

***Clostridium difficile*, Isolate 12**

**Catalog No. NR-13438**

**For research use only. Not for human use.**

**Contributor and Manufacturer:**

BEI Resources

**Product Description:**

Bacteria Classification: *Clostridiaceae*, *Clostridium*

Species: *Clostridium difficile*

Isolate: 12

Original Source: *Clostridium difficile* (*C. difficile*), isolate 12 was obtained from a human patient from the Mid-Atlantic region of the United States in 2008/2009.

*C. difficile* is a Gram-positive, spore-forming, obligate anaerobe that commonly inhabits the intestinal tract of various mammalian species, reptiles and birds, and may also be found in the environment. Pathogenic strains of *C. difficile* produce a potent cytotoxin (toxin B) and in most cases an enterotoxin (toxin A).<sup>1</sup> It is the production of these toxins in the gut which ultimately leads to pseudomembranous colitis (PMC) and *C. difficile* associated diarrhea (CDAD), which often occur as a complication of antibiotic therapy in elderly hospitalized patients.<sup>2</sup>

**Material Provided:**

Each vial contains approximately 0.5 mL of bacterial culture in 0.5X Modified Reinforced Clostridial Broth supplemented with 10% glycerol.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

**Packaging/Storage:**

NR-13438 was packaged aseptically, in screw-capped plastic cryovials. The product is provided frozen and should be stored at -60°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

**Growth Conditions:**

Media:

Modified Reinforced Clostridial Broth ([ATCC medium 2107](#))

Reinforced Clostridial Agar ([ATCC medium 1053](#)) or anaerobic blood agar

Incubation:

Temperature: 37°C

Atmosphere: Anaerobic gas mixture (80% N<sub>2</sub>:10% CO<sub>2</sub>:10% H<sub>2</sub>)

Propagation:

1. Keep vial frozen until ready for use, then thaw.
2. Transfer the entire thawed aliquot into a single tube of broth.
3. Use several drops of the suspension to inoculate an agar

slant and/or plate.

4. Incubate the tubes and plate at 37°C for 48 to 72 hours.

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Clostridium difficile*, Isolate 12, NR-13438."

**Biosafety Level: 2**

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2007; see [www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm](http://www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm).

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**References:**

1. Rupnik, M., M. H. Wilcox and D. N. Gerding. "*Clostridium difficile* Infection: New Developments in Epidemiology and Pathogenesis." Nat. Rev. Microbiol. 7 (2009): 526-

536. PubMed: 19528959.
2. Kelly, C. P. and J. T. LaMont. "Clostridium difficile - More Difficult than Ever." N. Engl. J. Med. 359 (2008): 1932-1940. PubMed: 18971494.

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