Technical Information

Brain Heart Infusion Broth with 0.1 % Agar

Product Code: DM 2036

Application: - Brain Heart Infusion Broth with 0.1 % Agar is highly nutritious medium used for the propagation of fastidious pathogenic cocci and other organisms associated with blood culture work and other 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

Principle & Interpretation

Being high nutritive media Brain Heart Infusion Broth is useful for cultivating a wide variety of microorganisms. This medium 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 preferred for studying 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 used 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 also recommended by some workers [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 in creating appropriate conditions for growth of anaerobic bacteria.

Methodology

Suspend 38 grams of powder media in 1000 ml distilled water. Sheke well & dispense into bottles or tubes and 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.

Quality Control

Physical Appearance

Cream to 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 range

7.20-7.60

Cultural Response/Characteristics

DM1036: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth
Enterococcus faecalis ATCC 29212	50-100	good-luxuriant
Neisseria meningitidis ATCC 13090	50-100	good-luxuriant
Streptococcus pneumonia ATCC 6303	50-100	good-luxuriant
Streptococcus pyogenes ATCC 19615	50-100	good-luxuriant
Staphylococcus aureus ATCC 25923	50-100	good-luxuriant

Storage and Shelf Life

Dried media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. Rosenow, 1919, J. Dental Research, 1:205.
2. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
3. Atlas R. M., 1993, Handbook of Microbiological Media, 147-153, CRC Press, Boca Raton, FL.
4. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
5. Roseburg T. et al, 1944, J. Inf. Dis., 74:13 1
6. Conant N. F., 1950, Diagnostic Procedures and Reagents, 3rd Ed., APHA Inc., New York
7.Howard B., Keiser J. F., Weissfeld A. et al, 1994, Clinical and Pathogenic Microbiology, 2nd Ed., Mosby Co.
8. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.

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