HealthLink
800-638-2625

Product No. 1010
Revision No. 01

PRODUCT INFORMATION AND QUALITY CONTROL SHEET

BiGGY AGAR

I. INTENDED USE

BiGGY Agar is a selective and differential medium used for the isolation of *Candida* species.

II. SUMMARY AND EXPLANATION

BiGGY Agar, also referred to as Nickerson Medium, was developed by Nickerson to isolate and differentiate *Candida* species on the basis of reduction of an inorganic substance, sulfite.[1] Species differentiation, according to Nickerson after 48 hours of incubation, may be determined based on colonial morphology and color diffusion into the medium. The inhibitory characteristics of the medium make it suitable for isolation of *Candida* species from specimens containing mixed microbial flora.

III. PRINCIPLES OF THE PROCEDURE

Bismuth sulfite in the formula inhibits bacterial growth while most of the *Candida* grow rapidly. *Candida* reduce the bismuth sulfite and form brown to black colonies. Dextrose, glycine and yeast extract are included as energy sources.

IV. TYPICAL FORMULA AND APPEARANCE

(Approximate formula* per liter of processed water)

Appearance: white to off-white, opalescent with flocculant precipitate

Bismuth Ammonium Citrate	5.0 g
Sodium Sulfite	3.0
Dextrose	10.0
Glycine	10.0
Yeast extract	1.0
Agar	16.0

*adjusted and/or supplemented to meet performance criteria.

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 patient specimens or isolated bacteria. (See Material Safety Data Sheet for further information.)

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 which 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 which 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. Sterile swabs and collection containers should be used. Plates should be inoculated promptly after specimen collection. If a delay in inoculation is unavoidable, transport medium should be employed. Specimens should be collected prior to the initiation of antimicrobial therapy.

Detailed information on proper specimen collection may be obtained from microbiology reference materials.

VIII. MATERIALS PROVIDED

BiGGY Agar Plates and lot specific Quality Control Certificate.

IX. MATERIALS REQUIRED BUT NOT PROVIDED

Incubator maintaining 22-35°C.
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. The streak plate method is used primarily to isolate pure cultures from specimens containing mixed flora. If material is being cultured directly from a swab, roll the swab over a small area of the plate surface at the edge (approximately 1/4 to 1/3 of the plate); then streak in a zig-zag fashion with a sterile loop from this inoculated area to cover the entire agar surface. Avoid applying excessive pressure to the agar surface during inoculation to prevent gouging and splitting of the agar media. (Note: Agar surfaces should be smooth and moist but free of excessive moisture which could cause confluent growth patterns.) Incubate plates media side up at 22-35°C for 48 hours in an aerobic atmosphere.

A nonselective medium should also be inoculated to optimize recovery of enteric pathogenic organisms. This is especially valuable when the total gram negative population is low and to provide an indication of other organisms present in the specimen.

XI. EXPECTED RESULTS

NCCLS Control Organisms (ATCC Strains)

Candida albicans (ATCC 10231)	Dark brown-black colonies with no color diffusion into the medium
Escherichia coli (ATCC 25922)	No growth to inhibited growth
Staphylococcus aureus (ATCC 25923)	No growth to inhibited growth

XII. LABORATORY RESULTS

This media is intended to be used as a primary isolation medium. Presumptive identification of organisms may be based on typical organism morphology and wet mount or Gram stain. The following descriptions are typical colonial morphology on BiGGY agar according to Nickerson:

C. albicans	Smooth dark brown to black colonies with slight mycelial fringe, no diffusion.
C. tropicalis	Dark brown colonies with black centers and sheen, diffuse blackening of the medium after 72 hours of incubation.
C. pseudotropicalis	Dark reddish brown colonies, flat with slight mycelial fringe
C. krusei	Flat wrinkled colonies with silvery black top, brown edge and yellow halo
C. parakrusei	Flat wrinkled colonies with reddish-brown color and yellow mycelial fringe

XIII. LIMITATIONS

The ability to detect microorganisms by culture techniques can be affected by the following factors: improper specimen collection, storage and inoculation , initiation of antiinfective therapy prior to specimen collection, improper culture incubation temperatures and atmospheres, improper length of culture incubation, and improper storage and handling of culture media.

XIV. REFERENCES

1. Nickerson, W.J. 1953. Reduction of inorganic substances by yeasts. I. Extracellular reduction of sulfite by species of Candida . J. Inf. Dis. 93:43-56.
2. Lennette, E.H., ed. 1985. Manual of Clinical Microbiology, 4th ed. American Society for Microbiology, Washington, D.C.
3. Finegold, S.M. and W.S. Martin. 1982. Bailey and Scott's Diagnostic Microbiology, 6th ed. C.V. Mosby Company, St, Louis.
4. Koneman, E.S., S.D.Allen, V.R. Dowell, Jr. and H. M. Sommers. 1983. Color Atlas and Textbook of Microbiology, 2nd ed. J.B. Lippincot Company, Philadelphia.

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 the recommended range: 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 :

1. Inspect plates according to instructions contained on the "Quality Control Log Sheet." (See also Section VI "STORAGE/SHELF LIFE")
2. Peel off the lower portion of a product bag label (Quality Control Certificate) for the lot being accepted into the laboratory and affix it to the Quality Control Log Sheet.
3. Initial and date the Quality Control Log Sheet.

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 receive additional product information, procedural instructions, QA/QC log sheets, Material Safety Data Sheets, or to have technical questions answered; please call between the hours of 9:00 am to 5:00 pm EST.

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1-800-638-2625

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