

Technical Information

Fungobiotic Agar (Mycobio Agar)

Product Code: DM 1475

Application: - Fungobiotic Agar (Mycobio Agar) is recommended for the isolation of dermatophytes and many other pathogenic fungi.

Composition**

Ingredients	Gms / Litre
Papaic digest of soyabean meal	10.000
Dextrose	10.000
Cycloheximide	0.500
Chloramphenicol	0.050
Agar	15.000
Final pH (at 25°C)	6.5±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Dermatophytosis is a general term for mycotic parasitism of the skin. Fungi that multiply on skin are called dermatophytes. These can be isolated on differential selective media containing good amounts of glucose and antibiotics to suppress bacterial growth ⁽¹⁾.

Fungobiotic Agar is used for isolation of pathogenic fungi from mixed microbial flora. Georg et al ⁽²⁾ recommended addition of two antibiotics cycloheximide and chloramphenicol for the primary isolation of dermatophytes and fungi which cause systemic disease. Dermatophytes are not sensitive to these antibiotics but some fungi causing systemic disease may be inhibited by one or the other antibiotic ⁽³⁾. For this reason media without antibiotics must be used in parallel with Fungobiotic Agar.

Papaic digest of soyabean meal and dextrose provide essential nutrients for fungal growth. Cycloheximide inhibits saprophytic fungi, certain yeasts and moulds ^(4, 5) while chloramphenicol has an inhibitory action on the accompanying bacteria ^(6, 7). Temperature of incubation affects the sensitivity of certain systemic pathogenic fungi to cycloheximide and chloramphenicol ⁽⁸⁾. It is therefore recommended that incubation should be carried out at 25-30°C.

Methodology

Suspend 35.55 grams of powder media in 1000 ml distilled water. Shake well & heat to boiling to dissolve the medium completely. Distribute in tubes or flasks. Sterilize by autoclaving at 15 lbs pressure (121°C) for 10 minutes. Cool the tubes in a slanted position. DO NOT REMELT OR OVERHEAT THE MEDIUM.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Medium amber coloured, clear to slightly opalescent gel forms in tubes as slants

Reaction

Reaction of 3.5% w/v aqueous solution at 25°C. pH : 6.5±0.2

pH range 6.30-6.70

Cultural Response/ characteristics

DM 1475: Cultural characteristics observed after an incubation at 25-30°C for 4-7 days.

Organism	Inoculum (CFU)	Growth
<i>Aspergillus brasiliensis</i> ATCC 16404	$\geq 10^3$	inhibited
<i>Candida albicans</i> ATCC 10231	50-100	luxuriant
<i>Candida tropicalis</i> ATCC 1369	$\geq 10^3$	inhibited
<i>Escherichia coli</i> ATCC 25922	$\geq 10^3$	inhibited
<i>Staphylococcus epidermidis</i> ATCC 12228	$\geq 10^3$	inhibited
<i>Trichophyton equinum</i> ATCC 22443	50-100	luxuriant
<i>Trichophyton verrucosum</i> ATCC 36058	50-100	luxuriant

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° in sealable plastic bags for 2-5 days.**Further Reading**

1. Norton C. F., 1986, Microbiology, 2nd Ed., Addison-Wesley Publishing Company
2. Georg et al, 1960, J. Lab. and Clin. Med., 55:116.
3. Georg et al, 1954, J. Lab. and Clin. Med., 42:422.
4. Leach, Ford and Whitten, 1947, J. Am. Chem. Soc., 69:474.
5. Whitten, 1948, J. Bacteriol., 56:283.6. Cooke, 1954, Antibiotics and Chemother., 4:657.
7. Robinson, Coken, Robinson and Bereston, 1956, J. Am. Med. Assoc., 160:537.
8. McDonough et al, 1960, Mycopath et. Mycolog. Appl., 13:113.

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