Brain Heart CC Agar

M209

Brain Heart CC Agar is used for selective isolation and cultivation of fastidious pathogenic fungi from specimens heavily contaminated with bacteria and saprophytic fungi.

Composition**

Ingredients	Gms / Litre
Calf brain, infusion from	200.000
Beef heart infusion from	250.000
Proteose peptone	10.000
Dextrose	2.000
Sodium chloride	5.000
Disodium phosphate	2.500
Chloramphenicol	0.050
Cycloheximide	0.500
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 52.5 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. Avoid excess heat as it may reduce the selectivity of the medium. Mix well and pour into sterile Petri plates.

Warning : Cycloheximide is very toxic. Avoid skin contact or aerosol formation and inhalation.

Principle And Interpretation

Brain Heart CC Agar is formulated as per Ajello et al. (1) and McDonough, et al. (2). This medium is recommended for selective isolation of pathogenic fungi (3). Chloramphenicol is a broad-spectrum antibiotic, which inhibits the growth of wide range of gram-positive and gram-negative bacteria. Cycloheximide inhibits most saprophytic moulds and enhances the isolation of pathogenic fungi.

This medium contains beef heart and calf brain infusion and proteose peptone to supply the necessary nutrients to support the growth of fastidious pathogenic fungi. Dextrose is a carbohydrate source and disodium phosphate buffers the medium. The medium may be further enriched with 10% sheep blood to isolate systemic fungi that grow poorly on non-enriched medium. Also the addition of Gentamicin, 50 mcg/ml of medium, improves the selectivity. The antibiotics in this medium may inhibit some fungi. The addition of blood makes Brain Heart Infusion CC Agar suitable for the isolation of the tissue phase of *Histoplasma capsulatum* and other pathogenic fungi, including *Coccidioides immitis* .

While handling *Histoplasma capsulatum* extreme care should be taken to avoid dissemination of its infective spores. The culture should be examined in a closed filtered air cabinet. Isolation of fungi from contaminated specimens can be done by inoculating selective medium along with nonselective medium and incubated at 25-30°C. For isolation of fungi causing systemic mycoses two sets of media should be inoculated with one set incubated at 23-30°C and a duplicate set at 35-37°C. Examine the plates for at least a week.

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 amber coloured, clear to slightly opalescent gel forms in Petri plates.

Reaction
Reaction of 5.25% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH
7.20-7.60

Cultural Response
M209: Cultural characteristics observed after an incubation at 25-35°C for 40-96 hours.(Trichophyton species incubated for 102 weeks)

Organism	Growth
Cultural Response	
Aspergillus brasielensis ATCC 16404	inhibited
Blastomyces dermatidis ATCC 14112	good
Candida tropicalis ATCC 1369	inhibited
Candida albicans ATCC 26790	fair-good
Escherichia coli ATCC 25922	inhibited
Histoplasma capsulatum ATCC 10230	good
Trichophyton megninii ATCC 12106	good-luxuriant
Trichophyton mentagrophytes ATCC 9533	good-luxuriant
Trichophyton tonsurans ATCC 10220	good-luxuriant

Storage and Shelf Life
Store dehydrated powder medium and prepared medium at 2 - 8°C . Use before expiry date on the label.

Reference
1. Ajello L., George L., Kaplan W., and Kaufman L., 1966, CDC Laboratory Manual of Medical Mycology, Atlanta, Ga: US. DHEW, Center for Disease Control.
2. McDonough E., George L., Ajello L., and Brinkman S., 1960, Mycopathol. Mycol. Appl; 13:113.
3. Murray P. R., Baron E. J., Jorgensen J. H., Pfaller M. A., Yolken R.H. (Eds.), 8th ed., 2003, Manual of Clinical Microbiology, ASM, Washington, D.C.

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