

Brain Heart Infusion Broth (BHI Broth)

Cat #: MM-M-400

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

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.

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 per Litre:

Dextrose	2g	Disodium phosphate	2.5g
Gelatin peptone	10g	Sodium chloride	5g
Heart infusion	10g	Brain infusion	7.5g

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 $35\pm 2^\circ\text{C}$ for 18-24 hours.
- Reading and interpretation of the results.

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.

BHI Broth is recommended for the preparation of the culture of *S. aureus* for use in coagulase tests.

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.

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: ($35\pm 2^\circ\text{C}$ / 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>Brucella abortus</i> ATCC 4315	Moderate growth
<i>Streptococcus pneumoniae</i> ATCC 6305	Good growth with turbidity

Technical Data Sheet

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Storage:

Once opened keep powdered medium closed to avoid hydration.



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.

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