Dehydrated Culture Media

BRAIN HEART INFUSION

BROTH

Code: CM1135

A highly nutritious infusion medium recommended for the cultivation of streptococci, Neisseria and other fastidious organisms.

Formula gm/litre
Brain infusion solids 12.5
Beef heart infusion solids 5.0
Proteose peptone 10.0
Glucose 2.0
Sodium chloride 5.0
Disodium phosphate 2.5
pH 7.4 ± 0.2 @ 25°C

Directions
Dissolve 37g in 1 litre of distilled water. Mix well and distribute into final containers. Sterilize by autoclaving at 121°C for 15 minutes.

Description
A versatile liquid infusion medium which is suitable for the cultivation of streptococci, *Neisseria* and other fastidious organisms, this medium is recommended for blood culture work and, with the additions described below, for the isolation and cultivation of pathogenic fungi.

Oxoid Brain Heart Infusion Broth is essentially a buffered infusion broth, giving similar results to the brain dextrose broths originally employed for the cultivation of streptococci[1], and for the cultivation of dental pathogens[2]. The addition of 0.1% agar will serve to reduce convection currents and so create conditions of varying oxygen tension which favour the growth and primary isolation of aerobes and anaerobes[3], while even easily cultivated organisms show improved growth[4].

Oxoid Brain Heart Infusion Broth was used in a test for the pathogenicity of streptococci[5,6] and the same medium was enriched with ascitic fluid for the cultivation of gonococci[7]. It is especially useful as a growth and suspension medium for staphylococci which are to be tested for coagulase production; Newman[8] employed a similar medium for this purpose in an investigation of food poisoning caused by dairy products.

A satisfactory medium for blood culture can be prepared by adding 1g of agar per litre of Brain Heart Infusion Broth. Ensure that the agar is uniformly distributed in the sterile broth before dispensing into bottles.

Tubes of Oxoid Brain Heart Infusion Broth which are not used the same day as sterilized should be placed in a boiling water bath for several minutes to remove absorbed oxygen, and cooled rapidly without shaking, just before use.

Further supplements to improve the recovery of organisms from blood can be added before sterilization or aseptically post-sterilization. Co-enzyme1 (NAD), penicillinase and p-amino benzoic acid are examples. Brain Heart Infusion Broth supplemented with yeast extract, haemin and menadione was consistently better in producing heavy growth of five species of *Bacteroides* than three standard anaerobic broths. Furthermore, microscopy of overnight cultures showed normal morphology in Brain Heart Infusion Broth but abnormal morphology in the three anaerobic broths[9].

Storage conditions and Shelf life
Store the dehydrated medium at 10-30°C and use before the expiry date on the label.
Store tubed or bottled medium in the dark and below 20°C.

Appearance
Dehydrated medium: Straw coloured, free-flowing powder.
Prepared medium: Straw coloured solution.

Quality control

Positive controls Expected results
Streptococcus pneumoniae ATCC® 6303* Turbid growth
Candida albicans ATCC® 10231* Turbid growth
Negative control
Uninoculated medium No change

***This organism is available as a Culti-Loop®**

References

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