DERMATOPHYTE TEST MEDIUM (7265)

Intended Use

Dermatophyte Test Medium is used for the selective isolation of dermatophytic fungi.

Product Summary and Explanation

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.[1,2] 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 nondermatophytes 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.

Principles of the Procedure

Enzymatic Digest of Soybean Meal provides nitrogen and vitamins required for organism growth. Dextrose is included as an energy source. Phenol Red is the pH indicator used to detect acid production. Cycloheximide inhibits most saprophytic molds. The supplements, Gentamicin and Chlortetracycline, aid in selectivity of Dermatophyte Test Medium. Gentamicin inhibits Gram-negative bacteria including *Pseudomonas* spp. Chlortetracycline is a broad-spectrum antibiotic, inhibiting a wide range of Gram-positive and Gram-negative bacteria. Agar is the solidifying agent.

Formula / Liter

Enzymatic Digest of Soybean Meal ..... 10 g
Dextrose..... 10 g
Phenol Red ..... 0.2 g
Cycloheximide..... 0.5 g
Agar ..... 20 g
Final 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

Precautions

1. For Laboratory Use.
2. VERY TOXIC. Toxic by inhalation and contact with skin. May cause harm to unborn child.

Directions

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

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and beige.

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

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

Microorganism	Response	Reactions
Aspergillus niger ATCC® 16404	inhibited	---
Candida albicans ATCC® 10231	growth	off-white to yellow and pasty colonies
Microsporum canis ATCC® 36299	growth	colony exhibits pink to red reverse
Trichophyton mentagrophytes ATCC® 9533	growth	colony exhibits pink to red reverse
Staphylococcus aureus ATCC® 25923	inhibited	---

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

Test Procedure

Inoculate specimen as soon as possible after received in the laboratory. Implant cutaneous specimens by gently pressing the samples into agar surface. For isolation of fungi from potentially contaminated specimens, 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.

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 nondermatohyte fungi rarely can produce alkaline products (false-positive results). For definitive identification of isolates, inoculate onto conventional media.

Storage

Store sealed bottle containing the dehydrated medium at 2 - 30°C. 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.

Expiration

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance 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.[2]

Packaging

Dermatophyte Test Medium Code No.	**7265A**	**500 g**
	7265B	**2 kg**
	7265C	**10 kg**

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.

Technical Information

Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (410)780-5120 or fax us at (410)780-5470.