# Technical Information

## Trichophyton Agar No.1

## Product Code: DM 1531

**Application: -** Trichophyton Agar No.1 is recommended for differentiation of *Trichophyton* species.

## Composition**

| Ingredients | Gms / Litre |
|---|---|
| Vitamin free casein acid hydrolysate | 2.500 |
| Dextrose | 40.000 |
| Monopotassium dihydrogen phosphate | 1.800 |
| Magnesium sulphate | 0.100 |
| Agar | 15.000 |
| Final pH ( at 25°C) | 6.8±0.2 |

**Formula adjusted, standardized to suit performance parameters

## Principle & Interpretation

Trichophyton Agar-1 is recommended along with medium 2, 3 and 4 to determine whether the isolate require inositol, thiamine or both. Nutritional tests were originally described by George and Camp (2) as an aid in the routine identification of *Trichophyton* species that seldom produce conidia or that resemble each other morphologically (2). Certain species have distinctive nutritional requirements, whereas others do not.

The method employs a casein basal medium that is vitamin-free (Trichophyton Agar-1, DM1531) to which different vitamins are added i.e. inositol (Trichophyton Agar-2, DM1532), thiamine and inositol (Trichophyton Agar-3, DM1533), thiamine (Trichophyton Agar-4) (DM1534) and nicotinic acid (Trichophyton Agar-5) (DM1535). The method also employs an ammonium nitrate basal medium (Trichophyton Agar-6, DM1536) to which histidine is added (Trichophyton Agar-7, DM1152) (1). The various additives added help to determine the specific vitamin and amino acid requirements of the isolates.

Nutritional requirements are determined by inoculating a control medium and a medium enriched with a specific vitamin or amino acid with *Trichophyton* isolates that have been presumptively identified by gross colony characteristics and microscopic morphology (1, 2, 3-6). Moderate to heavy growth in the vitamin or amino acid-enriched medium compared to little or no growth in the basal medium indicates that the isolate requires that nutrient.

## Methodology

Suspend 59.4 grams of dehydrated powder media in 1000ml distilled water. Mix thoroughly & heat to boiling to dissolve the medium completely. Dispense in test tubes. Sterilize by autoclaving at 15 lbs pressure (121°) for 15 minutes. Allow the tubed medium to cool in a slanted position.

## Quality Control

**Appearance**
White to light yellow homogeneous free flowing powder

**Gelling**
Firm, comparable with 1.5% Agar gel

**Colour and Clarity**
Light amber coloured clear to slightly opalescent gel forms in tubes as slants

**Reaction**
Reaction of 5.94% w/v aqueous solution at 25°C. pH : 6.8±0.2

**pH Range**
6.60-7.00

**Cultural Response**
DM1531: Cultural characteristics observed after an incubation at 25-30°C for 2 weeks.

| Organism | Growth |
|---|---|
| *Trichophyton equinum ATCC 22443* | none |
| *Trichophyton mentagrophytes ATCC 9533* | good-luxuriant |
| *Trichophyton rubrum ATCC 28191* | good-luxuriant |
| *Trichophyton violaceum ATCC 24787* | none-poor |

## Storage and Shelf Life

**Dried Media:** Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.
**Prepared Media**: 2-8° in sealable plastic bags for 2-5 days.

## Further Reading

1. Murray P. R., Baron E. J., Jorgensen J. H., Pfaller M. A.,
2. Yolken R. H., (Eds.), 8th Ed., 2003, Manual of Clinical Microbiology, ASM, Washington, D.C. George L. K., Camp L. B., 1957, J. Bacteriol., 74:11
3. Roberts G. D., 1985, In Washington (Ed.), Laboratory Procedures in Clinical Microbiology, 2nd Ed., Springer- Verlag, New York, N.Y.
4. Weitzman I., Rosenthal S. A. and Silva-Hutner M., 1988, In Wentworth (Eds.), Diagnostic Procedures for Mycotic and Parasitic Infections, 7th Ed., American Public Health Association, Washington, D.C.
5. Haley L. D., Trandel J. and Coyle M. B., 1980, Cumitech 11, Practical methods for culture and identification of fungi in the clinical mycology laboratory, Coord. Ed., Sherris, American Society for Microbiology, Washington, D.C.
6. McGinnis M. R. and Pasarell L., 1992, In Isenberg (Ed.), Clinical Microbiology Procedures Handbook, Vol. 1, American Society for Microbiology, Washington, D.C.

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