

Bacto™ Brain Heart Infusion, Porcine

Intended Use

Bacto™ Brain Heart Infusion, Porcine is used for cultivating a wide variety of microorganisms.

Summary and Explanation

Rosenow¹ devised an excellent medium for culturing streptococci by supplementing Dextrose Broth with brain tissue. Hayden,² revising Rosenow's procedure by adding crushed marble to the medium, reported favorable growth of organisms from dental pathogens. Brain Heart Infusion is a modification of the media described by Rosenow¹ and Hayden.² Infusion from calf brains has replaced the brain tissue and disodium phosphate has replaced the calcium carbonate buffer.

Brain Heart Infusion, Porcine was developed as an alternative to the Brain Heart Infusion (BHI) formula, and replaces calf brains and beef heart with porcine brains and heart. Brain Heart Infusion, Porcine was developed for pharmaceutical and vaccine production and can replace the traditional BHI depending on organism and production application. BHI, Porcine was formulated with no bovine components to minimize Bovine Spongiform Encephalopathy (BSE) risk.

The nutritionally rich formula of BHI is used to grow a variety of microorganisms. The original Brain Heart Infusion media are specified in standard methods for multiple applications.³⁻⁶

Principles of the Procedure

Infusion from pork brains, infusion from pork heart and Pork Peptone No. 2 provide nitrogen, carbon, sulfur and vitamins in Brain Heart Infusion, Porcine. Dextrose is the carbon energy source to facilitate organism growth. Sodium chloride maintains the osmotic balance of the medium. Disodium phosphate is the buffering agent.

User Quality Control

Identity Specifications

Bacto™ Brain Heart Infusion, Porcine

Dehydrated Appearance:	Light tan, free-flowing, homogeneous.
Solution:	3.7% solution, soluble in purified water. Solution is light to medium amber, clear.
Prepared Appearance:	Light to medium amber, clear.
Reaction of 3.7% Solution at 25°C:	pH 7.4 ± 0.2

Cultural Response

Bacto™ Brain Heart Infusion, Porcine

Prepare the medium per label directions. Inoculate and incubate at 35 ± 2°C for 18-48 hours.

ORGANISM	ATCC™	INOCULUM CFU	RECOVERY
<i>Neisseria meningitidis</i>	13090	10 ² -10 ³	Fair
<i>Streptococcus pneumoniae</i>	6305	10 ² -10 ³	Good
<i>Streptococcus pyogenes</i>	19615	10 ² -10 ³	Fair

Formula

Bacto™ Brain Heart Infusion, Porcine

Approximate Formula* Per Liter	
Pork Brains, Infusion from 200 g	7.7 g
Pork Heart, Infusion from 250 g	9.8 g
Pork Peptone No. 2	10.0 g
Dextrose	2.0 g
Sodium Chloride	5.0 g
Disodium Phosphate	2.5 g

*Adjusted and/or supplemented as required to meet performance criteria.

Directions for Preparation from Dehydrated Product

1. Suspend 37 g of the powder in 1 L of purified water. Mix thoroughly.
2. Heat with frequent agitation and boil for 1 minute to completely dissolve the powder.
3. Autoclave at 121°C for 15 minutes.
4. Test samples of the finished product for performance using stable, typical control cultures.

Procedure

See appropriate references for specific procedures using Brain Heart Infusion.

Expected Results

Refer to appropriate references and procedures for results.

References

1. Rosenow. 1919. J. Dent. Res. 1:205.
2. Hayden. 1923. Arch. Int. Med. 32:828.
3. Downes and Ito (ed.). 2001. Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.
4. U.S. Food and Drug Administration. 2001. Bacteriological analytical manual, online. AOAC International, Gaithersburg, Md.
5. Eaton, Rice and Baird (ed.). 2005. Standard methods for the examination of water and wastewater, 21st ed., online. American Public Health Association, Washington, D.C.
6. Horwitz (ed). 2007. Official methods of analysis, AOAC International, 18th ed., online. AOAC International, Gaithersburg, Md.

Availability

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Cat. No.	256120	Dehydrated – 500 g
	256110	Dehydrated – 10 kg