

BRAIN-HEART INFUSION AGAR (7115)

Intended Use

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

Product Summary and Explanation

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

Brain-Heart Infusion Agar can be supplemented with antibiotics, varying amounts of sodium chloride, yeast extract and serum to provide a rich medium for bacteria, yeast, and pathogenic fungi.³ Brain-Heart Infusion Agar (BHI Agar), is specified in many references for food and water testing.⁴⁻⁶ Standard Methods for the Examination of Water and Wastewater recommends Brain-Heart Infusion media in tests for the verification of fecal streptococci.⁷

Principles of the Procedure

The nitrogen, vitamin, and carbon source is provided by Brain Heart Infusion, Enzymatic Digest of Animal Tissue, and Enzymatic Digest of Casein in BHI Agar. Dextrose is the carbohydrate source, and Sodium Chloride maintains the osmotic environment. Agar is the solidifying agent.

Formula / Liter

Brain Heart Infusion (Solids).....	8 g
Enzymatic Digest of Animal Tissue	5 g
Enzymatic Digest of Casein.....	16 g
Dextrose.....	2 g
Sodium Chloride	5 g
Disodium Phosphate.....	2.5 g
Agar	13.5 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. Suspend 52 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute 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 to beige.

Prepared Appearance: Prepared medium is trace to slightly hazy, and light to medium amber. Prepared with 5% sheep blood, medium is opaque and red.

Expected Cultural Response: Cultural response on Brain-Heart Infusion Agar at 35 ± 2°C and examined for growth after 18 - 24 hours incubation.

Microorganism	Approx. Inoculum (CFU)	Expected Results
<i>Candida albicans</i> ATCC® 10231	10 - 300	Growth
<i>Neisseria meningitidis</i> ATCC® 13090	10 - 300	Growth
<i>Streptococcus pneumoniae</i> ATCC® 6305	10 - 300	Growth
<i>Streptococcus pyogenes</i> ATCC® 19615	10 - 300	Growth

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 Agar.

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 appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations 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 Agar	Code No.	7115A	500 g
		7115B	2 kg
		7115C	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.** 1995. 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.

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.