Inhibitory Mold Agar, Ulrich (Mold Inhibitory Agar, Ulrich) M246

Intended Use:

Recommended for selective isolation of pathogenic fungi.

Composition**

Ingredients	Gms / Litre
Tryptone	3.000
Peptone	2.000
Yeast extract	5.000
Dextrose (Glucose)	5.000
Starch, soluble	2.000
Dextrin	1.000
Sodium phosphate	2.000
Ferrous sulphate	0.040
Magnesium sulphate	0.800
Sodium chloride	0.040
Manganese sulphate	0.160
Chloramphenicol	0.125
Agar	15.000
Final pH (at 25°C)	6.7±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 36.17 grams in 1000 ml purified / distilled water. Mix thoroughly and heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 118 - 121°C (12-15 lbs prssure) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Pathogenic fungi constitute a very small group among the vast number of organisms that belong to the Kingdom Fungi. Fungi with the potential to cause human diseases belong to the genera *Aspergillus, Candida, Cryptococcus, Histoplasma* and *Pneumocystis*. Members of pathogenic fungi group are scattered throughout four taxonomic classes based on their methods of reproduction viz. *Zygomycetes, Basidiomycetes, Ascomycetes* and *Deuteromycetes* (Fungi Imperfecti) (2). To confirm the existence and nature of infection by fungi and yeasts, direct methods are more important than indirect methods; identification of the organisms is much more useful than demonstrating the humoral and cellular responses of the host (1). Inhibitory Mould Agar formulated as per Ulrich (3) is used as a general-purpose medium for the selective isolation and cultivation of pathogenic fungi.

Tryptone and Peptone provide essential growth nutrients. Yeast extract is a rich source of vitamin B complex. Dextrose, starch and dextrin are energy sources for the metabolism of fungi. Sodium chloride and metallic salts provide essential ions and minerals. Chloramphenicol inhibits a wide variety of gram-positive and gram-negative bacteria. Potential contaminants of cosmetics and toiletries like *Pseudomonas aeruginosa* and *Serratia marcescens* are effectively inhibited by chloramphenicol. Sodium phosphates buffer the medium.

Type of specimen

Clinical samples - Except sterile body fluids

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (7,8).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic Use. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Due to the incorporation of chloramphenicol, the medium is not recommended for use in culturing sterile body fluids.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Amber coloured, clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 3.62% w/v aqueous solution at 25°C. pH : 6.7±0.2

pH

6.50-6.90

Cultural Response

Cultural characteristics observed after an incubation at 25-30°C for upto 7 days ii)Bacterial cultures are incubated at 35-37° C.

Organism	Inoculum (CFU)	Growth	Recovery
Candida albicans ATCC 10231	50-100	luxuriant	>=50%
Escherichia coli ATCC 25922	>=10^4	inhibited	0%
Staphylococcus aureus ATCC 25923	>=10^4	inhibited	0%
Trichophyton mentagrophytes ATCC 9533	50-100	luxuriant	

Key : * - Corresponding WDCM numbers.

Reference

1.Cruikshank R., Marmion B. P., Duguid J. P., Swain R.H.A., (Eds.), Medical Microbiology, 12th Edition, Vol. II, Churchill Livingstone 2.Frey D., Oldfield R. J., Bridger R. C., A Colour Atlas of Pathogenic Fungi, Wolfe Medical Publications, London. 3.Ulrich J. A., 1956, Bact. Proc., S.A.B., M75: 87.

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