Brain Heart Infusion with PABA and Agar

M213

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	Gms / Litre
Calf brain, infusion from	200.000
Beef heart, infusion from	250.000
Peptic digest of animal tissue	10.000
Dextrose	2.000
Sodium chloride	5.000
Disodium phosphate	2.500
p-Amino benzoic acid (PABA)	0.050
Agar	1.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

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 w/ PABA and Agar is highly nutritious media which can support luxuriant growth of wide variety of microorganisms including bacteria, yeasts and moulds (1) and is often used for isolation of pathogens from clinical specimens especially blood (2).

Para amino benzoic acid is an active inhibitor of the bacteriostasis produced 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. Peptic digest of animal tissue and calf brain and beef heart infusion provides carbon, nitrogen, amino acids and vitamins. Dextrose serves as a source of energy. Sodium chloride helps in maintaining the osmotic equilibrium.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Light amber coloured, clear to very slightly opalescent solution without any precipitate

Reaction
Reaction of 3.8% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH
7.20-7.60

Cultural Response
M213: Cultural characteristics observed with added 0.5 grams 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 .

Organism	Inoculum (CFU)	Growth
Cultural Response		
Bacteroides fragilis ATCC 25285	50-100	good-luxuriant

Candida albicans ATCC 10231	50-100	good-luxuriant
Neisseria meningitidis ATCC 13090	50-100	luxuriant
Streptococcus pneumoniae ATCC 6303	50-100	luxuriant
Streptococcus pyogenes ATCC 19615	50-100	good-luxuriant

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

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

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