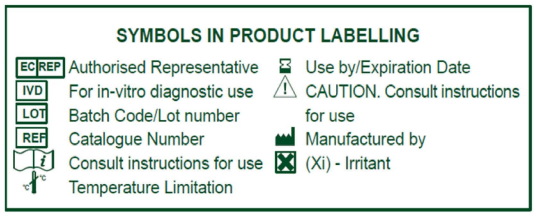
Brain Heart Infusion Agar

REF.	Pack size
1400 001	100 gm
1400 002	500 gm



Intended Use

Brain-Heart Infusion Agar is used for the cultivation of streptococci, Neisseria and other fastidious organisms

Background

Rosenow prepared a rich medium for culturing streptococci by combining dextrose broth and brain tissue. Hayden modified the original formula while working with dental pathogens.
The current formula is a modification of Rosenow and Hayden, using dehydrated infusions of calf brain and beef heart tissue. Brain heart infusion agar can be used as a general medium for aerobic bacteriology and for the primary recovery of fungi from clincial specimens. it is also used for the cultivating and maintenance of pure cultures.

Principle

Brain Heart Infusion Agar is 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 . 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. Proteose peptone and infusions 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.

Components	gm/Litre
Calf brain	7.7
protease peptone	10
Beef Heart	9.8
Dextrose	2
Sodium chloride	5.0
Disodium phosphate	2.5
Agar	15.0

Final pH (at 25°C) 7.4 ± 0.2

Preparation, Storage and Stability

Store the dehydrated medium at 10-30°C and use before the expiry date on the label.Store the prepared medium at 2-8°C

Procedure

1.Suspend 52 g of the powder in 1 L distilled water and mix well.
2.Heat with frequent agitation to dissolve the powder completely.
3.Sterilize by autoclaving at 121°C for 15 minutes.
4- Cool to 45-50°C then mix well and pour into sterile petri plates.

Quality Control

Appearance

1-Dehydrated Appearance : light yellow to beige coloured, homogeneous, free flowing powder.
2-Prepared Appearance : trace to slightly hazy, and light to medium amber.
3-Cultural Response : after 18-24 hours at 30-35°C or 35± 2°C for clinical specimens

Organisms (ATCC)	Growth
Aspergillus brasiliensis	Good
Streptococcs pneumoniae	Good
Streptococcus pyogenes	Good
Staphylococcus aureus	Good
Escherichia coli	Good
Neisseria meningitidis	Good

Interpretation of the results

1-After proper incubation , the plates should show isolated colonies in streaked areas and confluent growth in areas of heavy inoculation.

2- In cultures for fungi, examine plates for fungal colonies exhibiting typical color and morphology

3- All cultures should be weekly examined for fungal growth and held for 4-6 weeks before being reported as negative.

Precautions

1-Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

2- Organsims as H.capsulatum and other pathogenic fungi can produce free infective sprores , so extreme care must be taken to avoid dissemination of infective particles while culturing.

Bibliography

1. Hayden, R. L. 1923. Elective localization in the eye of bacteria from infected teeth. Arch. Int. Med. 32:828-849.

2. Atlas, R. M. 1993. Handbook of microbiological media, p. 147-153, CRC Press, Boca Raton, FL

3. Cunnif, P. (ed.). 1995. Official Methods of Analysis AOAC

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