



Brain Heart Infusion Broth with 0.1 % Agar

M1036

Brain Heart Infusion Broth with 0.1 % Agar is highly nutritious medium employed for the propagation of fastidious pathogenic cocci and other organisms associated with blood culture work and allied pathological investigations.

Composition**

Ingredients	Gms / Litre
Calf brain, infusion from	200.000
Beef heart, infusion from	250.000
Proteose peptone	10.000
Sodium chloride	5.000
Disodium phosphate	2.500
Dextrose	2.000
Agar	1.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 38 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. For best results, the medium should be used on the day it is prepared, otherwise, it should be boiled or steamed for a few minutes and then cooled before use.

Principle And Interpretation

Brain Heart Infusion Medium is useful for cultivating a wide variety of microorganisms since it is a highly nutritive medium. Brain Heart Infusion Broth is a modification of the original formulation of Rosenow, where he added pieces of brain tissues to dextrose broth (1). Brain Heart Infusion Broth is also the preferred medium for anaerobic bacteria, yeasts and moulds (2-4). This medium is nutritious and well buffered to support the growth of wide variety of organisms (2, 5, 6). With the addition of 10% defibrinated sheep blood, it is useful for isolation and cultivation of *Histoplasma capsulatum* (7) and other fungi. Agar in 0.1% concentration improves growth of microaerophilic and anaerobic microorganisms (2). For selective isolation of fungi, addition of gentamicin and/or chloramphenicol is recommended (8).

Proteose peptone and infusions (calf brain and beef heart) serve as sources of carbon, nitrogen, essential growth factors, amino acids and vitamins. Dextrose serves as a source of energy. Disodium phosphate helps in maintaining the buffering action of the medium whereas sodium chloride maintains the osmotic equilibrium of the medium. Agar in 0.1% concentration helps create appropriate conditions for growth of anaerobic bacteria.

Quality Control

Appearance

Cream to light yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light to medium amber coloured, clear 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

M1036: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth
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Cultural Response

<i>Enterococcus faecalis</i> ATCC 50-100 29212		good-luxuriant
<i>Neisseria meningitidis</i> ATCC50-100 13090		good-luxuriant
<i>Streptococcus pneumoniae</i> 50-100 ATCC 6303		good-luxuriant
<i>Streptococcus pyogenes</i> 50-100 ATCC 19615		good-luxuriant
<i>Staphylococcus aureus</i> 50-100 ATCC 25923		good-luxuriant

Storage and Shelf Life

Store below 30°C in tightly closed container and use freshly prepared medium. Use before expiry date on the label.

Reference

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5. Roseburg T. et al, 1944, J. Inf. Dis., 74:131
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7. Howard B., Keiser J. F., Weissfeld A. et al, 1994, Clinical and Pathogenic Microbiology, 2nd Ed., Mosby Co.
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