Technical Information

Heart Infusion Broth

Product Code: DM 1170

Application: - Heart Infusion Broth is used for the isolation and cultivation of a wide variety of fastidious organisms.

Composition**

Ingredients	Gms / Litre
Beef heart, infusion from	500.000
Tryptose	10.000
Sodium chloride	5.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Huntoon demonstrated that fastidious organisms having exacting nutritional requirement can be cultivated on infusion media, [1]. A liquid medium containing an infusion of meat was one of the first media used for the cultivation of bacteria. These infusion media do not require the addition of other supplements for cultivation of fastidious bacteria [2]. Heart Infusion Broth, containing infusion from beef heart is used for the isolation and cultivation of a wide variety of fastidious organisms including *Vibrio* species [2-4]. Heart Infusion Broth can also be supplemented with glucose, horse serum and antibiotics for the cultivation a wide variety of organisms [3]. Heart Infusion Broth can be used as a base to study carbohydrate fermentation. This medium was used for isolation and enumeration of haemolytic *Streptococci* in milk [5]. Tryptose and beef heart infusion provide nutritional requirements for the pathogenic bacteria. Sodium chloride maintains the osmotic equilibrium of the medium.

Methodology

Suspend 25 grams of powder media in 1000 ml of distilled water. Shake well & heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. If desired 5% v/v sterile defibrinated blood may be added. Mix well and dispense as desired.

Quality Control

Physical Appearance
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Basal medium: Light yellow coloured, clear to slightly opalescent solution. After addition of 5% sterile defibrinated blood: Cherry red coloured, opaque solution in tubes

Reaction
Reaction of 2.5% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH Range 7.20-7.60

Cultural Response/Characteristics
DM 1170: Cultural characteristics observed with added 5%w/v sterile defibrinated blood, after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth
Escherichia coli ATCC 25922	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 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. Huntoon F. M., 1918, J. Inf. Dis., 23:169.

2. FDA Bacteriological Analytical Manual, 8th Ed., AOAC International,Gaithersburg, MD. 3. Atlas R. M., 2004, Handbook of Microbiological Media, 3rd Ed., CRC Press.

4. Downes F. P. and ItoK., (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association Washington, D.C.

5.Diagnostic Procedures and Reagents, 1950, 3rd Edition, 13

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