BHI Agar w/ 1% Agar

M211A

Intended Use:

Recommended for cultivation of fastidious pathogenic bacteria, yeasts and moulds.

Composition**

Ingredients	Gms / Litre
HM Infusion powder #	12.50
BHI Powder##	5.00
Proteose peptone	10.000
Dextrose (Glucose)	2.000
Sodium chloride	5.000
Disodium hydrogen phosphate	2.500
Agar	10.000
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 47 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. Mix well before pouring. If desired, 20 units Penicillin and 40 µg Streptomycin per ml of medium may be added to make the medium selective for fungi.

Principle And Interpretation

BHI Agar with 1% Agar is similar in composition to Brain Heart Infusion Agar, with the difference being in the concentration of Agar. It is a highly nutritious and can support luxuriant growth of wide variety of microorganisms. It can be further enriched by the addition of blood or rendered selective by adding different antibiotics (1, 2). It is a general purpose medium used for primary isolation of aerobic bacteria from clinical specimens. Addition of 50 mg/l chloramphenicol or 40mg/l streptomycin or a mixture of 50mg/l gentamicin and 50mg/l chloramphenicol along with 5-10% sterile defibrinated blood is often recommended for inhibition of bacteria and isolation of pathogenic systemic fungi.

A mixture of cycloheximide (0.5 g/l) and chloramphenicol (0.05 g/l) is also used for selective isolation of pathogenic fungi (incubation at 25-30°C for 1-2 weeks) (3). Some fungi may be inhibited on this medium with 10% sheep blood, gentamicin and chloramphenicol (4-6).

Proteose peptone, HM Infusion powder and BHI Powder used in the media serves as sources of carbon, nitrogen, vitamins, amino acids, along with essential growth factors. Dextrose is the energy source. Sodium chloride maintains the osmotic equilibrium of the medium while disodium phosphate buffers the medium. Defibrinated sheep blood added to the basal medium provides essential growth factors for the more fastidious fungal organisms.

Type of specimen

Clinical samples -blood.

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.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm,comparable with 1.0% Agar gel

Colour and Clarity of prepared medium
Basal medium : Light amber coloured clear to slightly opalescent gel. After addition of 5% v/v sterile defibrinated blood : Cherry red coloured, opaque gel forms in Petri plates.

Reaction
Reaction of 4.7% 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 18-24 hours.(If desired add 5% v/v sterile defibrinated blood)

Organism	Inoculum (CFU)	Growth	Recovery	Growth w/ blood	Recovery w/ blood
Candida albicans ATCC 26790	50-100	luxuriant	>=70%	luxuriant	>=70%
Escherichia coli ATCC 25922	50-100	luxuriant	>=70%	luxuriant	>=70%
Shigella flexneri ATCC 12022	50-100	luxuriant	>70%	luxuriant	>=70%
Staphylococcus aureus ATCC 25923	50-100	luxuriant	>=70%	luxuriant	>=70%
Streptococcus pneumoniae ATCC 6303	50-100	luxuriant	>=70%	luxuriant	>=70%

Reference

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