

Clostridium difficile, Isolate 7

Catalog No. NR-13433

For research only. Not for human use.

Contributor:

NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH

Product Description:

Bacteria Classification: Clostridiaceae, Clostridium

Species: Clostridium difficile

Isolate: 7

Original Source: Clostridium difficile (C. difficile), isolate 7 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).¹ It is the production of these toxins in the gut which ultimately leads to the disease pseudomembranous colitis (PMC) and C. difficile associated diarrhea (CDAD), which often occur as a complication of antibiotic therapy in elderly hospitalized patients.²

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-13433 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 Tryptic

Soy Agar (TSA) with 5% defibrinated sheep blood

Incubation:

Temperature: 37°C

Atmosphere: Anaerobic gas mixture

(80% N₂:10% CO₂:10% H₂)

Propagation:

1. Keep vial frozen until ready for use, then thaw.
2. Transfer the entire thawed aliquot into Reinforced Clostridial Broth under anaerobic atmosphere.

3. Inoculate additional broth tubes with 0.5 mL each from the suspension. Slants may be inoculated with 0.2 mL each. Streak several Reinforced Clostridial Agar or TSA plates containing 5% defibrinated sheep blood to check for colony morphology and purity.
4. Incubate cultures at 37°C under anaerobic atmosphere.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Clostridium difficile, Isolate 7, NR-13433."

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/bmbl5/bmbl5toc.htm.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government make any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need

a license before first commercial sale.

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.

ATCC® is a trademark of the American Type Culture Collection.

