Dermatophyte Test Agar Base

Intended Use
Dermatophyte Test Agar Base is used for selective isolation of dermatophytes.

Summary
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. Dermatophytes like *Trichophyton*, *Microsporum* and *Epidermatophyton* are responsible for most of the cutaneous fungal infections. DTM Agar Base was developed by Taplin as a selective and differential medium for detection and identification of dermatophytes. 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 colour of the medium from yellow to pink-red.

Principle
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 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.

Formula*

Ingredients	**g/L**
Papaic digest of soyabean meal	10.0
Glucose	10.0
Phenol red	0.2
Agar	20.0
Final pH (at 25°C)	5.5 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2ºC-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.
The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 20.10 g of the powder in 500 mL purified / distilled water.
2. Heat to boiling to dissolve the powder completely.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
4. Cool to 50°C. Aseptically add the rehydrated contents of one vial of Dermato Supplement (204040320005).
5. Mix well before pouring into sterile petridishes.

Quality Control
Dehydrated Appearance: Orange coloured, homogenous free flowing powder.
Prepared Appearance: Orange red coloured, slightly opalescent gel forms in petridishes.
Cultural Response: Cultural characteristics observed with added Dermato Supplement after an incubation at 25°C -30°C for 6 days.

Organism (ATCC)	Growth	Colour of Medium
Aspergillus brasiliensis WLRI 034(120) (16404)	Partial inhibition	-
Candida albicans 3147 (10231)	Good	-
Microsporum audouinii (9079)	Good	Pink-red
Pseudomonas aeruginosa Strain Boston 41501 (27853)	Partial inhibition	-
Trichophyton mentagrophytes (9533)	Good	Pink-red

Interpretation of results

1. The presence of growth on the medium provides presumptive identification of dermatophytes.
2. Dermatophyte Test. Agar helps in isolation and early recognition of members of the *Microsporum*, *Trichophyton* by means of the distinct colour change from yellow to red.
3. Rapidly growing species may affect a complete colour change within 3 days while slow growers will change colour in proportionately longer time.
4. Non-Dermatophytes can be recognized by the absence of colour change.
5. A few saprophytes, yeasts and bacteria change the medium from yellow to red, but can be easily distinguished by colonial morphology.
6. Complete classification of Dermatophytes depends on microscopic observations along with biochemical and serological tests.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Precautions/Limitations

1. Appropriate confirmatory tests must be performed to obtain a final identification of the pathogens isolated on these media.
2. Dermatophyte Test Agar is not suitable for the isolation of bacteria which may also produce skin infections. Therefore, if a bacterial infection cannot be excluded, appropriate nonselective media, such as Columbia Agar with 5% Sheep Blood must be inoculated with the specimen.
3. After 2 weeks of incubation, certain saprophytic fungi may produce false positive reactions on Dermatophyte Test Agar.

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

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 Yolken R. H., (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. Rosanthal S., Stritzler R. and Villafane J., 1968, Arch. Dermatol., 97:685.
6. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201040030100	Dehydrated Culture Media	100 g
201040030500	Dehydrated Culture Media	500 g