Candida BCG Agar Base M355

Candida BCG Agar Base with neomycin addition is used for primary isolation and identification of *Candida* species.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Yeast extract	1.000
Dextrose	40.000
Bromocresol green	0.020
Agar	15.000
Final pH (at 25°C)	6.1±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 66 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. Cool to 50°C and add sterile neomycin to a concentration of 500 µg/ml of medium. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Candida albicans is most frequently isolated from clinical specimens. Species of *Candida* , other than *C. albicans* are normal flora of cutaneous and mucocutaneous surfaces and are only rarely incriminated as agents of clinical disease (1). Of the many media used for isolating and differentiating *Candida* , Pagano Levin Base (M1390) employes TTC (Triphenyl Tetrazolium Chloride) as an indicator. Harold and Snyder (2) observed that the TTC used greatly retards the growth of some Candida species, while completely inhibiting the rest. Therefore to overcome this difficulty, they formulated Candida BCG Agar, which employs bromocresol green instead of TTC as the indicator.

Candida BCG Agar Base is used to obtain pure yeast colonies from mixed cultures on the basis of colony morphology (3, 4).

Peptic digest of animal tissue along with yeast extract and dextrose serve as sources of essential nutrients, amino acids and vitamins. Dextrose also serves as a source of energy by being the fermentable carbohydrate. Bromocresol green is non-toxic indicator incorporated to visualize the fermentation reaction. Selectivity is obtained by the addition of neomycin. Neomycin is incorporated to inhibit gram-negative bacteria and some gram-positive bacteria. Neomycin is an aminoglycoside antibiotic that is active against aerobic and facultatively anaerobic gram-negative bacteria and certain gram-positive bacteria. Bromocresol green is the indicator. Acid production due to fermentation lowers the pH of the medium and subsequently the colour of medium changes to yellow, indicated by yellow zones around the dextrose-fermenting colonies. *C. albicans* appears as blunt conical colonies with smooth edges and yellow to blue green colour. Other *Candida* species appear as smooth to rough colonies, with either convex or cone shaped colonies. (5). Standard methods should be followed for inoculating the plates of Candida BCG Agar. Presumptive *Candida* colonies should be further identified by gram staining, biochemical and serological testing (6, 7, 8).

Quality Control

Appearance

Cream to light green homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Bluish green coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 6.6% w/v aqueous solution at 25°C. pH : 6.1±0.2

Cultural Response

M355: Cultural characteristics observed with added sterile Neomycin (500 mcg/ml of medium) after an incubation at 25-30°C 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of medium		

Candida albicans ATCC 10231	50-100	good-luxuriant	>=50%	yellow		
Candida glabrata ATCC 15126	50-100	good-luxuriant	>=50%	yellow		
Candida kruisei ATCC 24408	50-100	good-luxuriant	>=50%	yellow		
Candida tropicalis ATCC 1369	50-100	good-luxuriant	>50%	yellow		
Escherichia coli ATCC 25922	>=10^3	inhibited	0%			
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	0%			

Reference

1. Konemann E. W., Allen S. D., Janda M. W., Schreckenberger P.C, Winn C. W. Jr., 1992, Colour Atlas and Text book of Diagnostic Microbiology,4th Ed. J. B. Lippincott Company.
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3. Haley L. D., and Callaway C. S., 1978, Laboratory Methods in Medical Mycology, 4th Ed., U.S. Government Printing Office, Washington, D.C.
4. Haley L. D., Trandel J., Coyle M. B. and Sherris J. C., 1980, Practical Methods for Culture and Identification of Fungi in the Clinical Microbiology Laboratory, CUMITECH II, Washington D.C.: American Society For Microbiology
5. Atlas R. M., 2004, Handbook of Microbiological Media, 3rd Ed., CRC Press.
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Storage and Shelf Life

Store below 30°C and the prepared medium at 2-8°C. Use before expiry date on the label.