

Technical Information

Modified Czapek Dox Agar (Czapek Dox Agar Modified)

Product Code: DM 2170

Application: - 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

Principle & Interpretation

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

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

Methodology

Suspend 45.36 grams of media powder in 1000 ml distilled water. Shake well & heat to boil 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 (MS2095).

Quality Control

Physical 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 range 6.60-7.00

Cultural Response/ characteristics

DM 2170: Cultural characteristics observed after an incubation at different temperatures for 24 -48 hours.



Dehydrated Culture Media
Bases / Media Supplements

Organism	Growth	Incubation temperature
Aspergillus fumigatus ATCC 1028	luxuriant	50°C
Aspergillus brasiliensis ATCC 16404	luxuriant	30°C
Candida albicans ATCC 10231	luxuriant(Chlamydospores formation)	28°C
Penicillium notatum ATCC 10108	luxuriant	20- 25°C
Saccharomyces cerevisiae ATCC 9763	luxuriant	25- 30°C

Key :* - Formerly known as *Aspergillus niger*

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Dawson and Christine O., 1962, Sabouraudia; 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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