



PRODUCT SPECIFICATION SHEET

Corn Meal Agar (DM713)

Intended Use

Corn Meal Agar (DM713) is used for production of chlamyospores by *Candida albicans* and for fungal stock cultures maintenance.

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 chlamyospores on certain media. Corn Meal Agar stimulates sporulation of *C. albicans*, and is useful in suppressing certain other fungal growth.⁽²⁾ Chlamyospore production is an important diagnostic characteristic used in the identification of *C. albicans*.⁽³⁾ Kelly and Funigeillo⁴ reported that the addition of 1% Tween 80 enhanced chlamyospore 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

Ingredients	Gms / Litre
Corn Meal, Infusion from solids	50.00
Agar	15.00
Final pH: 6.0 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 17 g of the medium in one liter of purified water.
2. Heat to boiling to dissolve the medium completely.
3. If desired add 1% polysorbate 80.
4. Autoclave at 121°C 15 lbs pressure for 15 minutes.
5. Mix well and pour into sterile Petri plates.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow coarse free flowing powder
Prepared Medium	Light amber coloured, opalescent gel forms in Petri plates
Reaction of 1.7% Solution	pH 6.0 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel





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

Sr. No.	Organisms	Results to be achieved		
		Growth	Chlamyospore Production	Recovery
1.	<i>Aspergillus brasiliensis</i> ATCC 16404	good-luxuriant	negative	--
2.	<i>Candida albicans</i> ATCC 10231	good-luxuriant	positive	>=70%
3.	<i>Saccharomyces cerevisiae</i> ATCC 9763	good-luxuriant	negative	>=70%
4.	<i>Saccharomyces uvarum</i> ATCC 28098	good-luxuriant	negative	>=70%

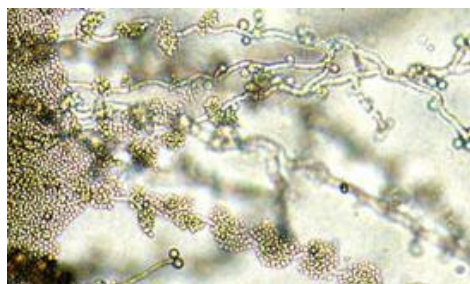
The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

- 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.
- Repeat this procedure, making a duplicate "X" in the middle on the other half of the agar plate.
- Using sterile forceps, center a sterile cover slip over the cross of one of the "X" patterns.
- Invert plate and incubate up to 4 days (96 hours) at 25 ± 2°C.
- Examine plates daily for the development of chlamydo spores with the aid of a dissecting or stage microscope. The "X" without the cover slip serves as a growth control.
- Subculture where necessary, and perform appropriate biochemical tests for identification.

Results

Microscopic examination of the yeast under the cover slip should reveal chlamydo spores that appear as terminal double walled spheres on the pseudo-hyphae.



Microscopic image at 100x of chlamydo spores from *Candida albicans* (ATCC 10231) grown on Corn Meal Agar
Candida albicans (ATCC 10231) grown on Corn Meal Agar





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Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the 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. Chlamyospore formation is inhibited at 30-37 degrees C.⁽¹²⁾ A temperature of 25 degrees C. is recommended for the best results.
3. It is recommended that biochemical and/or serological tests be performed on colonies from pure culture for complete identification.
4. A non-selective and selective medium should be inoculated for isolation of fungi from potentially contaminated specimens.
5. Repeated subculturing of some *Candida* strains result in a loss of their ability to produce chlamyospores.

Packaging

Product Name : Corn Meal Agar

Product Code : DM713

Available Pack sizes : 100gm / 500gm

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. Tenover (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 chlamyospores 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 chlamyospore production. J. Lab & Clin. Med. 53:807-809.

Further Information

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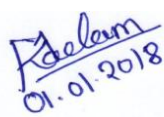


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