

Technical Information

Czapek Dox Agar

Product Code: DM 1075

Application: - Czapek Dox Agar is a semisynthetic medium used for the general cultivation of fungi.

Composition**

Ingredients	Gms / Litre
Sucrose	30.000
Sodium nitrate	2.000
Dipotassium phosphate	1.000
Magnesium sulphate	0.500
Potassium chloride	0.500
Ferrous sulphate	0.010
Agar	15.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Fungi, including yeasts and filamentous species or moulds are ubiquitously distributed in nature. Czapek Dox Agar is a semi-synthetic medium used for the cultivation of fungi, containing sodium nitrate as the sole source of nitrogen. This medium is prepared according to the formula developed by Thom and Church ⁽¹⁾. This media has a defined chemical composition. Czapek Dox Agar is also recommended by APHA ⁽²⁾ for isolation of *Aspergillus*, *Penicillium*, *Paecilomyces* and some other fungi with similar physiological requirements.

Sucrose serves as the sole source of carbon while sodium nitrate serves as the sole source of nitrogen. Dipotassium phosphate buffers the medium. Magnesium sulphate, potassium chloride, ferrous sulphate serves as sources of essential ions.

Methodology

Suspend 49.01 grams of powder media in 1000 ml distilled water. Shake well & heat 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.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Light yellow coloured, clear to slightly opalescent gel with a slight precipitate forms in Petri plates

Reaction

Reaction of 4.9% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH range 7.10-7.50

Cultural Response/ characteristics

DM 1075: Cultural characteristics observed after an incubation at 25-30°C for 48-72 hours.

Organism	Inoculum (CFU)	Growth	Recovery
* <i>Aspergillus brasiliensis</i> ATCC 16404		luxuriant	>=50%
<i>Candida albicans</i> ATCC 10231	50-100	luxuriant	>=50%
<i>Saccharomyces cerevisiae luxuriant</i> ATCC 9763	50-100	luxuriant	>=50%

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. Thom and Church, 1926, The Aspergilli, 39.
2. Eaton A. D., Clesceri L. S. and Greenberg A. E., (Ed.), 1998, Standard Methods for the Examination of Water and Waste water, 20th Ed., American Public Health Association. Washington, D.C.

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