CZAPEK DOX AGAR

PRODUCTS:

Plated Media:

Czapek Dox Agar	P1478
Czapek Yeast Extract Agar	P1480

Tubed Media:

Czapek Dox Agar	T6360 (deep)

PURPOSE:

Czapek Dox Agar is a solid synthetic media used for the cultivation of saprophytic fungi and other microorganisms.

PRINCIPLE:

Czapek Dox Agar was described by Czapek[2] in 1902 and Dox[3] in 1910, and is designed for the cultivation and identification of saprophytic fungi and nonfastidious bacteria. The media is synthetic and includes sodium nitrate as its sole source of nitrogen and sucrose as its sole source of carbon. Fungi and bacteria capable of using inorganic nitrogen will grow on the media. The media is recommended as a subculture media for filamentous fungi, such as *Aspergillus, Penicillium*, and *Nocardia* species.

The addition of yeast extract to Czapek Dox Agar is designed for the cultivation and maintenance of *Aspergillus brasiliensis* used in the production of food enzymes and citric acid[1].

FORMULAS:

Approximate, per liter deionized filtered water.

(1) Czapek Dox Agar

Sucrose	30.0 g
Sodium Nitrate	3.0
Dipotassium Phosphate	1.0
Magnesium Sulfate	0.5
Potassium Chloride	0.5
Agar	15.0
Ferrous Sulfate	10.0 mg

Final pH 7.3 ± 0.2 at 25°C

(2) Czapek Yeast Extract Agar

Same as **(1)** with the addition of 5.0 g yeast extract.

PRECAUTIONS:*

For *in vitro* diagnostic use. Observe approved biohazard precautions.

Storage: Upon receipt store at 2-8°C away from direct light. Media should not be used if there are signs of contamination, deterioration (shrinking, cracking, or discoloration), or if the expiration date has passed.

Limitations: Growth on this media is for presumptive identification only. Further subculture and biochemical testing is required to establish definitive identification.

The taping of plates may be necessary to reduce dehydration and aerial dissemination of spores.

PROCEDURE:*

Specimen Collection: Not applicable since this media is not for primary isolation. This media is used in characterizing pure cultures. Isolated organisms, established isolation techniques, and tests for purity are necessary before inoculating this media. Direct inoculation of specimens will produce erroneous results. Information on specimen collection may be found in standard reference texts.

Method of Use:

Prepared Plated Media: Prior to inoculation, the media should be brought to room temperature. The specimen may be inoculated directly onto the media by pressing the specimen lightly into the surface of the agar, or a small amount of fungus may be placed onto the surface of the agar.

Tubed Agar Media: To prepare plated media from a pour tube containing agar, heat the tube in a boiling water bath until the agar is melted, cool to 50°C, pour the melted media into a sterile petri dish, and cool at room temperature to solidify. Inoculate lightly.

In general, plates should be incubated at room temperature; however, the media may be incubated at optimal temperatures for suspected organisms; *Aspergillus* species at 30°C; *Penicillium* species at 20-25°C. Incubate aerobically for 1-2 weeks.

Interpretation: Examine and record each type of colony morphology; subculture to appropriate plated media and perform microscopic examinations to obtain definitive identification.

Materials Required but Not Provided: Standard microbiological supplies and equipment such as those products commonly used in a microbiological laboratory are not provided.

QUALITY CONTROL:

Microorganisms Used (ATCC #):	**Expected Results:**
Trichophyton mentagrophytes (9533)	Growth
Candida albicans (10231)	Growth
Candida albicans (60193)	Growth
Aspergillus brasiliensis (16404)	Growth with sporulation
Nocardia asteroides (19247)	Growth (tubed media only)

User Quality Control: Check for signs of contamination and deterioration. Prepared culture media should appear slight opalescent and light amber in color. The media may contain precipitates and will not affect performance.

BIBLIOGRAPHY:

1. Atlas, R.M. *Handbook of Microbiological Media*, CRC Press, LLC, Boca Raton, Fl., 2004.
2. Czapek, F., *Chem. Physiol. Pathol.*, *1*:540, 1902-1903.
3. Dox, A. W., *U. S. Dep. Agr., Anim. Ind. Bull.*, *10*:170, 1910.
4. Haynes, W. C., et al., *Applied Microbiol.*, *3*:361, 1955.
5. Koneman, E. W., et al., *Color Atlas and Textbook of Diagnostic Microbiology*, 5th ed., J. B. Lippincott, Philadelphia, 1997.
6. Murray, P.R., et al., *Manual of Clinical Microbiology*, 9th ed., American Society for Microbiology, Washington, D. C., 2007.
7. Thom, C. and K. B. Raper, *Manual of Aspergilli*, Williams and Wilkins, Baltimore, 1945.

*For more detailed information, consult appropriate references.

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