Technical Information

Heart Infusion Agar, MiVeg

Product Code : VM1169

Application:- Heart Infusion Agar, MiVeg is used for general laboratory purpose for the cultivation of many pathogenic bacteria and can also be used as a base for the preparation of Blood Agar to study haemolytic reactions.

Composition

Ingredients	Gms / Litre
MiVeg infusion	10.00
MiVeg hydrolysate No.1	10.00
Sodium chloride	5.00
Agar	15.00
Final pH (at 25°C)	7.4 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Heart Infusion Agar, MiVeg is prepared by adding MiVeg infusion and MiVeg hydrolysate No.1 which are free of BSE/TSE risks. This medium is used for the cultivation of organisms needed for vaccines preparation. It can also be used as a base for preparation of Blood Agar to study haemolytic reactions. This medium was used for detection and enumeration of haemolytic *Streptococci* in milk (1). A liquid medium containing an infusion of meat was one of the first media used for the cultivation of bacteria. Many modifications have been done since then. The growth factors were described by Lloyd (2) and Cole and Lloyd (3). Huntoon showed that highly pathogenic microorganisms as *Meningococci* and *Pneumococci* grow in infusion medium without enrichment (4). The Heart Infusion Agar, MiVeg is equivalent to these media by replacing animal based peptone with vegetable peptone.

MiVeg hydrolysate No. 1 and MiVeg infusion supplies essential nutritional requirements. The addition of 5% sheep blood supplies additional growth factors and is used to determine haemolytic reactions. Addition of 65 g/l of sodium chloride will aid in differentiating *Enterocooci* from other *Streptococci*, as the *Enterococci* multiply in the presence of high salt while other *Streptococci* as pyogenic viridians and lactic are unable to grow.

Methodology

Suspend 40.0 grams of powder media in 1000ml distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. If desired 5% sterile defibrinated blood may be added. Mix well and pour into sterile tubes.

Quality Control

Physical Appearance

Light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Basal medium yields light yellow colour. With the addition of blood, cherry red coloured opaque gel forms in petri plates.

Reaction

Reaction of 4.0% w/v aqueous solution is pH 7.4 ± 0.2 at 25°C.

pH Range

7.2 - 7.6

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth w/o blood	Growth with 5% sheep blood	Haemolysis
Escherichia coli (25922)	10^2-10^3	luxuriant	luxuriant	Beta
Neisseria meningitides (13090)	10^2-10^3	luxuriant	luxuriant	None
Streptococcus pneumoniae (6303)	10^2-10^3	good	luxuriant	Alpha
Streptococcus pyogenes (19615)	10^2-10^3	good	luxuriant	Beta
Staphylococcus aureus (25923)	10^2-10^3	luxuriant	luxuriant	Beta

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 day.

Further Reading

1. Diagnostic Procedures and Reagents, 1950, 3rd ed.. 13
2. Lloyd, 1916, J. Path. and Bact., 21 (Part 1) : 113.
3. Cole and Lloyd, 1917, J. Path. and Bact., 21 (Part 2) : 267.
4. Huntoon, 1918, J. Inf. Dis., 23:169.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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