Antifungal Assay HiVeg Agar

MV164

Antifungal Assay HiVeg 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	50.000
Sodium citrate	4.500
Potassium phosphate	0.550
Citric acid	1.000
HiVeg 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

Directions

Suspend 75.7 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121ºC) for 15 minutes. Mix well before pouring in sterile Petri plates.

Principle And Interpretation

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. Antifungal Assay HiVeg Agar 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.

The medium is prepared by using HiVeg hydrolysate in place of Casein enzymic hydrolysate which makes the medium free of BSE/TSE risks. The defined ingredients in the medium provide the necessary nutrients and growth factors required for the development of the test culture. Phosphate is included in this medium for good buffering action. Dextrose in the medium 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.

Quality Control

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
5.30-5.70

Cultural Response
MV164: Cultural characteristics observed after an incubation at 25 - 30°C for 18 - 48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
**Aspergillus brasiliensis ATCC 16404*	50-100	luxuriant	
Saccharomyces cerevisiae ATCC9763	50-100	luxuriant	>=70%

Storage and Shelf Life
Store below 30°C and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference
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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