PRODUCT INFORMATION AND QUALITY CONTROL SHEET
GN BROTH

I. INTENDED USE
GN Broth is a selective enrichment medium for the isolation of gram negative enteric bacilli.

II. SUMMARY AND EXPLANATION
This medium was developed by Hajna (1) as an enrichment medium for the isolation of enteric bacilli, especially *Shigella* and *Salmonella*. GN Broth has been shown to be as effective as Selenite broth for the isolation of *Salmonella* and much more effective that Selenite broth for the isolation of *Shigella* (2).

III. PRINCIPLES OF THE PROCEDURE
Desoxycholine and citrate are incorporated to inhibit gram positive organisms. Dextrose and mannitol concentrations are balanced to limit the growth of *Proteus* and encourage the growth of *Salmonella* and *Shigella*. NOTE: Since heavy growth of some saprophytes may occur on extended incubation, a 6-18 hour incubation period is recommended.

IV. TYPICAL FORMULA AND APPEARANCE
Appearance = Light amber, clear to very slightly opalescent.
(Approximate formula* per liter of processed water)

Dipeptone	20.0g
Dextrose	1.0
Mannitol	2.0
Sodium Citrate	5.0
Sodium Desoxycholate	0.5
Dipotassium Phosphate	4.0
Monopotassium Phosphate	1.5
Sodium Chloride	5.0

Final pH 7.0± 0.2 @25^{0}C
*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.

VI. STORAGE/SHELF LIFE
Media should be stored at 2-8^{0}C (36-46^{0}F). DO NOT FREEZE OR EXPOSE TO HIGH TEMPERATURES. Allow unopened tubes to warm to room temperature prior to inoculation. Prior to and during inoculation procedures, tubes 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 tubes that exhibit evidence of discoloration, microbial contamination or any other signs of deterioration.

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 (3,4). Sterile swabs and collection containers should be used. Tubes 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 (3,4).

VIII. MATERIALS PROVIDED
GN Broth, Hajna

IX. MATERIALS REQUIRED BUT NOT PROVIDED
Incubator maintaining 35^{0}C.

X. PROCEDURE
Inoculate the medium with specimen as soon as possible after it is received in the laboratory and incubate at 35 ± 2^{0}C in an aerobic atmosphere. Specimens should be collected before initiation of antimicrobial therapy. If therapy has been started prior to collection, notice should accompany specimen. If there is to be a delay in transport or cultivation, a suitable transport medium such as Amies should be employed in order to maintain viability of the organism.

A small amount of stool specimen is inoculated and emulsified in a tube of GN Broth. The tube is incubated at 35^{0}C for 6-18 hours and then subcultured onto a plate of differential medium such as HE or XLD Agar. This plate is incubated for 18-24 hours and examined for typical colonies of *Salmonella, Shigella* or *Arizonae.*

XI. EXPECTED RESULTS

NCCLS CONTROL ORGANISMS (ATCC STRAINS)

Eschrichia coli (ATCC 25922)	Inhibiton (partial to complete)
Salmonella typhimurium (ATCC 14028)	Good growth
Shigella sonnei (ATCC 9290)	Good growth

XII. 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.

XIII. REFERENCES
1. Hajna, A.A. 1955. Publ. Health Lab. 13:83
2. Taylor, W.I. and D. Schelhart. 1968. Appl. Microbiol. 16:383
3. Bailey, R.W. and E.G. Scott. 1974. Diagnostic Microbiology. 4th Ed. C.V. Mosby Co. St. Louis.
4. Lennette, E.H. *et al*. 1985. Manual of Clinical Microbiology. 4th Ed. ASM. Washington, DC.

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^{0}C.

2. Daily, document that laboratory incubator maintains temperature within the recommended range: 22-35^{0}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 tubes according to instructions contained in 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.

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