BRAIN-HEART INFUSION BROTH (7116)

Intended Use
Brain-Heart Infusion Broth is used for the cultivation of a wide variety of fastidious organisms.

Product Summary and Explanation
Rosenow[1] prepared a rich medium for culturing streptococci by combining dextrose broth and brain tissue. Hayden[2] modified the original formula while working with dental pathogens. The current formula is a modification of Rosenow[1] and Hayden[2], using dehydrated infusions of porcine brain and heart tissue.

Brain-Heart Infusion Broth can be supplemented with antibiotics, varying amounts of sodium chloride, yeast extract, and serum to provide a rich medium for bacteria, yeasts and pathogenic fungi.[3] The addition of 0.1% agar can be used to lower oxygen tension, providing an atmosphere to support the growth of aerobic, microaerophilic, and obligate anaerobic microorganisms.

Brain-Heart Infusion Broth, abbreviated as BHI, is specified in many references for food and water testing.[4-7] NCCLS, National Committee for Clinical Laboratory Standards, cites Brain-Heart Infusion Broth for preparing the inoculum used in antimicrobial susceptibility tests.[8]

Principles of the Procedure
The nitrogen, vitamin, and carbon sources are provided by Brain-Heart Infusion and Enzymatic Digest of Gelatin in BHI Broth. Dextrose is the carbohydrate source, and Sodium Chloride maintains the osmotic environment. Disodium Phosphate is the buffering agent in this medium.

Formula / Liter
Brain Heart Infusion ..... 17.5 g
Enzymatic Digest of Gelatin ..... 10 g
Dextrose ..... 2 g
Sodium Chloride ..... 5 g
Disodium Phosphate ..... 2.5 g
Final pH: 7.4 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precautions
1. For Laboratory Use.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions
1. Dissolve 37 g of the medium in one liter of purified water.
2. Heat with frequent agitation to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications
Dehydrated Appearance: Powder is homogeneous, free flowing, and light beige.

Prepared Appearance: Prepared broth is brilliant to clear, with none to light precipitate, and light to medium amber in color.

Expected Cultural Response: Cultural response in Brain-Heart Infusion Broth incubated at 35 ± 2°C under aerobic atmosphere and temperature and examined for growth at 1 – 3 days.

Microorganism	Approx. Inoculum (CFU)	Expected Results
Escherichia coli ATCC® 25922	10 - 300	Good to excellent
Staphylococcus aureus ATCC® 25923	10 - 300	Good to excellent

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure
Refer to appropriate references for specific procedures using Brain-Heart Infusion Broth.

Results
Refer to appropriate references for test results.

Storage
Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration
Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure
Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging
Brain-Heart Infusion Broth	**Code No.**	**7116A**	**500 g**
		7116B	**2 kg**
		7116C	**10 kg**

References

1. **Rosenow, E. C.** 1919. Studies on elective localization. J. Dent. Research **1**:205-249.
2. **Hayden, R. L.** 1923. Elective localization in the eye of bacteria from infected teeth. Arch. Int. Med. **32**:828-849.
3. **Atlas, R. M.** 1993. Handbook of microbiological media, p. 147-153, CRC Press, Boca Raton, FL.
4. **Cunnif, P. (ed.).** 1995. Official Methods of Analysis AOAC International, 16th ed. AOAC International, Gaithersburg, MD.
5. **U.S. Food and Drug Administration.** Bacteriological analytical manual, 8th ed., AOAC International, Gaithersburg, MD.
6. **Vanderzant, C., and D. F. Splittstoesser (eds.).** 1992. Compendium of methods for the microbiological examination of food., 3rd ed. American Public Health Association, Washington, D.C.
7. **Greenberg, A. E., L. S. Clesceri, and A.D. Eaton (eds.).** 1995. Standard methods for the examination of water and wastewater, 19th ed. American Public Health Association, Washington, D.C.
8. **National Committee for Clinical Laboratory Standards.** 1994. M11-A3, Vol. 13, No. 26, Methods for antimicrobial susceptibility testing of anaerobic bacteria. National Committee for Clinical Laboratory Standards, Villanova, PA.

Technical Information
Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (517)372-9200 or fax us at (517)372-2006.

NEOGEN CORPORATION
620 Lesher Place, Lansing MI 48912
517/372-9200 • 800/783-3212 • fax: 800/875-8563
neogen-info@neogen.com • www.neogen.com