



## Puritan GN Broth Transport Medium

### INTENDED USE

Puritan GN Broth Transport Medium is a selective enrichment medium used for the isolation of *Salmonella spp* and *Shigella spp*.

### SUMMARY AND EXPLANATION

*Shigella* is an important pathogen of foodborne illness, ranking behind *Salmonella* and *Campylobacter* in its frequency.<sup>1</sup> Taylor and Schelhart showed in a study that GN Broth was superior to selenite enrichment media for the isolation of *Shigella*.<sup>2</sup> GN Broth allows for the selective enrichment for the isolation of *Salmonella* and *Shigella* from clinical and nonclinical specimens. Peptones provide amino acids and other nitrogenous substances to support bacterial growth. Mannitol and dextrose serve as sources of energy. Mannitol is provided in a higher concentration than dextrose to enhance the growth of mannitol-fermenting species, such as *Salmonella* and *Shigella*, and limit the growth of *Proteus* and other dextrose-fermenting bacteria. Sodium citrate and sodium deoxycholate are added to inhibit gram-positive and some gram-negative bacteria.

### REAGENTS

Pancreatic Digest of Casein	Sodium Deoxycholate
Proteose Peptone	Dipotassium Phosphate
Dextrose	Monopotassium Phosphate
D-Mannitol	Sodium Chloride
Sodium Citrate	Demineralized Water

pH 7.0 ± 0.2 @ 25°C

### PRECAUTIONS

For *In Vitro* Diagnostic Use

- For single use only.
- Clinical specimens are considered biohazard and must be handled in a manner to protect laboratory personnel.
- To be used by trained and qualified personnel using aseptic technique.
- Clinical samples may contain human pathogens including hepatitis virus and Human Immunodeficiency Virus. Institutional and universally recognized guidelines should be followed when handling items contaminated with blood and other body fluids.<sup>3</sup>
- Specimen vials and other contaminated materials must be sterilized by autoclave before discarding.
- Do not use if the vial is damaged or detected evidence of contamination, discoloration or leakage.
- Do not ingest the medium.
- Do not use beyond expiry date.

### STORAGE

For optimum performance, store at 2-25°C. Avoid freezing and overheating.<sup>4, 5</sup>

### MATERIALS SUPPLIED

Puritan GN Broth Transport Medium is available in product configurations indicated in the table below:

Item Number	Product Descriptions	Pack Size
GN-200	Black polypropylene screw-cap tube with 2 mL of GN Broth Medium.	50 / Box

### SPECIMEN COLLECTION AND HANDLING

Specimens suitable for culture may be handled using various techniques. For detailed guidance, refer to appropriate references.<sup>6, 7</sup> Specimens should be obtained before antimicrobial agents have been administered.

## LABORATORY SPECIMEN PROCESSING

### GN Broth Collected Sample

1. Vortex for 5-10 seconds at 2000/2500 rpm to create a homogeneous mixture of the inoculated medium.
2. Incubate inoculated GN Broth transport medium at 35 ± 2°C.
3. Examine the GN Broth transport medium for growth after 6-8 hours. If negative, re-incubate up to 18-24 hours.
4. Aseptically remove aliquots of the GN Broth and inoculate onto an appropriate selective agar plate.

### Fecal Opti-Swab Collected Sample

1. Vortex the Fecal Opti-Swab sample for 5-10 seconds at 2000/2500 rpm to create a homogeneous mixture of the inoculated medium.
2. Unscrew the cap and transfer the swab from the Fecal Opti-Swab tube to the GN Broth tube by using sterile forceps. Alternatively, inoculate the GN Broth with 100µL of the inoculated Fecal Opti-Swab medium using a pipette.
3. Replace the cap on the Fecal Opti-Swab sample.
4. Follow the procedures stated above for GN Broth Collected Sample.

## QUALITY CONTROL

All batches of Puritan GN Broth Transport Medium are tested prior to release for pH and further evaluated for their ability to promote growth of gram negative organisms and inhibit growth of gram positive organisms. All bacterial test isolates and testing procedures were established using criteria outlined in the Clinical and Laboratory Standards Institute's M22-A3 document and dehydrated media manufacturer recommendations where applicable.<sup>3, 8, 9</sup>

Control	Incubation	Results
<i>Staphylococcus aureus</i> ATCC 6538	Aerobic, 18-24 hr @ 35-37°C	Inhibited
<i>Escherichia coli</i> ATCC 25922	Aerobic, 18-24 hr @ 35-37°C	Growth
<i>Salmonella enterica</i> serotype Typhimurium ATCC 14028	Aerobic, 18-24 hr @ 35-37°C	Growth
<i>Shigella flexneri</i> ATCC 12022	Aerobic, 18-24 hr @ 35-37°C	Growth

## LIMITATIONS

1. Condition, timing, and volume of specimen collected for culture are significant variables in obtaining reliable culture results. Follow recommended guidelines for specimen collection.

## REFERENCES

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8. CLSI. *Quality Control for Commercially Prepared Microbiological Culture Media; Approved Standard-Third Edition*. CLSI document M22-A3. Wayne, PA. Clinical and Laboratory Standards Institute; 2004.
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