 34°C to 38°C for 24 hours to check the purity.

- Add 0,1 ml of each culture to 0,3 ml of rabbit plasma and incubate at 34°C to 38°C.
- Examine the tubes after 5 hours. If the test is negative, re-examine after 24 hours.

Cultivation of fastidious and non-fastidious microorganisms from food, environmental, and other samples:

- Inoculate the specimen by inserting the swab or transferring a loopful into broth tubes.
- Incubate at 37±1 °C for 18-24 hours.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Light toasted	Amber	7,4±0,2

Microbiological test

Incubation conditions: (37±1 °C / 18-24 h).

Microorganisms	Specification
<i>Neisseria meningitidis</i> ATCC 13090	Good growth with turbidity
<i>Streptococcus pyogenes</i> ATCC 19615	Good growth with turbidity
<i>Streptococcus pneumoniae</i> ATCC 6305	Good growth with turbidity

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

Chapman. Trans. N.Y. Acad. Science. 9:52. 1946. Newman. J. Milk and Food Technol. 13:226. 1950.
Roseburg, Epps, and Clark. J. Infection Diseases, 74:131. 1944. APHA Diagnostic Procedures and Reagents. 3rd Edition, 1951.

Additional information

For best results, the medium should be used on the same day or, if not, heated in a boiling water bed to expel the dissolved oxygen and left to cool before using.