Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Brain Heart Infusion Agar, (with 1% Agar)

Product Code: DM 1211A

Application: - Brain Heart Infusion Agar, with 1% Agar is a solid medium recommended for the cultivation of fastidious pathogenic bacteria, yeasts and moulds.

Composition**

Ingredients	Gms / Litre
Brain infusion	7.50
Heart infusion	10.00
Proteose peptone	10.00
Dextrose	2.00
Sodium chloride	5.00
Disodium phosphate	2.50
Agar	10.00
Final pH (at 25°C)	7.4 ± 0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

These are highly nutritious media that can support luxuriant growth of a wide variety of microorganisms. These like the conventional media, can be further enriched by the addition of blood or rendered selective by adding different antibiotics [1, 2]. These media are general purpose culture media used for primary isolation of aerobic bacteria from clinical specimens. Addition of 50 mg per litre of Chloramphenicol or 40 mg per litre of Streptomycin or mixture of 50 mg Gentamicin and 50 mg 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 per litre) and Chloramphenicol (0.05 g per litre) is also used for selective isolation of pathogenic fungi (incubation at 25-30°C for 1-2 weeks) [3]. Some fungi may be inhibited in this medium with 10% sheep blood, Gentamicin and Chloramphenicol [4, 5, 6].

Brain infusion, Heart infusion, Proteose peptone provides source of nitrogen, carbon, vitamins and chloride maintains osmotic equilibrium. Dextrose is the energy source Phosphate provide good buffering action in these media Sodium chloride maintains the osmotic equilibrium. When defibrinated sheep blood is aded to the basal medium, it provides essential growth factors for the more fastidious fungal organisms.

Methodology

Suspend 47.0 grams of powder media in 1000 ml distilled water. Shake well & heat 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.

Quality Control

Physical Appearance of Powder

Cream to yellow, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.0% of Agar gel.

Colour and Clarity

Basal medium : Light amber coloured,clear to slightly opalescent gel. With addition of 5% v/v sterile defibrinated blood, cherry red coloured opaque gel forms in petri plates.

Reaction

Reaction 4.7% w/v of aqueous solution is pH 7.4 ± 0.2 at 25°C.

pH Range: 7.2-7.6

Cultural Response/ characteristics

DM 1211A: Cultural characteristics observed after an incubation at 37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Escherichia coli (25922)	50-100	luxuriant	>=70%
Shigella flexneri (12022)	50-100	luxuriant	>=70%
Streptococcus pneumoniae (6303)	50-100	luxuriant	>=70%
Staph ylococcus aureus (25923)	50-100	luxuriant	>=70%
Candida albicans (10231)	50-100	luxuriant	>=70%

Further Reading

1. Roseburg T. et al, 1944, J. Infect. Dis., 74:131.
2. Conant N.F., 1950, Diagnostic Procedures and Reagents, 3rd ed., A.P.H.A. Inc., New York.
3. MacFaddin J.F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
4. Creitz and Puckett, 1954, Am. J. Clin. Pathol., 24:1318.
5. Patrich R. Murray, 2005, Buron, Pfallur and Yolken (Eds.) 2003, In Manual of Clinical Microbiology, 8th ed., ASM, Washington, D.C.
6. Ajello L., Georg L., Kaplan W. and Kaufman L., 1963, CDC Laboratory Manual for Medical Mycology, PHS Publication No. 994, U.S. Govt. Office, Washington, D.C.

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