Technical Information

Bi.G.G.Y. MiVeg Agar (Nickerson Medium)

Product Code :VM1217

Application:- Bi.G.G.Y. MiVeg Agar (Nickerson Medium) is a selective medium used for detection, isolation, differentiation and presumptive indentification of *Candida albicans* and *Candida tropicalis*.

Composition

Ingredients	Gms / Litre
Yeast extract	1.000
Dextrose	10.000
Glycine	10.000
Bismuth ammonium citrate	5.000
Sodium sulphite	3.000
Agar	16.000
Final pH (at 25°C)	6.8±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

The ability of many types of yeast to reduce bismuth sulphite is characteristic feature. Growth on an acidic or neutral medium containing bismuth sulphite produced black colonies because of the extra cellular reaction of the bismuth sulphite to bismuth sulphide.

Bi.G.G.Y. MiVeg Agar (Nickerson Medium) was originally formulated by Nickerson (1, 2) and further modified by Haley (3) following study of sulphite reduction. This medium is only a part of the identification process of organisms. Other tests may be required. Bismuth ammonium citrate and sodium sulphite together act as selective agents for *Candida* species suppressing bacterial growth, at the same time indicating substrate reduction to yield bismuth sulphite which helps to presumptively identify *Candida* species. Yeast extract, dextrose and glycine serve as nutrients.

Bi.G.G.Y. MiVeg Agar can be directly inoculated with clinical specimens such as tissues, skin scrapings, hair, nail clipping etc.(4,5). Do not use slants of medium. Precipitate present in molten medium should be uniformly suspended while plating the agar. This medium may be used for the isolation and presumptive identification of *C. albicans* and *C. tropicalis* from sputum (3) and vaginal smear (6).

Methodology

Suspend 45 grams of powder media in 1000 ml purified/distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE OR OVERHEAT. Overheating will destroy the selective properties. Disperse the flocculant precipitate formed by swirling prior to dispensing into Petri plates. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance
Cream to yellow coloured homogeneous free flowing powder

Gelling
Firm, comparable with 1.6% Agar gel.

Colour and Clarity of prepared medium
Light amber coloured opalescent gel with flocculant precipitate

Reaction
Reaction of 4.5 % w/v aqueous solution at 25°C pH: 6.8±0.2

pH range

6.60-7.00

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 25-30°C for 18-48hours

Organisms (ATCC)	Inoculum (CFU)	Recovery	Colony morphology
Candida albicans ATCC 10231	50-100	>=50%	smooth,circular intensly brown black, nocolour diffusion and no sheen
Candida kruisii ATCC 24408	50-100	>=50%	large flat, wrinkled silvery brown, black colonies with brown peripheries, yellow halo
Candida tropicalis ATCC 750	50-100	>=50%	Smooth discrete, dark brown with black centres, diffused blackening after 72 hours, sheen, slight mycelial fringe
Escherichia coli ATCC 25922	>=10^3	0%	
Staphylococcus aureus ATCC 25923	>=10^3	0%	
Candida pseudotropicalis	50-100	40-50%	Dark reddish brown, glistening colony

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.Nickerson W.J., 1947, The Chronica, Botanica Co.
2.Nickerson W.J., 1953, J. Inf. Dis., 93:43.
3.Haley L.D., 1959, Trans. N.Y. Acad. Sci., 21(8):708.
4.Lennette, Balows, Hausler and Shadomy (Eds.), 1985, Manual of Clinical Microbiology, 4th ed., A.S.M. Washington, D.C.
5.MacFaddin J.F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
6.Mendel E.B., Naberman S. and Hall D. K., 1960, Obstel and Gynec.16, 180-184.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
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