Calcium Carbonate Agar

M1900

Recommended for the differentiation of microorganisms especially yeasts based on the production of acid from glucose.

Composition**

Ingredients	Gms / Litre
Calcium carbonate (fine, granulated)	5.000
Glucose	50.000
Yeast extract	5.000
Agar	15.000

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 75 grams in 1000 ml distilled water. Heat to boiling to digest the agar completely.DO NOT AUTOCLAVE.A residue of calcium may remain. Pour into sterile Petri plates, by evenly distributing the residue.

Principle And Interpretation

Yeasts and Moulds form a very large group of microorganisms,with most coming from the air,water or soil. Yeasts are unicellular, eukaryotic, budding cells that are generally round oval or elongate in shape (1). They multiply principally by the production of blastoconidia (buds) (1). Yeast colonies are moist and creamy or glabrous to membranous in texture and are considered opportunistic pathogens. Moulds are microscopic, plant-like organisms, composed of long filaments called hyphae.Calcium Carbonate Agar is differentiation agar recommended by Kurtzman and Fell (2)for the identification of yeasts. Yeast extract provide the nitrogen, vitamins and amino acids for growth. Glucose is the fermentable carbohydrate.Calcium carbonate serves as indicator as it makes the plate milky and turbid and in case of acid is produced the media clears up. The acid is produced due to characteristic fermentation of glucose,which alongwith calcium carbonate results in forming, calcium acetate,that gets soluble in water. Yeasts from the genus Dekkera (Bretanomyces) forms acetic acid and show a positive result. Sometimes the acid production is quite weak. Also some other yeasts like *Candida* species produce some citric acid and show a weak positive reaction

Quality Control

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 forms in Petri plates

Cultural Response

Cultural characteristics observed after an incubation at 25-30°C for 24-72 hours with added Tetracycline at a final concentration of 10mcg/ml.

Cultural Response

Organism	Inoculum (CFU)	Growth	Acid production	Recovery
Cultural Response				
Candida albicans ATCC 10231	50-100	good	Weakly positive	>=50%
Saccharomyces cerevisiae ATCC 9763	50-100	good	Negative	>=50%

Storage and Shelf Life

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

Reference

1. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Ed.). 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
2. C.P. Kurtzman, J.D. Fell (ed.), The yeast, a taxonomic study, 4th edition, Elsevier (1998)

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