Technical Information

Antifungal Assay MiVeg Agar

Product Code : VM1164

Application:- Antifungal Assay MiVeg Agar is recommended for assaying antifungal activity of pharmaceutical products and other materials by the cylinder plate or disc method.

Composition

Ingredients	Gms / Litre
Dextrose	50.00
Sodium citrate	4.500
Potassium phosphate	0.550
Citric acid	1.000
MiVeg hydrolysate	4.000
Pyridoxine hydrochloride	0.00025
Thiamine	0.00025
Inositol	0.025
Calcium pantothenate	0.0025
Niacin	0.0025
Potassium chloride	0.425
Calcium chloride	0.125
Magnesium sulphate	0.125
Ferric chloride	0.0025
Manganese sulphate	0.0025
Biotin	0.000008
Agar	15.000
Final pH (at 25°C)	5.5±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Antifungal Assay MiVeg Agar is prepared by using MiVeg hydrolysate instead of Casein enzymic hydrolysate which makes the medium free from BSE/TSE risks. This medium is the modification of Antifungal Assay Agar which was formulated by Berger and Lazecka for convenience in assaying antifungal activity of pharmaceutical products and other materials by both base and seed layers for assays by cylinder plate or disc methods. Fungal infections have been reported to have dramatically increased in the past decade, and these often occur as systemic infections or as co-infections with other diseases, such as AIDS or cancer, or in patients who are immunocompromised (1,2).Unfortunately, in addition to the limited number of antifungal drugs currently available, fungal infections tend to rapidly develop resistance to these drugs. For these reasons, fungal infections now show much higher mortality rates than bacterial infections (3). The rapid increase in fungal infections and the growing number of new antifungal agents indicate an increasing need for rapid and accurate methods for antifungal screening and susceptibility testing.

MiVeg hydrolysate in the medium supplies the necessary nutrients and growth factors required for the development of the test culture. Phosphate maintains good buffering action in the medium, while dextrose serves as a carbon and energy source. Other ingredients like the sulphates; vitamins, growth factors etc are added to enhance the growth of the test organisms, so that the inhibition obtained is always due to the antifungal agents and not due to nutrient depletion.

Methodology

Suspend 75.7 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 in sterile petri plates.

Quality Control

Physical Appearance

Cream to beige homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 7.57% w/v aqueous solution at 25°C pH: 5.5±0.2

pH range

5.30-5.70

Cultural Response/Characteristics

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

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery
**Aspergillus brasiliensis ATCC 16404*	50-100	luxuriant	-
Saccharomyces cerevisiae ATCC9763	50-100	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.Beck-Sague C. and Jarvis W. R., 1993, J. Infect. Dis., 167:1247-1251.
2.Berrouane Y. F., Herwaldt L. A., and Pfaller M. A., 1999, J. Clin. Microbiol., 37:531-537.
3.Weinstein, M. P., Towns M. L., Quartey S. M., Mirrett S., Reimer L. G., Parmigiani G. and Reller L. B., 1997., Clin. Infect. Dis., 24:584-602.

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