Corn Meal Agar

M146

Corn Meal Agar is recommended for chlamydospore production by *Candida albicans* and the maintenance of fungal stock cultures.

Composition**

Ingredients	Gms / Litre
Corn meal, infusion from	50.000
Agar	15.000
Final pH (at 25°C)	6.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 17 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. If desired add 1% polysorbate 80. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Chlamydospore production is an accepted criterion for the identification of *Candida* species. Corn Meal Agar is a well-established mycological medium used for the cultivation of fungi and to study chlamydospores production of *Candida* species (1). Corn Meal Agar is a general purpose medium used for the cultivation of fungi and for the study of *Candida* species for chlamydospore production. Pollack and Benham (1) have described the usefulness of this medium for studying the morphology of *Candida* . Walker and Huppert (2) modified this medium by adding polysorbate 80, which then stimulated faster and plenty of chlamydospore formation of *Candida* species.

This is a very simple formulation containing only cornmeal infusion and agar. However this infusion has enough nutrients to enhance the growth of fungi. Polysorbate 80 is a mixture of oleic esters, which activates the production of chlamydospore by *Candida albicans, Candida stellatoides* and *Candida tropicalis* (3). Some *Candida* species lose their ability of chlamydospore formation by repeated sub culturing.

Pick a suspected colony from Sabouraud Dextrose Agar (M063) using a straight wire, and make a deep cut in the Corn Meal Agar plate. Repeat for each colony. Place a flamed sterile coverslip over the line of inoculum. After incubation for 24-48 hours at 25-30°C, the streaks are examined microscopically, through the coverslip, using low and high power objectives.

C. albicans produces mycelium bearing ball-like clusters of budding cells and characteristics thick walled round chlamydospores (4).

Quality Control

Appearance
Cream to yellow coarse free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Light amber coloured, opalescent gel forms in Petri plates

Reaction
Reaction of 1.7% w/v aqueous solution at 25°C. pH : 6.0±0.2

pH
5.80-6.20

Cultural Response
M146: Cultural characteristics observed after an incubation at 23-27°C for upto 4 days.

Organism	Inoculum (CFU)	Growth	Chlamydospores	Recovery

**Aspergillus brasiliensis ATCC 16404*	50-100	luxuriant	negative	
Candida albicans ATCC 10231	50-100	luxuriant	positive	>=70%
Saccharomyces cerevisiae ATCC 9763	50-100	luxuriant	negative	>=70%
Saccharomyces uvarum ATCC 28098	50-100	luxuriant	negative	>=70%

*Key : * - Formerly known as Aspergillus niger*

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference

1. Pollack and Benham, 1960, J. Lab. Clin. Med., 50:313.
2. Walker and Huppert, 1960, Tech. Bull. Reg. Med. Technol., 30:10.
3. Cooper and Silvo-Hunter, 1985, Manual of Clinical Microbiology, Lennette, Balows, Hausler and Shadomy (Eds.), 4th ed., ASM, Washington, D.C.
4. Conant N. F., Smith D. T., Baker R. D., Callaway J. L. and Martin D. S., 1971, Manual of Clinical Mycology, 3rd Ed., USA

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