Technical Information

Casman MiVeg Agar Base

Product Code : VM1201

Application:- Casman MiVeg Agar Base with blood is recommended for isolation of fastidious microorganisms such as *Haemophilus influenzae* & *Neisseria gonorrhoeae* from clinical specimens, under reduced

Composition

Ingredients	Gms / Litre
MiVeg peptone No.3	10.00
MiVeg hydrolysate No.1	10.00
MiVeg extract	3.00
Dextrose	0.50
Corn starch	1.00
Sodium chloride	5.00
Nicotinamide	0.05
p-Amino benzoic acid (PABA)	0.05
Agar	14.00
Final pH (at 25°C)	7.3±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Casman MiVeg Media is prepared by using vegetable peptones inplace of animal based peptones thereby making the medium BSE/TSE risks free. Members of the genus *Haemophilus* and *Neisseria* are fastidious microorganisms that require addition of growth factors. This media is the modifications of the media described by Casman (1, 2, 3) for cultivation of *Haemophilus* and *Gonococci*, which replaced previous formulations requiring fresh meat infusion, fresh and heated blood etc.

It contains MiVeg peptone No.3, MiVeg hydrolysate No.1 and MiVeg extract supplies amino acids and other complex nitrogenous nutrients. Dextrose supports growth of pathogenic cocci. Corn starch inhibits the growth of *Neisseria gonorrhoeae* & prevent fatty acid without interfering with the haemolytic reaction and it also neutralizes the inhibitory action of dextrose. Addition of blood aids the growth factors required for *Haemophilus influenzae* i.e. hemin or X factor and Nicotinamide Adenine Dinucleotide (NAD) or V factor. Horse and rabbit blood are preferred as they are relatively free of NADase, an enzyme that destroys V factor (4). Nicotinamide is added to the medium to inhibit nucleotidase of erythrocytes that destroys V factor. PABA serves as a growth factor.

The medium should be inoculate as soon as the specimen arrives at the laboratory. After incubation *Haemophilus influenzae* produces colourless to grey colonies with a characteristic 'mousy' odour while *Neisseria gonorrhoeae* produces small colourless to greyish-white colonies on this medium.

Methodology

Suspend 43.6 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45°-50°C and aseptically add 0.15% v/v sterile waterlysed blood (water =blood :: 3:1) of 5% sterile blood. Mix well and dispense as desired.

Quality Control

Physical Appearance

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

Gelling

Firm, comparable with 1.4% Agar.

Colour and Clarity of prepared medium

Basal medium is yellow coloured, clear to slightly opalescent gel. With addition of blood cherry - red coloured opalescent gel forms in petri plates.

Reaction

Reaction of 4.36 % w/v aqueous solution 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 40-48 hours

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Haemolysis
Haemophilus influenzae (35056)	10^2-10^3	good-luxuriant	>70%	None
Neisseria meningitidis (13090)	10^2-10^3	good-luxuriant	>70%	None
Streptococcus pneumoniae (6303)	10^2-10^3	good-luxuriant	>70%	Alpha
Streptococcus pyogenes (19615)	10^2-10^3	good-luxuriant	>70%	Beta
Streptococcus mitis (9895)	10^2-10^3	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 days.

Further Reading

1. Casman, 1947, Am. J. Clin. Pathol., 17:281.
2. Casman, 1942, J. Bact., 43:33.
3. Casman, 1947, J. Bact., 53:561.
4. Krunveide and Kuttner, 1938, J. Exp. Med., 67:429.

Disclaimer :

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