D.T.M. Agar Base (Dermatophyte Test Agar Base), Granulated

GM188

Dermatophyte Test Medium (DTM), granulated is used for selective isolation of dermatophytes.

Composition**

Ingredients	Gms / Litre
Papaic digest of soyabean meal	10.000
Glucose	10.000
Phenol red	0.200
Agar	20.000
Final pH (at 25°C)	5.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 20.10 grams in 500 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add the rehydrated contents of one vial of Dermato Supplement (FD015). Mix well and pour into sterile Petri plates.

Principle And 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 (2).Dermatophytes like *Trichophyton, Microsporum* and *Epidermatophyton* are responsible for most of the cutaneous fungal infections (1). DTM Agar Base was developed by Taplin as a selective and differential medium for detection and identification of dermatophytes (2). 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 (2-4).

Papaic digest of soyabean meal 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.

Quality Control

Appearance
Light yellow to pink coloured granular medium

Gelling
Firm, comparable with 2.0% agar gel.

Colour and Clarity of prepared medium
Orange red coloured, slightly opalescent gel forms in Petri plates

Reaction
Reaction of 4% w/v aqueous solution at 25°C. pH : 5.5±0.2

pH
5.30-5.70

Cultural Response
Cultural characteristics observed with added Dermato Supplement (FD015), after an incubation at 25-30°C for 6 days.

Organism	Growth	Colour of Medium
Cultural Response		
**Aspergillus brasiliensis ATCC 16404*	none-poor	
Candida albicans ATCC 10231	good	
Microsporum audouinii ATCC 9079	good	pink-red
Pseudomonas aeruginosa ATCC 27853	none-poor	
Trichophyton mentagrophytes ATCC 9533	good	pink-red

Key :- Formerly known as Aspergillus niger*

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

Reference
1. Isenberg (Eds.), 1992, Clinical Microbiology Procedures Handbook, Vol . 1, American Society for Microbiology, Washington, D.C.
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3. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Eds.), 2007, Manual of Clinical Microbiology, 9th Ed., American Society for Microbiology, Washington, D.C.
4. Kwon-Chung and Bennett, 1992, Medical Mycology, Lea & Febiger, Philadelphia, Pa.
5. Rosanthal S., Stritzler R. and Villafane J., 1968, Arch. Dermatol., 97:685.

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