

Corporate (UK) ▼

Products
by OrganismProducts
by CategoryProduct
ListSafety Data
SheetsTechnical
SupportLatest
News

Exhibitions

Quality
Certificates

Literature

Material Safety Data Sheet

Click here to download
Material Safety Data Sheets
for this product.

Organisms

Organisms this product
works with:

■ Candida

■ Fungi

For this Organism

Other products used in the
isolation of [Fungi](#):

■ CM0041
Sabouraud Dextrose Agar

■ CM0095
Czapek Dox Liquid

■ CM0097
Czapek Dox Media

■ CM0103
Corn Meal Agar

■ CM0147
Sabouraud Liquid Medium

■ CM0539
Dermasel Medium

■ CM0541
Sabouraud Maltose Agar

■ SR0075
Dermasel Selective
Supplement

■ QB0003
DuPont QUALICON BAX®
SYSTEM Q7

■ QB0682
BAX® YEAST AND MOULD
KIT (96 tests)

■ PO0166
DERMATOPHYTE MEDIUM
WITH PHENOL RED

■ PO0183
OXYTETRACYCLINE
GLUCOSE YEAST
EXTRACT AGAR

■ PO0737
DERMASEL AGAR

Dehydrated Culture Media



CORN MEAL AGAR

Code: CM0103

*A recommended medium for chlamyospore production by *Candida albicans* and for the maintenance of fungal stock cultures.*

Typical Formula*

	gm/litre
Corn Meal Extract (from 50 grams whole maize)	2.0
Agar	15.0

pH 6.0 ± 0.2 @ 25°C

* Adjusted as required to meet performance standards

Directions

Suspend 17g in 1 litre of distilled water. Bring to the boil to dissolve completely. Sterilise by autoclaving at 121°C for 15 minutes.

Description

Corn Meal Agar is a well established mycological medium which is a suitable substrate for chlamyospore production by *Candida albicans* and the maintenance of fungal stock cultures.

When grown on this medium, microscopic examination of *Candida albicans* shows the characteristic chlamyospore production which is an accepted criterion for the identification of this species. Prospero and Reyes¹ investigated the use of corn meal agar, soil extract agar, and purified polysaccharide medium for the morphological identification of *Candida albicans*. Out of 290 yeast colonies isolated on Sabouraud agar, corn meal agar stimulated the production of chlamyospores in 149 colonies (51%), soil extract agar in 103 (36%) and purified polysaccharide medium in 94 (32%).

The addition of 'Tween 80' (e.g. 1%) to Corn Meal Agar greatly enhances the development of chlamyospores on the medium^{2,3,4,5,6}.

Mackenzie⁷ found that all 163 isolates of *Candida albicans* obtained from laboratories in the United Kingdom produced chlamyospores on Oxoid Corn Meal Agar but Dawson⁸ using only 27 isolates of *Candida albicans*, found that Oxoid Czapek Dox Agar CM0097 and rice infusion agar were slightly superior for chlamyospore production.

Corn meal agar is a nutritionally impoverished medium and so may be employed for the maintenance of stock cultures of fungi, especially the black-pigmented varieties.

The addition of glucose (0.2g% w/v) to Corn Meal Agar will enhance the chromogenesis of some species of *Trichophyton* e.g. *Trichophyton rubrum*⁹.

Technique

A single Petri dish containing Corn Meal Agar may be used to identify four or five different colonies of *Candida* grown on Sabouraud Dextrose Agar CM0041. Using a straight wire, pick a colony off the surface of the latter medium and make a deep cut in the Corn Meal Agar (i.e. a horizontal furrow). Repeat for each colony. Place a flamed sterile coverslip over the line of inoculum. After incubation for 24 to 48 hours at 22°C, the streaks are examined microscopically, through the cover slip, using a low power objective. Along such streaks, *Candida albicans* produces mycelium-bearing ball-like clusters of budding cells and the characteristic thick-walled round chlamyospores⁹.

The addition of 0.001g % w/v Trypan blue to Corn Meal Agar provides a contrasting background for the observation of characteristic morphological features of yeast cultures¹⁰.

Storage conditions and Shelf life

Store the dehydrated medium at 10-30°C and use before the expiry date on the label.
Store the prepared medium at 2-8°C.

Appearance

Dehydrated medium: Off-white coloured, free-flowing powder

Prepared medium: Light straw coloured gel

Quality control

Positive control:

Chlamydospore Production

Candida albicans ATCC® 10231 *

Negative control:

Candida krusei ATCC® 6258

Expected results

Good growth; white colonies and chlamydospores

Good growth; white / cream colonies, no chlamydospores

* This organism is available as a Culti-Loop®

Precautions

Glucose supplemented Corn Meal Agar should not be used for chlamydospore production.

Corn Meal Agar with 'Tween 80' (or other wetting agents) will allow *Candida stellatoidea* and *Candida tropicalis* to produce chlamydospores.

Some *Candida* strains lose their ability to produce chlamydospores after repeated subculturing.

References

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