



## 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 provides 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 along with 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 |
|---|----------------|--------|-----------------|----------|
| <b>Cultural Response</b>                  |                |        |                 |          |
| <i>Candida albicans</i> ATCC 10231        | 50-100         | good   | Weakly positive | >=50%    |
| <i>Saccharomyces cerevisiae</i> 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 Tenover F. C., (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)

Revision : 0 / 2013



### Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.