

77196 Peptone Yeast Extract Agar (Phytone Yeast Extract Agar; PYA; Soya peptone yeast extract agar) NutriSelect® Basic

For the cultivation of yeasts and molds.

Composition:

Ingredients	Grams/Litre
Soya peptone (papainic)	10.0
Yeast extract	5.0
Glucose	40.0
Streptomycin sulfate	0.03
Chloramphenicol	0.05
Agar	15.0

Final pH 6.6 +/- 0.2 at 25°C

Store dehydrated powder between 15-25°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Appearance(color): Faint Yellow & faint beige & faint brown, Free flowing powder
 Reaction: Reaction of 7.2% w/v aqueous solution at 25°C. pH: 6.6±0.2
 Color and Clarity: Light amber coloured clear to slightly opalescent gel forms in Petri plates.

Directions:

Dissolve 70 g in 1 litre distilled water and dispense. Sterilize by autoclaving at 121°C for 15 minutes.

Principle and Interpretation:

Dermatophytes are a group of parasitic fungi requiring keratin for growth. They have an ability to infect and survive on the top layer of skin, having dead cells thereby causing superficial infection of skin, hair and nails. Dermatophytes include *Epidermophyton*, *Microsporum* and *Trichophyton*. The organisms colonize the keratin tissues and inflammation is caused by host response to metabolic byproducts.

Carmichael and Kraus modified the classical formula of Sabouraud Agar in order to selectively recover *Trichophyton verrucosum*, one of the species associated with ringworm, from clinical specimens. (1,2) Ringworm is a fungal infection of the keratinized tissues including hair, nails, and skin of humans and lower animals caused by dermatophytes.

McDonough and Georg et al (3, 4) recommended addition of antibiotics, chloramphenicol, and streptomycin to inhibit bacterial growth and assist primary isolation of dermatophytes and fungi.

The medium contains papaic digest of soyabean meal, yeast extract and dextrose, all of which provide essential nutrients for the fungal growth. Chloramphenicol and streptomycin have inhibitory action on bacteria (5, 6). Temperature of incubation may affect the sensitivity of certain systemic pathogenic fungi to chloramphenicol (7). It is therefore recommended that incubation should be carried out at 25-30°C.



Cultural characteristics observed after an incubation of 48-72 hours at 25-30°C.

Organisms (ATCC/WDCM)	Inoculum (CFU)	Growth	Recovery
<i>Candida albicans</i> (10231/ -)	50-100	++/+++	≥50%
<i>Staphylococcus aureus</i> (29231/-)	≥10 ³	-	0%
<i>Trichophyton verrucosum</i> (36058/-)	-	++/+++	-

References:

1. Carmichael and Kraus. 1959. Alberta Med. Bull. 24:201.
2. Carmichael. 1961. Mycopathologia 14:129.
3. McDonough E. S., Ajello L., Georg L. K., Brinkman S., 1960, J. Lab and Clin. Med; 55: 116.
4. Georg L. K., Ajello L., Papageorge C., 1954, J. Lab and Clin. Med., 44: 422.
5. Cooke W. B., 1954, Antibiot. and Chemother, 4:657.
6. Robinson H. M., Cohen M. M., Robinson R. C. V. and Bereston E. S., 1956, J. Am. Med. Assoc; 160:537.
7. McDonough E. S., Ajello L., Georg L. K., Brinkman S., 1960, Mycopath. Mycolog. Appl., 13:113.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

