07569 Brain Heart Infusion with PABA and 0.1% Agar

Brain Heart Infusion with PABA and agar is used for culturing blood from patients under Sulphonamide therapy. The addition of agar improves growth of anaerobes.

Composition:

Ingredients	Grams/Litre
Calf brain, infusion from	200.0
Beef heart, infusion from	250.0
Peptic digest of animal tissue	10.0
Dextrose	2.0
Sodium chloride	5.0
Disodium phosphate	2.5
p-Amino benzoic acid (PABA)	0.05
Agar	1.0
Final pH 7.4 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Appearance: Faint yellow and faint beige and faint brown coloured, homogeneous, free flowing powder.
Colour and Clarity: Faint yellow coloured, clear to very slightly opalescent solution without any precipitate.

Directions:
Suspend 38.05 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle and Interpretation:
Brain Heart Infusion with PABA and Agar is highly nutritious media and supports the growth of a wide range of microorganisms including bacteria, yeasts and moulds (1) and is often used for isolation of pathogens from clinical
specimens especially blood (2).
Calf brain infusion, beef heart infusion and the peptic digest of animal tissue provide amino acids and other essential nutritive components and complexes. Dextrose serves as a fermentable carbohydrate source and sodium chloride helps in maintaining the osmotic balance in the medium. The disodium phosphate is needed as a buffering agent. Para amino benzoic acid is an active inhibitor of the bacteriostasis caused by the sulfonamide drugs; also it serves as an accessory growth factor for several species of bacteria (3). Therefore, para amino benzoic acid incorporated in the medium helps to neutralize the effect of antimicrobials present in the blood of patients under sulphonamide therapy making isolation of organisms from blood easier. Agar in the medium reduces the oxygen tension and favors growth of facultative and obligatory anaerobic microorganisms.

Cultural characteristics observed with added 0.5 g of sulphadiazine per litre after an incubation i)Bacteria at 35-37°C for 18-24 hours ii)Fungal at 25-30°C for 24-48 hours iii) Bacteroides species anaerobically for 18-48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth
Bacteroides fragilis (25285)	50-100	++/+++
Candida albicans (10231)	50-100	++/+++
Neisseria meningitidis (13090)	50-100	+++
Streptococcus pneumoniae (6303)	50-100	+++
Streptococcus pyogenes (19615)	50-100	++/+++

References:

1. J.F. MacFaddin, Media for the Isolation-Cultivation-Identification- Maintenance of Medical Bacteria, Vol. Williams and Wilkins, Baltimore (1985)
2. P.R. Murray, E.J. Baron, J.H. Jorgensen, M.A. Pfaller, R.H. Yolken, (Eds.), 8th (Eds.), Manual of Clinical Microbiology, ASM, Washington, D.C. (2003)
3. G.S. Mirick, Exp. Med., 78:255 (1943)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.