Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Schaedler MiVeg Agar

Product Code : VM1291

Application:- Schaedler MiVeg Agar is used for the cultivation of wide variety of aerobic and anaerobic bacterial species present in the gastrointestinal tract.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	5.67
MiVeg peptone No. 3	5.00
Papaic digest of soyabean meal	1.00
Yeast extract	5.00
Dextrose	5.83
Sodium chloride	1.67
Dipotassium hydrogen phosphate	0.83
Tris hydroxymethyl aminomethane	3.00
L-Cysteine	0.40
Ferric pyrophosphate	0.01
Agar	15.00
Final pH (at 25°C)	7.6 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Schaedler MiVeg Agar is prepared by adding MiVeg hydrolysate and MiVeg peptone No.3 in place of Casein enzymic hydrolysate and Protose Peptone thereby making the medium free from BSE/TSE risks. Schaedler MiVeg Agar is the modification of Schaedler MiVeg Agar which was originally formulated by Schaedler et al (1) and further modified by Mata et al (2) with formulation changes (3) for cultivation and enumeration of aerobic and anaerobic microorganisms.

Schaedler MiVeg Agar supplemented with Vitamin K1 and 5% sheep blood is used for the recovery of fastidious anaerobic bacteria such as *Bacteroides*. Colistin and Nalidixic acid along with 5% sheep blood incorporated in Schaedler MiVeg Agar to make it useful for the selective isolation of anaerobic gram-positive cocci (4), *Peptococcus* and *Peptostreptococcus* species. Inclusion of Kanamycin and Vancomycin in the formulation (Schaedler KV MiVeg Agar) along with 5% sheep blood is used for the selective isolation of gram-negative anaerobes. Schaedler MiVeg Agar serve as an excellent basal media to which blood or other enrichments can be added to enhance the recovery of fastidious anaerobic organisms. It can also be used to determine the MIC levels of antibiotics for anaerobic organisms . Fass et al used tube method for antibiotic MIC determination.

The medium contains MiVeg hydrolysate, MiVeg peptone No.3 and Papaic digest of soyabean meal, yeast extract and L-Cysteine which supplies all the essential nutrients required for the growth of the organisms. Dextrose serves as an energy source. Ferric pyrophosphate and sheep blood stimulates the growth of fastidious microorganisms. Vitamin K1 allows the *Bacteroides melaninogenicus cultivation* (5) and stimulates growth of other *Bacteroides* species and gram-positive spore formers (6). Addition of Sodium Polyanethol Sulphonate (SPS) is recommended when using this medium for blood culture (7). It inhibits phagocytosis and neutralizes the antibacterial activity of fresh blood components (8).

Methodology

Suspend 43.41 grams of powder media in 1000 ml distilled water. Mix well and boil with frequent agitation to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool and add 5% sterile defibrinated blood if desired. Mix thoroughly before dispensing. Avoid overheating and photo-oxidation of the medium, as it will retard the bacterial growth.

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

Light amber coloured, clear to slightly opalescent gel forms in petri plates.

Reaction

Reaction of 4.34% w/v aqueous solution is pH 7.6 ± 0.2 at 25°C.

pH Range

7.4-7.8

Cultural Response/Characteristics

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

Organisms (ATCC)	Growth
Bacteroides fragilis (25285)	luxuriant
Clostridium butyricum (9690)	luxuriant
Clostridium perfringens (12924)	luxuriant
Clostridium sporogenes (11437)	luxuriant
Streptococcus pyogenes (19615)	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 day.

Further Reading

1. Schaedler R.W., Dubos R. and Castello R., 1965, J. Exp. Med., 122:59.
2. Mata L.J., Carrillo C. and Villatoro E., 1969, Appl. Microbiol., 17:596.
3. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol.I, Williams and Wilkins, Baltimore.
4. Estevez, 1984, Lab Med., 15:258.
5. Finegold et al, 1974, Manual of Clinical Microbiology, 2nd ed., Lennette and others (Eds.), ASM, Washington, D.C.
6. Rosner, 1968, Am. J. Clin. Pathol., 49:216.
7. Garrod, 1966, J. Pathol. Bacteriol., 91:621.
8. Lowrence and Traub, 1969, Appl. Microbiol., 17:839.

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