

TECHNICAL PRODUCT INFORMATION

Brain Heart Infusion Agar w/Chloramphenicol & Cycloheximide Catalog No.: T1153

INTENDED USE:

This medium is recommended for use in the cultivation of a wide variety of microorganisms including pathogenic fungi.

HISTORY/SUMMARY:

This medium has proven to be effective as a base medium for aerobic bacteriology and for the primary recovery of fungi from clinical specimens¹. Cook² and Robinson et al³ used chloramphenicol to inhibit bacteria. Saprophytic fungi were also inhibited by employing Cycloheximide and chloramphenicol⁴. Brain Heart Infusion medium is recommended by the Compendium of Methods for the Microbiological Examination of Foods⁵ and the Association of Official Analytical Chemists.

PRINCIPLES:

This medium contains meat infusion, peptone and dextrose which provide nitrogen, carbon, sulfur, vitamins and a carbohydrate source. Sheep blood provides essential growth factors for fastidious fungi. Yeast extract may be incorporated in the medium to serve as a growth stimulant. Chloramphenicol is a broad spectrum antibiotic which inhibits a range of gram-positive and gram-negative organisms. Cycloheximide will inhibit rapidly growing saprophytic fungi that could overgrow slower-growing pathogens. However, cycloheximide will also inhibit the growth of some significant pathogens, e.g., *Cryptococcus neoformans*, *Aspergillus fumigatus*, *Aspergillus niger* and *Pseudallescheria boydii*.

FORMULA:

Brain Heart Infusion Agar w/Chloramphenicol and Cycloheximide

Components (per liter of purified water)	Amount
Brain Heart Infusion from Solids	8.0 g
Peptic Digest of Animal Tissue	5.0 g
Sodium Chloride	5.0 g
Disodium Phosphate	2.5 g
Pancreatic Digest of Casein	16.0 g
Dextrose	2.0 g
Agar	13.5 g
Chloramphenicol	0.05 g
Cycloheximide	0.5 g

Final pH: 7.4 ± 0.2 @ 25°C.

PRECAUTIONS:

This medium is for In Vitro Diagnostic Use. It supports the growth of pathogens and should be handled with caution by adequately trained personnel under the supervision of a microbiologist.

STORAGE:

This media should be stored at 2-8°C. Adequate storage prolongs the life and quality of the product. Do not use the media beyond its expiration date.

SPECIMEN COLLECTION, STORAGE AND TRANSPORTATION

Scraping and clippings of nails, especially near the bed of the nail, are collected in a sterile container after careful washing of the site with alcohol to remove debris and traces of medication. In lesions involving the skin, scrapings are obtained with a scalpel after cleaning with alcohol. Mucocutaneous specimens are obtained by scraping the surface with a blade. Sterile cotton swabs are appropriate for sampling oral and vulvo-vaginal surfaces. Fluids are collected by routine procedure in a sterile container and centrifuged. Sputum and stools are collected in the usual manner. A gram stain should be performed on smears of clinical material to search for mycelia, pseudo-mycelia and budding forms.

PROCEDURE:

Inoculate and streak the specimen as soon as possible after it is received in the laboratory.

A selective and nonselective medium should be inoculated for isolation of fungi from potentially contaminated specimens. Incubate at 25°C to 30°C for up to 4 to 6 weeks in an aerobic atmosphere.

Examine for fungal colonies exhibiting typical color and morphology.

QUALITY CONTROL:

All lot numbers of Brain Heart Infusion Agar w/CC have been tested using the following quality control organisms and have been found to be acceptable. This quality assurance testing conforms with or exceeds NCCLS standards.

PERFORMANCE CHARACTERISTICS:

Organisms	Incubation	Results
ATCC 10231 <i>Candida albicans</i>	Aerobic, up to 7 days @ 25-30°C	Growth
ATCC 9533 <i>Trichophyton mentagrophytes</i>	Aerobic, up to 7 days @ 25-30°C	Growth
ATCC 25922 <i>Escherichia coli</i>	Aerobic, up to 7 days @ 25-30°C	Inhibition (partial to complete)
ATCC 16404 <i>Aspergillus brasiliensis</i>	Aerobic, up to 7 days @ 25-30°C	Inhibition (partial to complete)

REFERENCES:

- 1) Lennette, E., A Balows, W.J. Hausler, Jr. and H.J. Shadomy, Manual of Clinical Microbiology, 4th edition, 1985.
- 2) J. Lab. And Clin. Med., 67:355, 1953.
- 3) J. Infect. Dis., 74:131, 1944.
- 4) J. Lab. An Clin. Med., 44:422, 1954.
- 5) Speck (ed.), Compendium of Methods for the Microbiological Examination of Foods, 2nd edition, American Public Health Association, Washington, D.C., 1984.
- 6) Association of Official Analytical Chemists (AOAC), U.S. Food and Drug Administration, Bacteriological Analytical Manual, 6th edition, Arlington, VA, 1984.
- 7) National Committee for Clinical Laboratory Standards. Quality Assurance Standards for commercially prepared microbiological culture media; NCCLS publication M22-1, Villanova, Pennsylvania, 1990.
- 8) Acumedia Manufacturers, Inc., Product Information, Brain Heart CC Agar, Catalog No. 7214.