79883 Peptone Yeast Extract Agar (Phytone Yeast Extract Agar; Soya Peptone Yeast Extract Agar)

Peptone Yeast Extract Agar is recommended for selective isolation of dermatophytes especially Trichophyton verrucosum and other pathogenic fungi. It is also a general yeast and molds cultivation media.

Composition:

Ingredients	Grams/litre
Papaic digest of soyabean meal	10.0
Yeast extract	5.0
Dextrose	40.0
Streptomycin	0.03
Chloramphenicol	0.05
Agar	17.0
Final pH 6.6 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Directions:
Suspend 72.08 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 118°C for 15 minutes. Mix well and pour into sterile Petri plates.

Principle and Interpretation:
Dermatophytes are the most common cause of superficial fungal infections. They produce keartinases and are able to degrade keratinised tissues, including skin, hair, and nail but survive as well on dead cells from the skin. Dermatophytes include Epidermophyton, Microsporum and Trichophyton. These organisms can colonize the keratin tissues and can cause inflammation by host response to metabolic byproducts. McDonough and Georg et.al (1,2) recommended the addition of antibiotics, chloramphenicol and streptomycin to inhibit bacterial growth and assist primary isolation of dermatophytes and fungi.
The medium contains soya peptone which serves as a a nitrogen and carbon source and yeast extract which provides vitamins, nitrogenous and other essential nutrients. Dextrose is an additional carbon source. Streptomycin and chloramphenicol inhibits bacteria (3,4). The incubation temperature may affect the sensitivity of certain pathogenic fungi to chloramphenicol (5). Therefore, it is recommended to incubate at 25-30°C. The pH of 6.6 is for optimal growth of dermatophytes.

Cultural characteristics after 48-72 hours at 25-30°C.

Organisms (ATCC/WDCM)	Inoculum [CFU]	Growth	Recovery
Candida albicans (10231/00054)	50-100	++/+++	≥50%
Staphylococcus aureus subsp. aureus (29213/00131)	≥10^4	-	
Trichophyton verrucosum (36058/-)	50-100	++/+++	≥50%

References:
1. Cooke W. B., 1954, Antibiot. and Chemother, 4:657.
2. Georg L. K., Ajello L., Papageorge C., 1954, J. Lab and Clin. Med., 44: 422.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5. McDonough E. S., Ajello L., Georg L. K., Brinkman S., 1960, Mycopath. Mycolog. Appl., 13:113.
6. McDonough E. S., Ajello L., Georg L. K., Brinkman S., 1960, J. Lab and Clin. Med; 55: 116.
7. Robinson H. M., Cohen M. M., Robinson R. C. V. and Bereston E. S., 1956, J. Am. Med. Assoc; 160:537

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.