Yeast Phosphate Agar

M1061

Intended Use:

Recommended for isolation of dimorphic pathogenic fungi from clinical specimens.

Composition**

Ingredients	Gms / Litre
Yeast extract	1.000
Disodium hydrogen phosphate	0.200
Potassium dihydrogen phosphate	0.300
Phenol red	0.001
Agar	20.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 21.50 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

The systemic mycoses that are responsible for coccidiodomycosis, histoplasmosis and blastomycosis infections (1), although unrelated generically, morphologically and culturally, have one characteristic in common, that of dimorphism. The dimorphic organisms involved exist in nature as the saprophytic form, sometimes called the mycelial phase. For the isolation of *Histoplasma* from clinical material a series of six early morning specimens should be collected in sterile bottles. Immediate inoculation is recommended. The specimen is directly inoculated on medium like Sabouraud Dextrose Agar with and without antibiotics.

Yeast Phosphate Agar was developed by Smith and Goodman (6) for primary recovery of *B.dermatitidis*, *H.capsulatum* and other dimorphic pathogenic fungi from clinical specimens. The medium is to be used by placing one drop of concentrated NH_4OH (ammonia) on one side of an inoculated plate. Ammonium hydroxide is a selective agent that aids in recovery of dimorphic pathogens by inhibiting bacteria, yeasts and saprophytic fungi (2,5).

Yeast extract provides nitrogenous nutrients and vitamin B complex to support fungal growth. Phosphates buffer the medium. Phenol red changes colour of the medium from orange yellow to pink on addition of ammonia. Phenol red also shows loss of alkalinity as the ammonia volatilizes and the pH falls below 7.0.

Clinical specimens suspected of being from cases of Histoplasmosis and Coccidiodomycosis must be manipulated in an exhaust protective cabinet in order to minimize the risk of inhalation of infective particles (2).

Type of Specimen

Clinical specimen: Skin, Blood.

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (3,4).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic use. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Colony growth should be examined microscopically for switching nature of dimorphic fungus that has grown.
2. Prolonged incubation time may result in growth of undesirable organisms.
3. Additional selective media and biochemical tests are necessary for identification of fungal growth.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Cream to beige homogeneous free flowing powder

Gelling

Firm, comparable with 2.0% Agar gel.

Colour and Clarity of prepared medium

Beige coloured clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 2.15% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH

6.80-7.20

Cultural Response

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

Organism	Growth
Blastomyces dermatidis ATCC 14112	luxuriant
Candida albicans ATCC 26790	luxuriant
Histoplasma capsulatum ATCC 10230	luxuriant

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference

1. Baker F. J. and Breach M. R., 1980, Medical Mycology, Medical Microbiological Techniques, London, Tonbridge.
2. Haley L. D. and Callaway C. S., 1978, Laboratory Methods in Medical Mycology, HEW Publication No. (CDC) 78-8361, Centre for Diseases Control, Atlanta, Ger.
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. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Eds.), Manual of Clinical Microbiology, 8th Ed., 2003, American Society for Microbiology, Washington, D.C.

6. Smith and Goodman, 1974, Am J. Clin. Pathol., 62:276.

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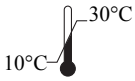
IVD — In vitro diagnostic medical device

CE Marking



Storage temperature

Do not use if package is damaged

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