



Czapek Malt Agar

M732

Czapek Malt Agar is recommended for isolation, detection and cultivation of saprophytic fungi, yeasts and moulds.

Composition**

Ingredients	Gms / Litre
Malt extract	40.000
Sucrose	30.000
Sodium nitrate	2.000
Potassium chloride	0.500
Magnesium sulphate	0.500
Ferrous sulphate	0.010
Dipotassium phosphate	1.000
Agar	20.000
Final pH (at 25°C)	6.8±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 94.01 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. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Saprophytic fungi are the largest group of fungi, which grow on dead organic matter such as fallen trees, cow patties, dead leaves, and even dead insects and animals. These fungi have enzymes that work to “rot” or “digest” the cellulose and lignin found in the organic matter, with the lignin being an important source of carbon for many organisms. *Penicillium*, commonly known as “bread mould”, is a saprophytic fungus that has various industrial applications both in food and environment.

Czapek Malt Agar is used for isolation, detection and cultivation of saprophytic fungi, yeasts and moulds, mainly for *Penicillium* (1).

This medium contains sodium nitrate as the sole source of nitrogen. Sucrose and malt extract serves as the carbohydrate sources for the growing fungi. Various salts in the medium not only buffer the medium but also provide essential ions to the fungi. Slightly acidic pH of the medium favours the growth of saprophytic fungi.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 2.0% Agar gel

Colour and Clarity of prepared medium

Medium amber coloured, slightly opalescent gel forms in Petri plates

Reaction

Reaction of 9.4% w/v aqueous solution at 25°C. pH : 6.8±0.2

pH

6.60-7.00

Cultural Response

M732: 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	50-100	good-luxuriant	

<i>Candida albicans</i> ATCC 10231	50-100	good-luxuriant	$\geq 70\%$
<i>Saccharomyces cerevisiae</i> ATCC 9763	50-100	good-luxuriant	$\geq 70\%$
<i>Penicillium notatum</i> ATCC 10108	50-100	luxuriant	

* Key : Formerly known as *Aspergillus niger* ATCC 16404

Storage and Shelf Life

Store below 30°C in tightly closed container and prepared medium at 2-8°C. Use before expiry period on the label.

Reference

1. Booth C., (Ed.), 1971, Methods in Microbiology by Norris J.R. and Ribbons, D.W., Vol. 4, Academic Press, London.

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