microgen
Ready Prepared Media

Technical Information

D.T.M Agar Plate (Dermatophyte Test Agar Plate)

Product Code: PM 1188

Application: Recommended for selective isolation of dermatophytes.

Composition**

Ingredients	Gms / Litre
Soya peptone	10.000
Glucose (Dextrose)	10.000
Phenol red	0.200
Agar	20.000
CCG Selective Supplement (MS2015) 1 vial	
Cycloheximide	250 mg
Chlortetracycline	50 mg
Gentamicin	50mg
Final pH (at 25°C)	5.5±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

The Dermatophytes are a distinct group of fungi that infect the hair, skin and nails of humans and animals producing a variety of cutaneous infections known as ringworm (1). Dermatophytes like *Trichophyton*, *Microsporum* and *Epidermatophyton* are responsible for most of the cutaneous fungal infections (2). DTM Agar Base was developed by Taplin as a selective and differential medium for detection and identification of dermatophytes (1). On this medium identification of Dermatophytes are based on morphology and alkaline metabolites production. A combination of three antimicrobial agents (cycloheximide, chlortetracycline and gentamicin) inhibits bacteria and saprophytic yeasts and moulds. Dermatophytes are presumptively identified based on gross morphology and the production of alkaline metabolites, which raise the pH and cause the phenol red indicator to change the color of the medium from yellow to pink-red (1,3,1).
Soya peptone provides nitrogenous and carbonaceous substances essential for growth. Glucose is the energy source. The pH indicator, phenol red, is used to detect amine production. Cycloheximide (5) (as FD) inhibits most of the saprophytic fungi. Gentamicin inhibits gram-negative bacteria including *Pseudomonas* species while chlortetracycline inhibits a wide range of gram-positive and gram-negative bacteria. The presence of growth on the medium provides presumptive identification of dermatophytes. D.T.M. Agar helps in isolation and early recognition of members of the *Microsporum, Trichophyton* by means of the distinct colour change from yellow to red. Rapidly growing species may effect a complete colour change within 3 days while slow growers will change colour in proportionately longer time. Non-Dermatophytes can be recognized by the absence of colour change. A few saprophytes, yeasts and bacteria change the medium from yellow to red, but can be easily distinguished by colonial morphology. Complete classification of Dermatophytes depends on microscopic observations along with biochemical and serological tests.

Type of specimen

Clinical samples - Scraping of skin, hair,nail lesion, scaling scalp lesions, etc.

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic Use only. For professional use only. Read the label before opening the pack. 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.

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Limitations

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium
2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

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.

Methodology

Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

Quality Control

Appearance
Sterile DTM Agar in 90mm disposable plate.
Colour
Pink coloured medium
Quantity of medium
25 ml of medium in 90 mm plate
Reaction
5.30 - 5.70
Sterility Check
Passes release criteria
Cultural Response
Cultural characteristics observed after an incubation at 25-30°C for 6 days.

Organism	Growth	Colour of Medium
# Aspergillus brasiliensis ATCC 16404 (00053*)	none-poor	
Candida albicans ATCC 10231 (00054)*	good	
Microsporum audouini ATCC 9079	good	pink-red
Pseudomonas aeruginosa ATCC 27853(00025*)	none-poor	
Trichophyton mentagrophytes ATCC 9533	good	pink-red

Key :# - Formerly known as *Aspergillus niger;* *- Corresponding WDCM numbers

Storage and Shelf Life

On receipt store between 2-8°C Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

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Further Reading

1.Rosanthal S., Stritzler R. and Villafane J., 1968, Arch. Dermatol., 97:685.
2.Kwon-Chung and Bennett, 1992, Medical Mycology, Lea & Febiger, Philadelphia, Pa.
3.Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
4.Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5.Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

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
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
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- of diagnostic reagents extra.
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- Do not use the products if it fails to meet specificatons for identity and performens parameters.