# RW1
# FUNGAL CULTURE SYSTEM
# DERMATOPHYTE TEST MEDIUM - FLAT PLATE

FOR VETERINARY USE ONLY

## Introduction
This fungal culture system is designed to provide a simple and comprehensive analysis of the pathogenic fungus that cause most fungal infections seen in veterinary medicine.

## History/Summary
DTM is a preferred medium for isolation and early detection of members of Microsporum, Trichophyton, and Epidermophyton genera by means of the distinct colour change. Rapid growing species may effect a complete medium colour change in as few as 2-3 days. The slower growing species will change the indicator in proportionately longer time periods. Other organisms may grow on DTM but can be recognized as non dermatophytes by the absence of colour change. A few organisms, inculding saprophytes and yeasts are capable of changing the medium from orange to red, but they are easily recognized by their distinctive colonial morphology.

## Specimen Collection
Sample collection (critical to successful culturing of dermatophytes): Samples can be collected from any animal species with a suspected dermatophyte infection. The site should be cleaned if grossly contaminated. Soap and water may be used gently to avoid mechanical removal of infected material. A gauze sponge soaked in 70% alcohol may be laid over the sample site for 30 seconds or wiped gently over the site. Let the site dry before collecting sample. Clean forceps and/or scalpel may be used to obtain infected hairs, skin scales and crusts. The periphery of active lesions is the best area to obtain the samples. Fluorescing hairs and skin fragments observed under a Wood's lamp are excellent specimens.

## Procedure
Allow plate to warm to room temperature before inoculation. As soon as possible after receipt, the specimen should be inoculated onto the DTM Agar surface. Transfer specimen to agar surface and gently implant specimen in the surface of the agar. Specimens may contain fragments of skin, nails, hair, pus, etc. Replace lid on plate or cap vial loosely and incubate in the dark at room temperature (25-30°C) for 10 days maximum. Incubate plates in an inverted position (lid on bottom).

## Interpretation
Examine plate or vial every 2-3 days for characteristic colour change on DTM and colony appearance. The orange to red colour change must occur simultaneous with a white fluffy or white granular growth to interpret as a positive test. Most pathogenic dermatophytes will produce full colour change from orange to red in 3-6 days on the DTM medium while most saprophytic fungi and bacteria are inhibited. Certain strains of yeast (Candida albicans) are capable of converting the indicator to red, but the yeasts can be identified by their white bacteria like colonial appearance on the DTM medium.

## Common Dermatophytes

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| Microsporum canis* | White fluffy middle area, golden yellow border, yellow underside |
| Microsporum gypeseum* | Light brown border, white rapidly spreading mycelium, tan underside |
| Trichophyton mentagrophytes* | Granular, white, sugar-like. Variable colours on underside |
| Trichophyton tonsures* | Velvety texture with rugose folds. Reddish-brown underside |
| Trichophyton rubrum* | White, fluffy downy appearance. Dark red underside |
| Epidermophyton floccosum* | Restricted growth, olive green to pale yellow. Brownish underside |
| Trichophyton terrestre* | Buff yellow, powdery. Pale to yellow underside |

*DTM Red Colour Change

## Limitations
The complete classification of dermatophytes depends upon microscopic observations of direct and slide culture preparations along with physiological and serological tests.

## Storage
Store vials or plates at 2-8°C. Vials and plates in sealed bags are stable at room temperature for up to 90 days.
DO NOT ALLOW VIALS OR PLATES TO FREEZE. If vials freeze they cannot be used.

Agar Formulations on file at Shelby Scientific. If at any time your clinic is unsure of the results of your test you can find additional information and pictures on our website. You may also contact us at Sensor Health Sciences Veterinary by phone and email us test images so we may assist you with further clarification.

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