Brain Heart Infusion Broth

REF.	Pack size
606 01 100	100 gm
606 01 500	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 phoshphate 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

1. Suspend 37 g of the powder in 1 L distilled water and mix well.

2. Heat with frequent agitation and boil for one minute to dissolve the powder completely.

3. Sterilize by autoclaving at 121°C for 15 minutes.

Quality Control

Appearance

1- Dehydrated Appearance : light yellow to light tan coloured, homogeneous, free flowing powder.

2- Prepared Appearance : brilliant to clear, with none to light precipitate,and amber in color

3- Cultural Response : after 18-24 hours at 30-35°C or 35± 2°C for clinical specimens

Organisms (ATCC)	Growth
Neisseria meningitidis	Good
Streptococcs pneumoniae	Good
Streptococcus pyogenes	Good
Escherichia coli	Good

Interpretation of the results

1- Growth in tubes is indicated by turbidity.

2- Incubate the subcultures anaerobically if anaerobes are suspected.

Precautions

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

2- 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.

3- If 1.5 % agar is added , the broth should not be used for detection of haemolytic activity of streptococci.

Bibliography

1. Cunnif, P. (ed.). 1995. Official Methods of Analysis AOAC International, 16th ed. AOAC International, Gaithersburg, MD.

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3. 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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