Technical Information

Brain Heart Infusion Agar, MiVeg

Product Code :VM1211

Application:- Brain Heart Infusion Agar, MiVeg is a solid medium used for the cultivation of fastidious pathogenic bacteria, yeasts and moulds.

Composition

Ingredients	Gms / Litre
MiVeg special infusion	7.50
MiVeg infusion	10.00
MiVeg peptone No. 3	10.00
Dextrose	2.00
Sodium chloride	5.00
Disodium phosphate	2.50
Agar	15.00
Final pH (at 25°C)	7.4±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Brain Heart Infusion Agar, MiVeg is prepared by using vegetable peptones inplace of animal based peptones there by making the media BSE/TSE risks free. This medium is highly nutritious media that can support luxuriant growth of a wide variety of microorganisms. This medium is like the conventional media, can be further enriched by the addition of blood or rendered selective by adding different antibiotics (1, 2). This media is a general purpose culture media used for primary isolation of aerobic bacteria from clinical specimens. For inhibition of bacteria & isolation of pathogenic fungi, it is recommended to add 50 mg per litre of Chloramphenicol or 40 mg per litre of Streptomycin or mixture of 50 mg Gentamicin and 50 mg Chloramphenicol along with 5-10% sterile defibrinated blood to the medium after autoclaving. A mixture of Cycloheximide (0.5 g per litre) and Chloramphenicol (0.05 g per litre) is also used for selective isolation of pathogenic fungi and incubated at 25-30°C for 1-2 weeks (3). Some fungi may be inhibited in this medium with 10% sheep blood, Gentamicin and Chloramphenicol (4, 5, 6).

This medium contains MiVeg special infusion, MiVeg infusion, MiVeg peptone No.3 and dextrose which serve as source of nitrogen, carbon, vitamins and sodium chloride maintains osmotic equilibrium. Phosphate provide good buffering action in this media. When defibrinated sheep blood is added to the basal medium, it provides essential growth factors for the more fastidious fungal organisms.

Methodology

Suspend 52.0 grams of powder media in 1000 ml purified/distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.Mix well before pouring. If desired, 20 units Penicillin and 40 µg Streptomycin per ml of medium may be added to make the medium selective for fungi.

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. With addition of 5% v/v sterile defibrinated blood, cherry red c oloured opaque gel forms in petri plates.

Reaction

Reaction of 5.2 % w/v aqueous solution 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	Recovery
Escherichia coli (25922)	10^2_10^3	luxuriant	>70%
Shigella flexneri (12022)	10^2_10^3	luxuriant	>70%
Streptococcus pneumoniae (6303)	10^2_10^3	luxuriant	>70%
Staphylococcus aureus (25923)	10^2_10^3	luxuriant	>70%
Candida albicans (10231)	10^2_10^3	luxuriant	>70%

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. Roseburg T. et al, 1944, J. Infect. Dis., 74:131.
2. Conant N.F., 1950, Diagnostic Procedures and Reagents, 3rd ed., A.P.H.A. Inc., New York.
3. MacFaddin J.F., 1985, Media for Isolation-Cultivation-Identification- Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
4. Creitz and Puckett, 1954, Am. J. Clin. Pathol., 24:1318.
5. Patrich R. Murray, 2005, Buron, Pfallur and Yolken (Eds.) 2003, In Manual of Clinical Microbiology, 8th ed., ASM, Washington, D.C.
6. Ajello L., Georg L., Kaplan W. and Kaufman L., 1963, CDC Laboratory Manual for Medical Mycology, PHS Publication No. 994, U.S. Govt. Office, Washington, D.C.

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