

Instructions for Use

Dermatophyte Test Medium (DTM)

Dehydrated Culture Media

REF - KM0184

1. Intended Use

For *in vitro* diagnostic use only. KM0184 Dermatophyte Test Medium is a non-selective medium for the isolation of fungi particularly dermatophytes from clinical specimens.

2. Composition*

<u>Ingredient</u>	<u>g/L</u>
Soy peptone	10.5
Glucose	10.0
Phenol red	0.2
Agar	20.0

*Adjusted/supplemented as needed to meet performance requirements

3. Summary and Explanation

Dermatophyte Test Medium was developed by Taplin *et al.* ⁽¹⁾ for the isolation and identification of dermatophyte fungi. DTM is preferred for isolation and early recognition of *Microsporum*, *Trichophyton*, and *Epidermophyton* genera due to production of a distinct colour change in the medium. Dermatophytes appear as fluffy colonies with reddening of the medium while other fungi cause the medium to become yellow due to acid production. Yeasts will also grow on this medium but are readily distinguished by their distinct white/creamy colonies and distinctive smell.

KM0184 Dermatophyte Test Medium is recommended by the UK Standards for Microbiology Investigations ⁽²⁾ and tested in accordance with the principals of ISO 11133:2014 ⁽³⁾.

4. Principle

Although the low pH (5.5) of the medium inhibits most bacterial contaminants, chloramphenicol and cycloheximide are often added to further reduce the risk when processing material that may be heavily contaminated with unwanted microbiota. Dermatophytes appear as fluffy colonies with reddening of the medium while other fungi cause the medium to become yellow due to acid production. Yeasts will also grow on this medium but are readily distinguished by their distinct white/creamy colonies and distinctive smell.

5. Preparation Instructions

Suspend 40.7g/L of dried culture media in deionised/purified water and allow to soak whilst mixing for 10 minutes.

Autoclave to sterilise at 121°C for 15 minutes before cooling in a water bath to 45-50°C

To suppress contaminating bacteria, aseptically add the appropriate volume of chloramphenicol supplement (LS0050) only.

Inhibition of *Aspergillus* spp. and *Saccharomyces* spp. is achieved with the additional supplementation of cycloheximide at 0.3g/L.

Gently homogenise the final medium before aseptically dispensing the specified volume into appropriate sterile containers and allowing to cool.

Prepared media may be kept at between 2 and 8°C for up to 14 days away from direct sunlight.

6. Physical Characteristics

	Dehydrated Medium	Prepared Medium
Appearance and Colour	Beige fine powder	Orange firm gel
pH	N/A	5.5 ± 0.2

7. Materials Provided

KM0184 Dermatophyte Test Medium can be provided in the formats detailed below. Each tub is labelled with product name, product code, lot number, expiry date, instructions, and appropriate warnings.

Product Code	Product Format
KM0184-500G-500	1 x 500g Dehydrated Culture Media Tub
KM0184-5KG-5000	1 x 5kg Dehydrated Culture Media Tub
KM0184-10KG-10000	1 x 10kg Dehydrated Culture Media Tub

8. Materials Needed but not Provided

Standard microbiological laboratory materials e.g., sterile loops or swabs, collection containers, incubators, media for isolation and quality control organisms.

9. Specimens

KM0184 Dermatophyte Test Medium is suitable for the testing of the following specimens:

- Clinical Specimens: hair, nails, skin, or skin scrapings

Sampling and transport equipment must be used in accordance with the end user's suppliers' recommendations. Refer to appropriate standard method or local guidance on sample collection and subsequent processing.

10. Test Procedures and Interpretation of results

Based on sample type and information provided, check to see if the specimen needs to be pre-enriched prior to inoculation to the prepared medium.

Inoculate media directly with the sample, or subculture onto media after incubation in enrichment broth where required.

Clinical Specimens:

Inoculate specimen, or pre-enriched sample, directly onto the medium and streak across the agar surface using a sterile loop or automated plate streaker. Incubate at 22-25°C aerobically for 10-14 days.

After incubation, examine agar for colonies (typical colony appearance outlined in Quality Control table below). Perform further biochemical, serological, or mass spectroscopy testing to confirm identity of presumptive positive isolates. Refer to relevant local guidelines.

11. Quality Control

Organism	Incubation	Result (Specificity)
<i>T. rubrum</i> (NCPF 419)	Plates inoculated with yeasts and bacteria are incubated aerobically at 25 ± 1°C for 48 hours. Plates inoculated with fungi are incubated aerobically at 25 ± 1°C for 5-10 days.	Growth: White fluffy colonies with red underside and halo
<i>T. mentagrophytes</i> (Wild Strain)		Growth: White fluffy colonies with red underside and halo
<i>C. albicans</i> (NCPF 3179)		Growth: Yellow colonies
<i>E. coli</i> (NCTC 12241)		Inhibited
<i>A. brasiliensis</i> (NCPF 2275)		Inhibited

It is the responsibility of the user to perform Quality Control testing taking into consideration the intended use of the medium, and in agreement with any local relevant guidelines (e.g., frequency, strains used, atmosphere, incubation temperature).

12. Performance

To fully verify KM0184 Dermatophyte Test Medium performance, dehydrated culture media samples were used to prepare E&O PP3150 Dermatophyte Test Medium (DTM) with Chloramphenicol (50mg/L) and Cycloheximide (300mg/L) and tested to assess colony morphology and recovery level compared to a non-selective reference medium. Prepared samples were inoculated directly (*Trichophyton* spp.), or with 30-150cfu (*Candida albicans*) and 10⁴-10⁷ cfu for the non-target organisms and incubated at 25 ± 1°C aerobically for the times detailed in the Quality Control table above. All samples of prepared media produced grew and showed good recovery and the correct morphology of the required test organisms: *Trichophyton rubrum* (NCPF 419), *Trichophyton mentagrophytes* (Wild Strain) and *C. albicans* (NCPF 3179), and inhibition of the non-target organisms: *Escherichia coli* (NCTC 12241) and *Aspergillus brasiliensis* (NCPF 2275). Therefore, it can be concluded that KM0184 Dermatophyte Test Medium, meets performance criteria when used according to the instructions outlined above. Trend analysis data available upon request.

13. Limitations

- Classification of dermatophytes relies upon analysis of direct and slide culture preparations, along with biochemical, serological, or molecular tests on sub-culture isolates to confirm identity.
- Saprophytes may redden medium if specimen material is heavily contaminated
- Due to natural variation, some strains may grow poorly on this medium.

14. Precautions and Warnings

This product is considered non-hazardous under CLP regulations. Wear such PPE as recommended by laboratory COSHH assessment. During and after use, always handle all materials in a manner conforming to Good Laboratory Practices and consider that material under test should be regarded as a potential biohazard if mishandled.

Refer to KM0184 Material Safety Data Sheet.

15. Storage conditions and Shelf life

Store KM0184 dried media in the original container with the lid tightly closed at between 10 and 30°C in low humidity conditions away from direct sunlight. Kept under these conditions, dried culture media may be used up to date of expiry shown on the product label.

Dispose of in accordance with local and national authority requirements. Store product in the original container with the lid tightly closed at between 10 and 30°C in low humidity conditions away from direct sunlight. Kept under these conditions, the product may be used up to the date of expiry shown on the product label.

Do not use if the product is not free-flowing or displays any sign of colour change, formation of large lumps or hardening of the powder. Additionally, do not use medium if it has been stored inappropriately, the packaging has been damaged or has passed the expiry date.

Dehydrated culture media does not need to be used all at once; replace the cap and ensure that the container is tightly closed and stored according to labelled instructions.

Dispose of in accordance with local and national authority requirements.

16. References

1. Taplin, D., Zaias, N., Rebell, G., and Blank, H. (1969) Isolation and recognition of dermatophytes on a new medium (DTM). Arch. Dermatol., 99(2), 203–209.
2. Public Health England (2025) Investigation of Dermatological Specimens for Superficial Mycoses. UK Standards for Microbiology Investigations. Bacteriology, B 39(3.2). London: Standards Unit, Microbiology Services.
3. International Organization for Standardization (2014) 11133:2014 Microbiology of food, animal feed and water – Preparation, production, storage and performance testing of culture media. Geneva, ISO.

Version History*

- 001 13/10/2022 - New document created
- 002 12/03/2026 - Updated throughout to reflect device file and harmonise with more recent documentation

*Note: minor typographical, grammatical, and formatting changes are not included in the revision history.



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TABLE OF APPLICABLE SYMBOLS

IFU/KM0184 REV. 002

REF o REF Catalogue number	LOT Batch code	IVD In vitro Diagnostic Medical Device	Manufacturer	Use by
Temperature limitation	Contents sufficient for <n> tests	Consult Instructions for Use	Keep away from direct light	Store in a dry place