

BRUCELLA BROTH (7121)

Intended Use

Brucella Broth is used for the cultivation of *Brucella* spp. and other fastidious microorganisms.

Product Summary and Explanation

Brucella Broth is prepared according to the APHA formula for Albimi Broth.¹ Brucella Broth is a general purpose medium for the cultivation of *Brucella* spp. and fastidious microorganisms including, *Streptococcus pneumoniae*, *Streptococcus viridans*, and *Neisseria meningitidis*.² *Brucella* spp. is the causative agent for brucellosis, a zoonotic disease with a domestic-animal reservoir.³ Transmission by milk, milk products, meat, and direct contact with infected animals is the usual route of exposure.³

Brucella Broth is recommended for the isolation of *Brucella* spp. from blood cultures,^{4,5} and specified in standard methods for the examination of food.⁶

Principles of the Procedure

The nitrogen and carbon sources are provided by Enzymatic Digest of Casein and Enzymatic Digest of Animal Tissue in Brucella Broth. Yeast Extract is the vitamin source in this medium, and Dextrose is the energy source. Sodium Chloride maintains the osmotic environment. Sodium Bisulfite is added to enhance growth.

Formula / Liter

Enzymatic Digest of Casein	10 g
Enzymatic Digest of Animal Tissue.....	10 g
Yeast Extract.....	2 g
Sodium Chloride	5 g
Dextrose.....	1 g
Sodium Bisulfite	0.1 g

Final pH: 7.0 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precautions

1. For Laboratory Use.
2. *Brucella* spp. are classified as Biosafety Level 3 pathogens. Procedures with live cultures and antigens must be confined to a Class II biological safety cabinet (BSC).³
3. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Dissolve 28 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and light to medium beige.

Prepared Appearance: Prepared medium is clear and gold to amber with none to a light precipitate.

Expected Cultural Response: Cultural response in Brucella Broth at 35 ± 2°C under CO₂ after 18 - 72 hours incubation.

Microorganism	Approx Inoculum (CFU)	Expected Growth Results
<i>Brucella ovis</i> ATCC® 25840	10 - 300	Fair growth
<i>Campylobacter coli</i> ATCC® 33559	10 - 300	Fair to good growth
<i>Campylobacter fetus</i> ATCC® 33246	10 - 300	Fair to good growth
<i>Campylobacter jejuni</i> ATCC® 29428	10 - 300	Fair growth
<i>Streptococcus pyogenes</i> ATCC® 19615	10 - 300	Fair to good growth

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

Test Procedure

Refer to appropriate references for a complete discussion on the isolation and identification of *Brucella* spp.^{4,5}

Results

Refer to appropriate references for 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.

Limitation of the Procedure

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

Packaging

Brucella Broth	Code No.	7121A	500 g
		7121B	2 kg
		7121C	10 kg

References

1. **Hausler, W. J. (ed.).** 1976. Standard methods for the examination of dairy products, 14th ed. American Public Health Association, Washington, D.C.
2. **MacFaddin, J. D.** 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1, p. 110-114. Williams & Wilkins, Baltimore, MD.
3. **Moyer, N. P., and L. A. Holcomb.** 1995. *Brucella*, p. 549-555. In P. R. Murray, E. J. Baron, M. A. Pfaller, F. C. Tenover, and R. H. Tenover (eds.). Manual of clinical microbiology, 6th ed. American Society for Microbiology, Washington, D.C.
4. **Isenberg, H. D. (ed.).** 1992. Clinical microbiology procedures handbook. American Society for Microbiology, Washington, D.C.
5. **Baron, E. J., L. R. Peterson, and S. M. Finegold.** 1994. Bailey & Scott's diagnostic microbiology, 9th ed. Mosby-Year Book, Inc., St. Louis, MO.
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.

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.