GM075

Czapek Dox Agar,Granulated

Intended use

Recommended as a semisynthetic medium used for the general cultivation of fungi.

Composition**

Ingredients	g / L
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

Directions

Suspend 49.01 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. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And 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), which has a defined chemical composition. Czapek Dox Agar is 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.

Type of specimen

Water samples.

Specimen Collection and Handling:

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (2). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1.This medium is general purpose medium and may not support the growth of fastidious organisms.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Cream to yellow granular media

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
7.10-7.50

Cultural Response
M075: Cultural characteristics observed after an incubation at 25-30°C for 48-72 hours.

Organism	Inoculum (CFU)	Growth	Recovery
# *Aspergillus brasiliensis* ATCC 16404 (00053*)	50-100	luxuriant	>=50%
Candida albicans ATCC 10231 (00054*)	50-100	luxuriant	>=50%
Saccharomyces cerevisiae ATCC 9763	50-100	luxuriant	>=50%

Key : * -Corresponding WDCM numbers # Formerly known as *Aspergillus niger*

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

References

1. Thom and Church, 1926, The Aspergilli, 39.
2. Lipps WC, Braun-Howland EB, Baxter TE,eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
4. Jorgensen,J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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