



# PHYTONE YEAST EXTRACT AGAR

- For in vitro use only -

Catalogue No. PP63 & TP63

Our Phytone Yeast Extract Agar is used for the selective isolation of dermatophytes and other pathogenic fungi from clinical specimens.

Dermatophytes are keratinophilic fungi capable of infecting the keratinized tissues (hair, nail, skin, etc.) of humans and other mammals. Human infections are usually cutaneous infections termed tinea or ringworm.

Carmichael and Kraus developed Phytone Yeast Extract Agar, a modified version of Sabouraud Dextrose Agar. The two researchers were able to selectively recover *Trichophyton verrucosum* from clinical samples, which was very difficult when using available mediums from that time period.

Phytone Yeast Extract Agar is nutritionally rich, and contains papaic digest of soybean meal, yeast extract, and dextrose, which supply all the essential amino acids, and growth factors needed to stimulate mold sporulation and pigment production. Streptomycin and Chloramphenicol are potent antibiotics incorporated into the medium to eliminate the growth of unwanted bacteria commonly contained in clinical samples. For prolonged incubation periods a thicker, double-pour version of the medium is available to prevent cracking and excess dehydration of the medium.

## Formula per Litre of Medium

Papaic Digest of Soybean Meal.....	10.0 g
Yeast Extract.....	5.0 g
Dextrose .....	40.0 g
Agar.....	17.0 g
Streptomycin .....	0.03 g
Chloramphenicol.....	0.05 g

pH 6.6 ± 0.2

## Recommended Procedure

### General

1. Allow medium to reach room temperature.
2. Streak specimen onto the medium as to obtain isolated colonies.
3. Incubate aerobically at room temperature or at 35°C, if warranted, for up to 4 weeks.
4. Examine after 48 hours and intermittently thereafter.

### Dermatophyte Detection

1. Allow medium to reach room temperature.
2. Place skin, nail scrapings, hair, or other relevant samples directly on the agar surface. A non-selective blood plate should be concurrently inoculated in case pyogenic cocci are also present in the sample.
3. Implant cutaneous samples by gently pressing the samples into the agar using a sterile instrument.
4. Incubate aerobically at room temperature or at 35°C, if warranted.
5. Examine after 48 and 72 hours using a microscope to observe growth of micro-colonies
6. If micro-colonies are observed subculture onto a new Phytone Yeast Extract Agar plate in case the original plate becomes overgrown.
7. Re-incubate plates for up to 14 days and observe intermittently for growth. If the plates are held longer than 7 days, loosely seal the plates with parafilm or tape to avoid excess dehydration of the medium, or alternatively purchase a double-pour of the medium (Dalynn PP63DP).

## Interpretation of Results

Dermatophytes will grow as fuzzy colonies of various colors depending on species and may require a lengthy incubation period. Identification of a dermatophyte species is often based on colonial morphology and microscopic morphology. Colony morphology should include the colors of the surface and reverse of the colony, the texture of the surface (powdery, granular, woolly, cottony, velvety, or glabrous), the topography (elevation, folding, margins, etc.), and the rate of growth.

Additional physiological or biochemical tests may be needed for accurate identification of dermatophytes.

- *Care must be taken in handling culture plates since molds can form spores which are easily released*
- *Trichophyton verrucosum grows best at 35 °C*
- *Candida overgrowth may be a problem for samples collected from some body sites (e.g. groin and fingernails) and an alternative media may be required*

## Quality Control

After checking for correct pH, color, depth, and sterility, the following organisms are used to determine the growth performance of the completed medium.

Organism	Expected Result
<i>Trichophyton mentagrophytes</i> ATCC 9533	Growth
<i>Escherichia coli</i> ATCC 25922	Inhibition

## Storage and Shelf Life

Our Phytone Yeast Extract Agar should be protected from direct light and stored at 4 to 8°C with the medium side uppermost to prevent excessive accumulation of moisture on the agar surface. Under these conditions this medium has a shelf life of 12 weeks from the date of manufacture. Our tubed medium has a shelf life of 16 weeks from the date of manufacture.

## Ordering Information

Cat#	Description	Format
PP63	Phytone Yeast Extract Agar [Standard 15x100-mm plate]	10/pkg
PP63DP	Phytone Yeast Extract Agar (Double Pour) [Standard 15x100-mm plate]	10/pkg
TP63-05	Phytone Yeast Extract Agar Slant [16x100-mm Kim Kap Tube]	10/pkg

## References

1. Sabouraud R. Les Teignes. Paris: Masson et Cie, 1910.
2. Carmichael, Kraus. Alberta Med Bull 1959; 24:201.
3. Carmichael. Mycopathologia 1961; 14:129.
4. Murray, P.R., E. Baron, M. Pfaller, F. Tenover, R. Tenover. Manual of Clinical Microbiology. 7th ed. Washington: ASM, 1999.

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