BHI w/0.1% Agar

M1036

Intended Use:

Recommended for propagation of fastidious pathogenic cocci and other organisms associated with blood culture work and allied pathological investigations.

Composition**

Ingredients	Gms / Litre
HM Infusion powder#	12.500
BHI Powder$	5.000
Proteose peptone	10.000
Sodium chloride	5.000
Disodium hydrogen phosphate	2.500
Dextrose (Glucose)	2.000
Agar	1.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters
Equivalent to Calf brain, infusion from
$ Equivalent to Beef heart, infusion from

Directions

Suspend 38 grams in 1000 ml purified / 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

BHI 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 microaerophillic and anaerobic microorganisms (2). For selective isolation of fungi, addition of gentamicin and/or chloramphenicol is recommended (8).

Proteose peptone, HM Infusion powder and BHI Powder serve as sources of carbon, nitrogen, essential growth factors, amino acids and vitamins. Dextrose serves as a source of energy. Disodium hydrogen 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.

Type of specimen

Clinical samples - Blood, skin, wounds

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. As organisms differ in their nutritional requirements, some fastidious organisms may be inhibited or may show poor growth.
2. This medium with added 10% sheep blood, gentamicin and chloramphenicol is inhibitory to certain fungi.

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

Organism	Inoculum (CFU)	Growth
Enterococcus faecalis ATCC 29212 (00087*)	50-100	good-luxuriant
Neisseria meningitidis ATCC 13090	50-100	good-luxuriant
Streptococcus pneumoniae ATCC 6303	50-100	good-luxuriant
Streptococcus pyogenes ATCC 19615	50-100	good-luxuriant
Staphylococcus aureus subsp. *aureus ATCC 25923* (00034*)	50-100	good-luxuriant

Reference

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Revision : 1 / 2011