

Puritan® Cary-Blair Medium

Intended use

Puritan® Cary-Blair is intended for use in the preservation of clinical fecal and rectal specimens containing enteric bacteria from the collection site to the testing laboratory for examination and culture.

Summary and Principles

Foodborne illnesses and other diarrheal infections present as a major public health issue. While enteric infections can be caused by different types of bacteria, most routine stool cultures are used to screen for *Salmonella* spp., *Shigella* spp., and *Campylobacter* spp. Cultures for *Vibrio* spp., *Yersinia* spp., and *E. coli* O157:H7 require additional media or incubation conditions and therefore require more extensive preparation.¹

Modified Cary-Blair medium is a nonnutritive balanced salt solution containing phosphates to provide buffering capability, chloride salts to provide essential ions that help maintain osmotic balance. Agar is a solidifying agent and gives a semisolid texture to the medium. Sodium salts and L-cysteine provides a reduced environment. It is recommended for maintaining the viability of enteric bacteria during the transport to the laboratory.²

Reagents

Approximate modified Cary-Blair formulation per liter

Sodium chloride	5.0g	L-cysteine	1.0g
Disodium phosphate	1.1g	Bacteriological agar	1.5g
Sodium thioglycollate	1.5g	Deionized water	1 liter
Calcium chloride	0.09g		

Precautions

For *in vitro* Diagnostic Use

- For single use only
- All clinical specimens may contain infectious microorganisms and should be considered biohazards and handled with care. Appropriate personal protective equipment should be worn. Follow laboratory and biosafety guidelines when handling clinical specimens.³⁻⁶
- For use by trained qualified personnel.
- Refer to the recommendations of the Center for Disease Control and Prevention's *Biosafety in Microbiological and Biomedical Laboratories*.³⁻⁶
- Sterilize the unit after use and dispose of it according to biohazard waste disposal regulations.
- Do not use beyond expiry date.

Storage

For optimum performance, store at 2-25°C (36-77°F).

Directions for use

- [1] Collect specimen from the rectum or from fresh stool.
- [2] Remove vial cap and inoculate Cary-Blair medium with rectal or fecal swab specimen.
- [3] Replace the vial cap, securing tightly. Record patient information in the space provided on the vial label and transport the specimen to the laboratory.

Specimen Cultures in the Laboratory

In the laboratory, specimens should be processed for bacteriological culture using recommended culture media and laboratory techniques which will depend on the specimen type and the organism under investigation. For recommended culture media and techniques for the isolation and identification of bacteria from clinical swab specimens refer to published microbiology manuals and guidelines.⁷⁻¹¹

Quality Control

Each lot of Puritan Cary-Blair medium is tested for sterility, pH, and nonviable bio-burden levels. Representative samples of each lot are further evaluated for their ability to maintain the viability of selected bacterial agents over pre-defined time periods. All bacterial test isolates and testing procedures were established using criteria outlined in the Clinical and Laboratory Standards Institute's M40-A2 document.¹⁰

Limitations

1. For optimal recovery of *C. difficile*, fecal specimens should be refrigerated at 2-8°C and processed within 48 hours or stored at room temperature (20-25°C) and processed within 24 hours.
2. Reliable specimen collection and transport depends on many factors, including collection and handling, specimen condition, volume, and timing. Best results are achieved when specimens are processed shortly after the time of collection. For detailed information, refer to corresponding reference standards and procedures for optimum collection techniques.^{8, 9, 11-13}
3. Puritan Cary-Blair medium is recommended for the preservation of bacteriological samples only. Viruses, chlamydia, mycoplasma, and ureaplasma require a transport medium formulated specifically for use with these organisms.^{2, 13}
4. Extreme temperature should be avoided during transportation of Puritan Cary-Blair medium.

References

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