
CZAPEK MEDIUM

INTENDED USE

Remel Czapek Medium is a solid medium recommended for use in qualitative procedures for the cultivation of saprophytic fungi, soil bacteria, and other microorganisms.

SUMMARY AND EXPLANATION

This medium was originally developed by Czapek in 1902 for the cultivation of saprophytic fungi.¹ The current formulation was developed by Thom and Church.² In further testing, Thom and Raper evaluated this formula in comparative studies with saprophytic aspergilli.³ They reported that Czapek Agar will produce vigorous growth of nearly all saprophytic aspergilli and will yield characteristic mycelia and conidia. Raper and Thom used the medium for taxonomic studies of *Penicillium*.⁴ Czapek Medium is recommended in *Standard Methods for Examination of Water and Wastewater* for use in the isolation of *Aspergillus*, *Penicillium*, and related fungi.⁵

PRINCIPLE

Czapek Medium is a solid, neutral, chemically defined medium containing sodium nitrate as the sole source of nitrogen. Fungi and bacteria capable of utilizing this inorganic nitrogen source will grow. Saccharose is an energy source and the sole source of carbon. Dipotassium phosphate is a buffering agent, potassium chloride contains essential ions, and magnesium sulfate and ferrous sulfate are sources of cations.

REAGENTS (CLASSICAL FORMULA)*

Saccharose	30.0 g	Potassium Chloride	0.5 g
Sodium Nitrate	2.0 g	Ferrous Sulfate	0.01 g
Dipotassium Phosphate	1.0 g	Agar	15.0 g
Magnesium Sulfate	0.5 g	DeminerIALIZED Water	1000.0 ml

pH 7.3 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PROCEDURE

1. Inoculate the material for testing by thinly spreading the sample on the surface of the agar medium.
2. Incubate aerobically at 25-30°C for 1 to 2 weeks.
3. Examine plate for growth at regular intervals.
4. Subculture each colony type to appropriate media for isolation. Identify each colony type following established laboratory procedures.

Pour Tube: Melt the pour tube in a boiling water bath and cool to 45-50°C. Mix and dispense into a sterile petri dish and proceed with the instructions above.

QUALITY CONTROL

All lot numbers of Czapek Medium have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, patient results should not be reported.

CONTROL

Aspergillus niger ATCC® 16404

INCUBATION

Aerobic, 10 days @ 25-30°C

RESULTS

Growth

BIBLIOGRAPHY

1. Czapek, F. 1902-1903. Beitr. Chem. Physiol. Pathol. 1:540.
2. Thom, C. and M.B. Church. 1926. The Aspergilli. Williams & Wilkins, Baltimore, MD.
3. Thom, C. and K.B. Raper. 1945. Manual of Aspergilli. Williams & Wilkins, Baltimore, MD.
4. Raper, K.B. and C. Thom. 1949. Manual of Penicillia. Williams & Wilkins, Baltimore, MD.
5. Clesceri, L.S., A.E. Greenberg, and A.D. Eaton. 1998. Standard Methods for the Examination of Water and Wastewater. 20th ed. APHA, Washington, D.C.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.

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