

Dermatophyte Test Medium (DTM) (NCM0138)

Intended Use

Dermatophyte Test Medium is used for the selective isolation of dermatophytic fungi and is not intended for use in the diagnosis of disease or other conditions in humans.

Description

In 1969, Taplin et al. developed this medium for the isolation and recognition of dermatophytic fungi, the causative agent of ringworm from hair, nails, and skin. Dermatophyte Test Medium is preferred for isolation and early recognition of *Microsporum*, *Trichophyton*, and *Epidermophyton* genera because of a distinct color change in the medium. Rapidly-growing species may produce a complete color change in the medium in 3 days. The slower-growing species will change the indicator in longer time periods. Other organisms may grow but can be recognized as non-dermatophytes by lack of a color change. A few organisms, including saprophytes, yeasts, and bacteria are capable of changing the medium from red to yellow, but are easily recognized by their distinctive colonial morphology.

Typical Formulation

Enzymatic Digest of Soybean Meal	10.0 g/L
Dextrose	10.0 g/L
Phenol Red	0.2 g/L
Cycloheximide	0.5 g/L
Agar	20.0 g/L

pH: 5.5 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

Supplements

Gentamicin, 0.1 g/L

Chlortetracycline, 0.1 g/L

Precaution

Refer to SDS

Preparation

1. Suspend 40.7g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for once minute to completely dissolve medium.
3. Autoclave at 121°C for 15 minutes.
4. Cool to 45-50°C and aseptically add Gentamicin (0.1 g/L) and Chlortetracycline (0.1 g/L).
5. Mix thoroughly.

Test Procedure

Inoculate sample as soon as possible after received in the laboratory. Implant samples by gently pressing the samples into agar surface. For isolation of fungi from potentially contaminated samples, a nonselective medium should be inoculated along with the selective medium. Incubate the plates at 25 - 30°C in an inverted position (agar side up) with increased humidity.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and light beige to beige; may have slight orange tint.

Prepared Appearance: Prepared medium is trace to slightly hazy and yellow-orange.



Technical Specification Sheet



Expected Cultural Response: Cultural response on Dermatophyte Test Medium at 25-30°C after 2 - 7 days incubation.

Microorganism	Inoculum	Recovery	Reactions
<i>Aspergillus brasiliensis</i> ATCC® 16404	50-200	Markedly to completely inhibited	If recovered, white to green w/ or w/o black spores; cottony
<i>Candida albicans</i> ATCC® 10231	50-200	> 70%	Off-white to yellow and pasty colonies
<i>Microsporum canis</i> ATCC® 36299	Point Inoculation	Growth	Colony exhibits red reverse
<i>Penicillium roquefortii</i> ATCC® 10110	Point Inoculation	Completely inhibited	---
<i>Staphylococcus aureus</i> ATCC® 25923	>10 ³	Completely inhibited	---
<i>Trichophyton mentagrophytes</i> ATCC® 9533	Point Inoculation	Growth	Colony exhibits red reverse

The organisms listed are the minimum that should be used for quality control testing.

Results

Examine medium at 24 hours for pH indicator change in medium from yellow to red. Most pathogenic dermatophytes will produce full color change within 3 - 6 days. Certain strains of *Candida albicans* are capable of converting indicator to red, but yeasts can be recognized by their white bacteria-like appearance. Certain non-dermatohyte fungi rarely can produce alkaline products (false-positive results). For definitive identification of isolates, inoculate onto conventional media.

Expiration

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if it is not free flowing, or if medium has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. Complete classification of dermatophytes is dependent upon microscopic observations of direct and slide culture preparations, along with biochemical and serological tests.
2. Saprophytes may redden medium if specimen material is heavily contaminated.

Storage

Store dehydrated culture media at 2-30°C away from direct sunlight. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

References

1. Taplin D., N. Zaias, N. Rebell, and H. Blank. 1969. Isolation and recognition of dermatophytes on a new medium (DTM). Arch. Dermatol. 99:203.
2. MacFaddin, J. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1. Williams & Wilkins, Baltimore, MD.



620 Leshar Place • Lansing, MI 48912
800-234-5333 (USA/Canada) • 517-372-9200
foodsafety@neogen.com • foodsafety.neogen.com