

## PRODUCT INFORMATION AND QUALITY CONTROL SHEET

# MODIFIED CELLULOSE AGAR

### I. INTENDED USE

Cellulose Agar is used for the isolation, cultivation and enumeration of mold and fungi, especially *Stachybotrys* species. The media is modified from traditional formulation by the addition of Chloramphenicol.

### II. SUMMARY AND EXPLANATION

The growth requirements for fungi may vary from strain to strain, although cultures of the same species and genera tend to grow on similar media, therefore the source of isolates can give an indication of suitable growth conditions<sup>1</sup>. Many fungi are able to degrade cellulose by the production of cellulase (a group of enzymes, which hydrolyze cellulose). These cellulose destroying fungi, such as *Trichoderma*, *Chaetomium* and *Stachybotrys* have been shown to retain their ability to produce cellulase on culture media containing cellulose<sup>1</sup>. While recovery of fungal isolates can be difficult due to competition from other more aggressive organisms, cultures can be easily grown under laboratory conditions on selective media. Cellulose agar has been recommended for the recovery of *Stachybotrys* and *Chaetomium* spp.<sup>2</sup>.

### III. PRINCIPLES OF THE PROCEDURE

Cellulose serves as an energy source, sodium nitrate provides nitrogen, potassium phosphate serves as a buffering agent, and magnesium sulfate is a source of divalent cations and sulfate. Potassium chloride provides essential ions necessary for molds to flourish and Chloramphenicol inhibits the growth of competing bacteria.

### IV. TYPICAL FORMULA AND APPEARANCE

Appearance = white, opaque

(Approximate formula\* per liter of processed water)

Cellulose	20.0 g
Sodium Nitrate	2.0
Potassium Phosphate Dibasic	1.0
Magnesium Sulfate (Anhydrous)	0.5
Potassium Chloride	0.25
Agar	15.0
Chloramphenicol	0.1

\*adjusted and/or supplemented to meet performance criteria.

Final pH: 7.0 ± 0.2 @ 25°C

### V. PRECAUTIONS

This product is for IN VITRO diagnostic use only. Culture specimens may contain microorganisms, which can be potentially infectious to the user. Strict adherence to aseptic techniques and established precautions against microbiological hazards should be followed throughout the procedure. Carefully dispose of all items which contact specimens.

### VI. STORAGE/SHELF LIFE

Plated media should be stored at 2-8°C (36-46°F), media side up, in the unopened or resealed package protected from light. DO NOT FREEZE OR EXPOSE TO HIGH TEMPERATURES. Allow unopened plates to warm to room temperature prior to inoculation. Prior to and during inoculation procedures, plates should be handled in a manner that minimizes product exposure to the environment. Product that has exceeded the assigned expiration date noted on the label should not be used. Do not use plates that exhibit evidence of drying, cracking, discoloration, microbial contamination or any other signs of deterioration. The presence of excessive condensate may indicate plates that have been damaged by exposure to temperature extremes.

### VII. SPECIMEN COLLECTION

The quality of culture results depends primarily on the adequacy and condition of the specimen submitted for

examination. Proper specimen collection techniques must be followed to ensure the most accurate culture results. Consult appropriate references for information about the processing and inoculation of specimens for fungal culture. Sterile swabs and collection containers should be used. Plates should be inoculated promptly after specimen collection.

### VIII. MATERIALS PROVIDED

Modified Cellulose Agar w/0.01% Chloramphenicol Plates (10/pkg)

### IX. MATERIALS REQUIRED BUT NOT PROVIDED

Ancillary culture media, reagents and laboratory equipment as required.

### X. PROCEDURE

Inoculate the specimen as soon as possible after it is received in the laboratory. Reference texts should be consulted for detailed information on processing and inoculating specimens for fungal culture.

Incubate the inoculated plates at 22-35°C, agar side up for up to one week. Examine cultures at least every other day for fungal growth.

### XI. EXPECTED RESULTS

NCCLS CONTROL ORGANISMS (ATCC STRAINS)

*Chaetomium globosum* Growth, brown to olive color (ATCC 6205)

*Escherichia coli* Inhibition (partial to complete) (25922)

### XII. LABORATORY RESULTS

Identification of fungal organisms may be made on the basis of typical gross colony morphology, microscopic characteristics, and physiologic and pathologic characteristics. Additional test procedures should be used to confirm findings.

### XIII. LIMITATIONS

The ability to detect yeasts, molds and fungi by culture techniques can be affected by the following factors: improper specimen collection, storage and inoculation, improper culture incubation temperatures and atmospheres, improper length of culture incubation, and improper storage and handling of culture media.

### XIV. REFERENCES

1. Smith & Onions: The Preservation and Maintenance of Living Fungi, 2<sup>nd</sup> Ed., 1994
2. Billups, R.A., Tilton, K.S. and Warden, P.S., 1999. Identification of *Stachybotrys chartarum* Utilizing Various Media and Two Temperature Settings. Analytical Services, Inc.
3. Billups, R.A. 1999. Enhanced Recovery of *Stachybotrys chartarum* From Environmental Samples. Analytical Services, Inc.

## USER QUALITY ASSURANCE/ QUALITY CONTROL PROCEDURES AND INFORMATION

HealthLink recommends that the following quality assurance and quality control procedures be performed on each batch of product.

### I. QUALITY ASSURANCE

The following quality assurance procedures must be performed to assure the product will perform according to its intended use

within the assigned expiry date:

1. Daily, document that product storage refrigerator maintains temperature within 2-8°C.
2. Daily, document that laboratory incubator maintains temperature within the recommended range: 22-35°C.

## **II. QUALITY CONTROL**

The following incoming inspection procedures must be performed for each batch (batch = same lot, same shipment) of culture media received in the laboratory:

Inspect plates according to instructions contained in the Section VI "STORAGE/SHELF LIFE"

Note: Notify Technical Service immediately if media does not meet the inspection criteria.

## **TECHNICAL SERVICE**

HealthLink provides a toll free technical service line (1-800-638-2625) to assist with product usage. To have technical questions answered; please call between the hours of 9:00 am to 5:00 pm EST.

**HealthLink**  
**3611 St. Johns Bluff Rd. So. Ste. 1**  
**Jacksonville, FL 32224**

**1-800-638-2625**

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Product No. 1018 – 10 plates per pkg  
1023 (deep dish) – 10 plates/pkg

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