

Brain Heart Infusion Broth

REF.	Pack size
1401 001	100 gm
1401 002	500 gm

Intended Use

Brain-Heart Infusion Broth is used for the cultivation of streptococci, Neisseria and other fastidious organisms isolated from throat, ear swab, sterile urine and CSF specimens.

Background

Rosenow prepared a rich medium for culturing streptococci by combining dextrose broth and brain tissue. Hayden modified the original formula while working with dental pathogens.

The current formula is a modification of Rosenow and Hayden, using dehydrated infusions of calf brain and beef heart tissue.

The medium can be used for the preparation of inoculum in antimicrobial susceptibility test procedures and for the cultivation of anaerobes with addition of 0.1 agar.

Principle

Peptone and infusion from calf brain and beef heart provide sources of nitrogen, carbon, sulphur and other growth factors. Dextrose is the fermentable carbohydrate and disodium phosphate is the buffer. Sodium chloride interferes with membrane permeability, acts as a selective agent. Agar helps in cultivation of anaerobes as it yields conditions of reduced oxygen tension.

Components	gm/Litre
Calf brain	7.7
Protease peptone	10.0
Beef Heart	9.8
Dextrose	2.0
Sodium chloride	5.0
Disodium phosphate	2.5
Final pH (at 25°C)	7.4 ± 0.2

Preparation, Storage and Stability

Store the dehydrated medium at 10-30°C and use before the expiry date on the label. Store the prepared medium at 2-8°C

Procedure

- Suspend 37 g of the powder in 1 L distilled water and mix well.
- Heat with frequent agitation and boil for one minute to dissolve the powder completely.
- Sterilize by autoclaving at 121°C for 15 minutes.

SYMBOLS IN PRODUCT LABELLING			
	Authorised Representative		Temperature Limitation
	For in-vitro diagnostic use		Use by/Expiration Date
	Batch Code/Lot number		CAUTION. Consult instructions for use
	Catalogue Number		Manufactured by
	Consult instructions for use		

Quality Control

Appearance

- Dehydrated Appearance : light yellow to light tan coloured, homogeneous, free flowing powder.
- Prepared Appearance : brilliant to clear, with none to light precipitate, and amber in color
- Cultural Response : after 18-24 hours at 30-35°C or 35± 2°C for clinical specimens

Organisms (ATCC)

Organism	Growth
<i>Neisseria meningitidis</i>	Good
<i>Streptococcus pneumoniae</i>	Good
<i>Streptococcus pyogenes</i>	Good
<i>Escherichia coli</i>	Good

Interpretation of the results

- Growth in tubes is indicated by turbidity.
- Incubate the subcultures anaerobically if anaerobes are suspected.

Precautions

- Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.
- Tubes of brain heart infusion broth not used on the same day, should be placed in boiling water bath for a few minutes to remove absorbed oxygen and cooled rapidly without shaking before use.
- If 1.5 % agar is added, the broth should not be used for detection of haemolytic activity of streptococci.

Bibliography

- Cunniff, P. (ed.). 1995. Official Methods of Analysis AOAC International, 16th ed. AOAC International, Gaithersburg, MD.
- U.S. Food and Drug Administration. Bacteriological analytical manual, 8th ed., AOAC International, Gaithersburg, MD.
- 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

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