For Veterinary Use Only

Fungal Culture System (#20165)
Dermatophyte Test Medium
Enhanced Sporolation Agar, Bi-Plate

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 the clinical practice of 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 color change. Rapid growing species may effect a complete medium color change in as few as three 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 color change. A few organisms, including saprophytes and yeasts are capable of changing the medium form orange to red, but they are easily recognized by their distinctive colonial morphology.

Enhanced Sporolation Agar (ESA) is quite similar to DTM in several ways. It contains a color indicator which changes from yellow to blue-green. ESA also contains supplements to inhibit bacteria and saprophytic fungi. Therefore this medium acts as a selective medium for the isolation of dermatophytes. What makes ESA unique is that it enhances both pigmentation and sporulation of dermatophytes, thus allowing for proper identification of the fungal isolates.

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
As soon as possible after receipt, the specimen should be inoculated onto the Mycological agars. 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 and incubate lid side down, in the dark, at room temperature (25-30ºC) for 10 days maximum. Examine culture plate every 2-3 days for characteristic color change on DTM side and colony appearance.

Interpretation
Most pathogenic dermatophytes will produce full color change from yellow orange to red in 3-6 days on the DTM medium while most saprohytic 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 both the DTM and ESA. The color change of ESA is usually not as intense as that of the DTM. Most dermatophytes will change the ESA medium to a bluish-green color in 3-7 days while most saprophytic fungi and bacteria are inhibited.

Storage
Store Refrigerated at 2-8ºC

Common Dermatophytes
Please Note: Undersurface is view of growth from bottom of dish, through medium.

Microsporum canis
DTM Red color change in media
ESA Blue-Green color change in media. White fluffy middle area, golden yellow border, yellow undersurface view

Microsporum gypeseum
DTM Red color change in media
ESA Blue-Green color change in media. Light brown border- white rapidly spreading mycelium, cream to tan undersurface view

Trichophyton mentagrophytes
DTM Red color change in media
ESA Blue-Green color change in media. Granular white, sugar like appearance, variable under surface color

Trichophyton tonsures
DTM Red color change in media
ESA Blue-Green color change in media. Velvety texture with rugose folds. Reddish-brown undersurface

Trichophyton rubrum
DTM Red color change in media
ESA Blue-Green color change in media. White-fluffy downy appearance with dark red under surface

Epidermophyton floccosum
DTM Red color change in media
ESA Blue-Green color change in media. Restricted growth, olive green to pale yellow growth with brownish undersurface

Trichophyton terrestre
DTM Red color change in media
ESA Blue-Green color change in media. Buff yellow, powdery, may look like T. mentagrophytes, pale to light tan undersurface

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

Agar Formulations
On file at Sensor Health Products