

## Technical Information

### D.T.M. Agar Base (Dermatophyte Test Agar Base)

**Product Code: DM 1188**

**Application:** - Dermatophyte Test Medium (DTM) 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

#### 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 (2). *Trichophyton*, *Microsporum* and *Epidermatophyton* are dermatophyte 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 Dermatophytes identification 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 supply nitrogenous and carbonaceous substances essential for growth. Glucose act as a 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.

#### Methodology

Suspend 20.10 grams of dehydrated media powder in 500 ml distilled water. Mix thoroughly & heat to boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C. Aseptically add the rehydrated contents of one vial of Derma to Supplement (MS1015). Mix well before pouring into sterile Petri plates.

#### Quality control

##### Appearance

Light yellow to pink homogeneous free flowing powder

##### Gelling

Firm, comparable with 2.0% agar gel.



Dehydrated Culture Media  
Bases / Media Supplements

#### Colour and Clarity

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 Range

5.30-5.70

#### Cultural Response

DM 1188: Cultural characteristics observed with added Dermato Supplement (MS1015), after an incubation at 25-30°C for 6 days.

Organism	Growth	Colour of Medium
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#### Cultural Response

<i>Aspergillus brasiliensis</i> ATCC 16404	none-poor	-
<i>Candida albicans</i> ATCC 10231	good	-
<i>Microsporum audouinii</i> ATCC 9079	good	pink-red
<i>Pseudomonas aeruginosa</i> ATCC 27853	none-poor	-
<i>Trichophyton mentagrophytes</i> ATCC 9533	good	pink-red

Key :\*- Formerly known as *Aspergillus niger*

## Storage and Shelf Life

**Dried Media:** Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label

**Prepared Media:** 2-8° in sealable plastic bags for 2-5 days.

## Further Reading

1. Isenberg (Eds.), 1992, Clinical Microbiology Procedures Handbook, Vol . 1, American Society for Microbiology, Washington, D.C.
2. Taplin, Zaias, Rebell and Blank, 1969, Arch. Dermatol., 99:203-209.
3. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
4. Kwon-Chung and Bennett, 1992, Medical Mycology, Lea & Febiger, Philadelphia, Pa.
5. Rosenthal S., Stritzler R. and Villafane J., 1968, Arch. Dermatol., 97:685.

## Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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