 Brain Heart Infusion (BHI) Broth is a general-purpose medical laboratory liquid medium used for enrichment of pathogenic cocci; Staphylococcus aureus from food, animal feeding stuffs, milk and milk products.

**BRAIN HEART INFUSION BROTH**

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| REF: V.1/BB01.100 100 gram REF: V.1/BB01.250 250 gram |  REF: V.1/BB01.500 500 gram  |

# CLINICAL SIGNIFICANCE

# BHI Broth is a highly nutritious medium and is also well buffered to support the growth of wide variety of microorganisms (2,3,4). Recently this medium has been recommended by ISO committee for the detection of Staphylococcus aureus (5,6).The With the additions of desired additives this medium can be specifically adopted for cultivation of various bacteria. BHI Broth is also used for the preparation of inocula for use in antimicrobial susceptibility tests.

# METHOD PRINCIPLE

# Brain Heart Infusion Broth contain peptones and glucose which form the nutritional sources within the media. Sodium chloride maintains the osmotic equilibrium of the media whilst disodium phosphate is added to maintain the pH level. The formulation for Heart Infusion devices has been developed to give equivalent performance to Brain Heart Infusion devices, whilst carrying a low

# MEDIA COMPOSITION

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| **Item**  | **Formula in g/L**  |
| Calf Brains infusion Beef heart infusion Peptone Dextrose Sodium Chloride Disodium Phosphate | 12.5510252.5 |

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## Final pH 7.4 ± 0.2 at 25°C

# PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person.

Good Laboratories practices using appropriate precautions should be followed in:

* Wearing personnel protective equipment (overall, gloves, glasses...).
* Do not pipette by mouth.
* In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries, seek medical advice immediately.
* Handle specimens and inoculated culture bottles as though capable of transmitting infectious agents. All inoculated culture bottles, specimen collection needles, and blood drawing devices should be decontaminated according to country requirement for waste disposal.

S56: dispose of this material and its container at hazardous or special waste collection point.

S57: use appropriate container to avoid environmental contamination.

S61: avoid release in environment.

For further information, refer to the BHI Broth material safety data sheet.

# MEDIA STORAGE AND STABILITY

**Lab.Vie**. BHI Broth should be stored between 10-30°C in a firmly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

## PROCEDURE

## Suspend 37 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Dispense into bottles or tubes as desired. Sterilize in autoclave at 121°C for 15 minutes.

## For best results, the medium should be used on the day it is prepared, otherwise, it should be boiled or steamed for a few minutes and then cooled before use.

## Deterioration

**Lab.Vie**. BHI Broth is cream to yellow homogeneous free flowing powder, dehydrated medium is Light amber coloured, clear to slightly opalescent solution. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

**SPECIMEN COLLECTION AND PRESERVATION**

# For clinical samples follow appropriate techniques for handling specimens as per established guidelines (11, 12). For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (9, 10, 13). After use, contaminated materials must be sterilized by autoclaving before discarding.

# TYPE OF SPECIMEN

# Pharmaceutical samples for sterility testing, clinical samples- pus, wounds

# EQUIPMENT REQUIRED NOT PROVIDED

# Sterile cups

# Sterile tubes

# Incubator

# Autoclave

# QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact the technical support.

# PERFORMANCE CHARACTERISTICS

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).

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| **Microorganism** | **Growth** |
| *Staphylococcus aureus subsp. aureus ATCC 25923* | Luxuriant |
| *Staphylococcus aureus subsp. aureus ATCC 6538* | Luxuriant |
| *Streptococcus epidermidis ATCC 14990* | Luxuriant |
| *Streptococcus epidermidis ATCC 12228* | Luxuriant |

# REFERENCES

1.Rosenow, 1919, J. Dental Res., 1:205

2.Conant N.F., 1950, Diagnostic Procedures and Reagents, 3rd Ed., APHA, Inc., New York, p. 452.

3.MacFaddin J.F., 1985, Media for Isolation-CultivationIdentification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.

4. Roseburg T. et al, 1944, J. Inf. Dis., 74:131.

5. Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase positive Staphylococci (Staphylococcus aureus and other species). International Organization for Standardization (ISO), 1999 Ammd 2:2018-07, Draft ISO/DIS 6888-1.

6. Milk and milk-based products - Detection of thermonuclease produced by coagulase-positve Staphylococci. International Organization for Standardization (ISO), 8870 / IDF 83-2006.

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| **SYMBOLS IN PRODUCT LABELLING**  |
|   IVD For in-vitro diagnostic use  |   Number of <n> test in the pack  |
|  LOT Batch Code/Lot number  | A black and white triangle with a exclamation mark  Description automatically generated Caution  |
|  REF Catalogue Number  | Do not use if package is damaged   |
|   Temperature Limitation   Expiration Date   Manufactured by  |  Consult Instruction for use      |

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