HealthLink
800-638-2625

Product No. 1714
Revision No. 01

PRODUCT INFORMATION AND QUALITY CONTROL SHEET

BiGGY AGAR TUBES

I. INTENDED USE

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

II. SUMMARY AND EXPLANATION

Nickerson described Bismuth Sulfite Glucose Glycine Yeast (BiGGY) Agar in 1953 following a study of sulfite reduction by species of Candida (3). BiGGY Agar may be utilized for isolation of Candida species based on growth patterns and pigmentation of colonies.

III. PRINCIPLES OF THE PROCEDURE

Heat processing initiates a reaction between bismuth ammonium citrate and sodium sulfite to produce a "bismuth-sulfite" which species of Candida are able to reduce. Bismuth sulfite suppresses bacterial growth and is reduced by Candida to produce a brown-black pigment. Appreciable amounts of sulfide resulting from the sulfite reduction combine with the bismuth to precipitate or impart a brown-black color to the colonies on the medium. The yeast extract and glucose in this medium provide the nutrients to stimulate growth.

IV. TYPICAL FORMULA AND APPEARANCE

(Approximate formula* per liter of processed water)

Appearance = white to off-white, amber, slightly opalescent

Bismuth Ammonium Citrate	5.0 g
Sodium Sulfite	3.0
Dextrose	10.0
Yeast Extract	1.0
Glycine	10.0
Agar	15.0

pH 6.8 ±0.3 @ 25°C

*adjusted and/or supplemented to meet performance criteria.

V. PRECAUTIONS

This product is for IN VITRO diagnostic use and should be used by properly trained individuals. Precautions should be taken against the dangers of microbial hazards. Specimens, containers and media should be sterilized after use.

VI. STORAGE/SHELF LIFE

This media is ready for use and no further preparation is necessary. The medium should be stored at about 8°C in the original container until used.

Do not use tubes that exhibit evidence of drying, cracking, discoloration, microbial contamination or any other signs of deterioration.

VII. SPECIMEN COLLECTION

Information on proper specimen collection may be obtained from microbiology reference materials. A fresh early morning specimen is recommended for sputum cultures. Abscess specimens may be collected with a syringe. Bacterial contamination should be avoided as much as possible. Specimens should be inoculated onto media prior to shipment. Specimens should be collected prior to treatment.

VIII. MATERIALS PROVIDED

BiGGY Agar tubes

IX. MATERIALS REQUIRED BUT NOT PROVIDED

None

X. PROCEDURE

Inoculate the specimen as soon as possible after it is received in the laboratory. The streak 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 agar surface at the edge (approximately 1/4 to 1/3 of the agar); then streak in a zig-zag fashion with a sterile loop from this inoculated area into sections 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 aerobically at 25-30°C for up to 5 days. Examine for colonies showing characteristic growth and morphology. Colonies should be selected for staining or other diagnostic tests.

XI. EXPECTED RESULTS

Typical colony morphology on BiGGY Agar is as follows:

Candida albicans- Smooth, circular or hemispherical dark brown-black colonies with slight mycelial fringe.

Candida tropicalis - Smooth, dark brown colonies with black centers and sheen; slight mycelial fringe; diffuse blackening of medium after 72 hours.

Candida krusei - Large, flat wrinkled silvery brown-black colonies with brown peripheries, yellow halo diffusion into medium.

Candida pseudotropicalis - Large size, flat, dark, reddish-brown glistening colonies, slight mycelial fringe, no diffusion.

Candida parakrusei - Medium size, flat frequently wrinkled, glistening dark reddish-brown colonies with light reddish-brown peripheries; extensive yellow mycelial fringe.

Candida stellatoidea - Medium size, flat, dark brown; very light mycelial fringe.

XII. LABORATORY RESULTS

This medium is intended to be used as a primary isolation medium. Presumptive identification of organisms may be made on the basis of typical organism morphology, hemolytic reactions and Gram stain. Definitive identification of certain organisms and antimicrobial sensitivity determination requires further testing. Additional biochemical information may be obtained from reference microbiology texts.[1,2,3]

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. Balows, A., et al. 1991. Manual of Clinical Microbiology. 5th Ed. ASM. Washington, DC.
2. Conant, N.F., et al. 1971. Manual of Clinical Microbiology. W.B. Saunders Co. Philadelphia
3. Nickerson, W.J. 1953. J. Infect Dis. 93:43

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 tubes according to instructions contained on the "Quality Control Log Sheet." (See also Section VI "STORAGE/SHELF LIFE")

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

BiGGY Agar tubes may be quality controlled in the following manner:

(a) Microbial Load Testing - Incubate 3-5% up to a maximum of 10 containers at 25°C and examine for contamination at 48 and 72 hours.

(b) Performance Testing - Incubate containers with stock cultures of *C. albicans* ATCC 10231 (HL Cat. No 3161) and using a light suspension of *E. coli* ATCC 25922 (HL Cat No.3164). Incubate at 25°C for up to 2 days. The *Candida* should grow well producing typical colonies; whereas the *E. coli* should be inhibited.

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.

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