CORN MEAL AGAR (7350)

Intended Use
Corn Meal Agar is used for the cultivation of fungi and the demonstration of chlamydospore production.

Product Summary and Explanation
Candida albicans is the etiological agent in candidiasis, which can range from a mild to severe infection of skin, nails, and mucous membranes.[1] Several media formulations have been developed that will promote morphological or physiological characteristics in *Candida albicans*, and differentiate it from other *Candida* spp. and other genera. One of the most important differential characteristics of *C. albicans* is the ability to form chlamydospores on certain media. Corn Meal Agar stimulates sporulation of *C. albicans*, and is useful in suppressing certain other fungal growth.[2] Chlamydospore production is an important diagnostic characteristic used in the identification of *C. albicans*.[3]

Kelly and Funigeillo[4] reported that the addition of 1% Tween 80 enhanced chlamydospore formation by *C. albicans*.

Principles of the Procedure
Infusion from Corn Meal is the source of carbon, nitrogen, and vitamins required for organism growth in Corn Meal Agar. Agar is the solidifying agent.

Formula / Liter
Corn Meal, Infusion from solids ..... 50 g
Agar ..... 15 g
Final pH: 6.0 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precaution
1. For Laboratory Use.

Directions
1. Suspend 17 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications
Dehydrated Appearance: Powder is homogeneous, free-flowing granules and beige to yellow.

Prepared Appearance: Prepared medium is trace to moderately hazy, and grey to yellow-white.

Expected Cultural Response: Cultures on Corn Meal Agar should be examined for chlamydospore production after 2 to 7 days of incubation at 25 ± 2°C, as described in the Test Procedure.
Note: Some *Candida* spp. may take up to 14 days to produce chlamydospores.

Microorganism	Response	Results Chlamydospore Production
Aspergillus niger ATCC® 16404	growth	N/A
Candida albicans ATCC® 10231	growth	positive
Saccharomyces cerevisiae ATCC® 9763	growth	negative

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

1. Using a sterile inoculating needle or loop, touch the appropriate yeast colony and immediately scrape or cut an "X" through the prepared Corn Meal Agar in the middle on one half of the agar plate. The arms of the "X" should be about 2 cm long.
2. Repeat this procedure, making a duplicate "X" in the middle on the other half of the agar plate.
3. Using sterile forceps, center a sterile cover slip over the cross of one of the "X" patterns.
4. Invert plate and incubate up to 4 days (96 hours) at 25 ± 2°C.
5. Examine plates daily for the development of chlamydospores with the aid of a dissecting or stage microscope. The "X" without the cover slip serves as a growth control.
6. Subculture where necessary, and perform appropriate biochemical tests for identification.

Results

Microscopic examination of the yeast under the cover slip should reveal chlamydospores that appear as terminal double-walled spheres on the pseudohyphae.

Storage

Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.
2. Repeated subculture of some *Candida* spp. will result in the reduced ability to form chlamydospores.

Packaging

Corn Meal Agar	**Code No.**	**7350A**	**500 g**
		7350B	**2 kg**
		7350C	**10 kg**

References

1. **Warren, N., and H. J. Shadomy.** 1995. Yeasts of medical importance, p. 617-629. *In* P.R. Murray, E. J. Baron, M.A. Pfaller, F. C. Tenover, and R. H. Yolkens (eds.). Manual of clinical microbiology, 6th ed., American Society for Microbiology, Washington, D.C.
2. **Baron, E. J. and S. M. Finegold.** 1990. Formulas and preparation of culture media and reagents. Bailey & Scott's Diagnostic Microbiology, 8th ed. The C. V. Mosby Company, St. Louis, MO.
3. **Duncan, J., and J. Floeder.** 1963. A Comparison of media for the production of chlamydospores by *Candida albicans*. Am. J. Med. Tech. **29**:199-206.
4. **Kelly, J. P., and F. Funigeillo.** 1959. *Candida albicans*: A study of media designed to promote chlamydospore production. J. Lab & Clin. Med. **53**:807-809.

Technical Information

Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at TEL (410)780-5120 or FAX us at (410)780-5470.