Technical Information

Blood Agar Base, MiVeg

Product Code :VM1073

Application:- Blood Agar Base, MiVeg is recommended as a base to which blood may be added for use in the isolation and cultivation of fastidious pathogenic microorganisms like *Neisseria, Streptococci* etc.

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)	7.3 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Blood Agar Base, MiVeg is prepared by adding MiVeg hydrolysate No.1 and MiVeg infusion, thus making the medium free from BSE/TSE risks. This medium is used as a base for preparation of blood agar. Blood Agar Base, MiVeg is a highly nutritious media which can also be used as a general purpose growth media without adding blood. If the culture medium base is to be used without blood, the pH should be adjusted to 7.2 to 7.4, since most bacteria can grow better in a slightly alkaline medium. The pH value of 6.8 stabilizes the red blood corpuscles and favours the formation of clear zone of haemolysis (1) and is advantageous for cultivation of *Streptococci* and *Pneumococci*. Like the conventional media, phenolphthalein phosphate can be added to this medium(2) for the detection of phosphatase producing Staphylococci, with added salt and agar for assessment of surface contamination on equipment and pig carcasses (3) and to determine salinity range of marine flavobacteria (4). It can be used for preparation of *S*. serotype Typhi antigens (5). Typical haemolytic reaction can be studied after enriching with blood. However, these reaction are based on the animal blood used. Sheep blood gives best results for Group A *Streptococci* (6) when horse blood is used, *Haemophilus haemolyticus* colonies produce haemolysis and mimic *Streptococcus pyogenes* (7). MiVeg infusion and MiVeg hydrolysate No. 1 provides nitrogen, carbon, amino acids and vitamin sources. Sodium chloride maintains osmotic equlibrium.

Methodology

Suspend 40 grams of powder media in 1000 ml distilled. Mix thoroughly and heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and aseptically add 5% v/v sterile defibrinated blood. Mix well and pour into sterile petri plates.

Quality Control

Physical Appearance

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 amber coloured clear to slightly opalescent gel. Addition of 5% v/v sterile defibrinated blood yields cherry red opaque gel in petri plates.

Reaction

Reaction of 4.0% w/v aqueous solution is pH 7.3 ± 0.2 at 25°C.

pH Range

7.1 - 7.5

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth w/o blood	Growth w/blood	Recovery w/blood	Haemolysis
Neisseria meningitides (13090)	10^2-10^3	luxuriant	luxuriant	>70%	none
Staphylococcus aureus (25923)	10^2-10^3	luxuriant	luxuriant	>70%	beta
Staphylococcus epidermidis (12228)	10^2-10^3	luxuriant	luxuriant	>70%	none
Streptococcus pneumoniae (6303)	10^2-10^3	fair to good	luxuriant	>70%	alpha
Streptococcus pyogenes (19615)	10^2-10^3	fair to good	luxuriant	>70%	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. Norton, J.F. Bacteriology of Plus. J. Lab. clin. Med.; 17; 558 - 565 (1932)
2. Noble W.C., 1962, J. Clin, Path., 15:552.
3. Hansen N.H., 1962, J. Appl. Bact., 25:46.
4. Hayes P.R., 1963, J. Gen. Microbiol., 30:1.
5. Schuber J.H., Edwards P.R. and Ramsere C.H., 1969, J. Bacteriol., 77:648.
6. Snavely J.G. and Brahier J., 1960, Am. J. Clin. Pathol., 33:511.
7. Murray PR, Baron, Pfaller and Yolken 2003, In Manual of Clinical Microbiology 8th ed., (Eds.), ASM, Washington, DC.

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