Brain Heart Infusion Agar (i23022)

A solid medium which contains the highly nutritious infusions recommended for the cultivation of fastidious organisms.

Industry: Antimicrobial susceptibility testing / Clinical

Principles & Uses

Brain Heart Infusion Agar (BHI Agar) is a versatile culture medium suitable for a wide range of microorganisms, including bacteria, fungi, and yeasts. This rich medium contains essential nutrients like nitrogen, vitamins, amino acids, and carbon sources derived from infusions, along with peptones. It also includes dextrose for energy and disodium phosphate as a buffer. Sodium chloride helps maintain osmotic balance, and bacteriological agar solidifies the medium.

BHI Agar is ideal for the growth of fastidious microorganisms such as *streptococci*, *meningococci*, and *pneumococci*. It is recommended for water testing and antimicrobial susceptibility tests. When combined with 10% sterile defibrinated blood, it's used to cultivate and isolate *Histoplasma capsulatum*. Adding antibiotics makes it selective for certain fungi. For instance, BHI Agar with cycloheximide and chloramphenicol inhibits bacteria and saprophytic fungi, suitable for challenging-to-grow fungi like *H. capsulatum.*

While BHI Agar is versatile, it's not suitable for determining hemolytic reactions due to its high dextrose concentration, which may yield atypical results. To prepare a selective fungal medium, sterilize and cool the medium before adding appropriate antibiotics. Occasionally, BHI Agar plates are used for general sensitivity tests.

Composition (gr/L)

Brain Heart Infusion 3.5, Enzymatic Digest of Animal Tissues 14, Pancreatic digest of Casein 10, Dextrose 2, Sodium Chloride 5, Disodium Phosphate 2.5, Agar 15.

Final pH at 25°C 7.4 ± 0.2

Preparation from dehydrated Powder

Dissolve 52 g of the medium in one Liter of purified water. Mix thoroughly. Autoclave at 121°C for 15 minutes.

Quality Control

Dehydrated Appearance: Beige, free-flowing, homogeneous.

Prepared Appearance: Light to medium amber, slightly opalescent to opalescent with a flocculent precipitate.

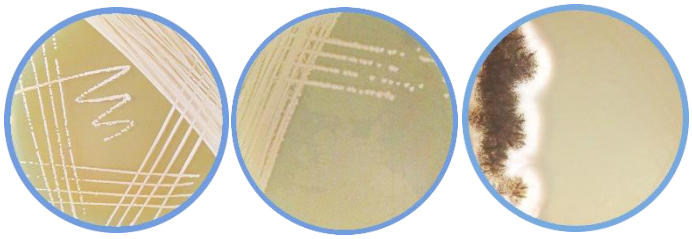
Reaction of 5.2 % Solution at 25°C: pH 7.4 ± 0.2

Cultural Response

Medium was prepared per label directions without (plain) or with 5% defibrinated sheep blood (SB). Inoculated and incubated at 35 ± 2°C without or with 5-10% CO2 for 18-48 hours (*A. brasiliensis* aerobically at 30 ± 2°C for 18-72 hours) with organisms below.

Organism (ATCC*)	Recovery
Escherichia coli (25922)	Good
Aspergillus brasiliensis (niger) (16404)	Good
Staphylococcus aureus (25923)	Good

*ATCC is a registered trade mark of the American Type Culture Collection.



S. aureus (left). E. coli (middle). Aspergillus niger (right)

Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.