



Modified Czapek Dox Agar (Czapek Dox Agar Modified)

M1170

Czapek Dox Agar, Modified is used for the cultivation and maintenance of numerous fungal species.

Composition**

Ingredients	Gms / Litre
Sucrose	30.000
Sodium nitrate	2.000
Magnesium glycerophosphate	0.500
Potassium chloride	0.500
Dipotassium sulphate	0.350
Ferrous sulphate	0.010
Agar	12.000
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 45.36 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates. For preparing selective media, acidify the media upto pH 3.0 - 4.0 by the addition of one vial of 10% Lactic acid solution (FD095).

Principle And Interpretation

Czapek Dox Agar, Modified supports the growth of organisms which are able to utilize sodium nitrate as the sole source of nitrogen. It is also used for the cultivation and maintenance of numerous fungal species and also for chlamyospore production by *Candida albicans* (1). The medium has been recommended by various authors for studies of *Aspergillus*, *Penicillium* and *Actinomycetes* (2, 3, 4, 5).

Sodium nitrate is the sole source of nitrogen while sucrose is the sole source of carbon. Magnesium glycerophosphate and potassium sulphate help in chlamyospore production by *C. albicans*. Chlamyospore production can be observed by spreading the inoculum between the agar and the Petri plate.

Quality Control

Appearance

White to light yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.2% Agar gel.

Colour and Clarity of prepared medium

Light yellow coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 4.54% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH

6.60-7.00

Cultural Response

M1170: Cultural characteristics observed after an incubation at different temperatures for 24 -48 hours.

Organism	Growth	Incubation temperature
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Cultural Response

Aspergillus fumigatus ATCC 1028 luxuriant 50°C

**Aspergillus brasiliensis* ATCC 16404 luxuriant 30°C

<i>Candida albicans</i> ATCC 10231	luxuriant (Chlamydospores formation)	28°C
<i>Pencillium notatum</i> ATCC 10108	luxuriant	20 - 25°C
<i>Saccharomyces cerevisiae</i> ATCC 9763	luxuriant	25 - 30°C

Key :* - Formerly known as *Aspergillus niger*

Storage and Shelf Life

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

Reference

1. Dawson and Christine O., 1962, Saboutaudia; 1:214.
2. Thom C. and Church M.B., 1926, The Aspergilli, Williams and Wilkins Co., Baltimore.
3. Thom C., 1930, The Penicillia, Williams and Wilkins Co., Baltimore.
4. Raper K.B. and Thom C., 1949, Manual of Penicillia, Williams and Wilkins Co., Baltimore.
5. Wakesman S.A., 1931, Principles of Soil Microbiology, Bailliere Thindall and Co., London.

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