

# Product Information Sheet for NR-43552

## *Peptoclostridium difficile*, Strain CD44

Catalog No. NR-43552

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

### Contributor:

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### Manufacturer:

BEI Resources

### Product Description:

Bacteria Classification: *Peptostreptococcaceae*,  
*Peptoclostridium*

Species: *Peptoclostridium difficile* (also referred to as *Clostridium difficile*)<sup>1</sup>

Strain: CD44

Original Source: *Peptoclostridium difficile* (*P. difficile*), strain CD44 was isolated in February 2010 from the stool of a human patient diagnosed with an acute *Clostridium difficile* infection in Ann Arbor, Michigan, USA.<sup>2</sup>

Comments: *P. difficile*, strain CD44 is part of a genome sequencing project at the [Institute for Genome Sciences](#) at the University of Maryland.<sup>2,3</sup> The complete genome of *P. difficile*, strain CD44 is available (GenBank: [AVGX00000000](#)). **Note: The GenBank entry reports that strain CD44 is toxigenic. However, analysis of the genomic sequence indicates that the toxin genes are not present in strain CD44, which was confirmed by information provided by the depositor.**

*P. 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 *P. difficile* produce a potent cytotoxin (toxin B) and in most cases an enterotoxin (toxin A).<sup>4</sup> It is the production of these toxins in the gut which ultimately leads to pseudomembranous colitis (PMC) and *Clostridium difficile* associated diarrhea (CDAD), which often occur as a complication of antibiotic therapy in elderly hospitalized patients.<sup>5</sup>

### Material Provided:

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

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

### Packaging/Storage:

NR-43552 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 medium or equivalent  
Tryptic Soy agar with 5% defibrinated sheep blood or equivalent

#### Incubation:

Temperature: 37°C

Atmosphere: Anaerobic

#### 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 tube, slant and/or plate at 37°C for 24 to 72 hours.

### Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Peptoclostridium difficile*, Strain CD44, NR-43552."

### 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, 2009; see [www.cdc.gov/biosafety/publications/bmbl5/index.htm](http://www.cdc.gov/biosafety/publications/bmbl5/index.htm).

### Disclaimers:

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### References:

1. Yutin, N. and M. Y. Galperin. "A Genomic Update on Clostridial Phylogeny: Gram-Negative Spore-Formers and Other Misplaced Clostridia." Environ. Microbiol. 15 (2013): 2631-2641. PubMed: 23834245.
2. Aronoff, D. M., Personal Communication.
3. Walk, S. T., D. M. Aronoff and V. B. Young. "Comparative Phylogenomics of *Clostridium difficile*." Institute for Genome Sciences at the University of Maryland.  
<[http://gscid.igs.umaryland.edu/doc/whitepapers/comparative\\_phylogenomics\\_of\\_clostridium\\_difficile.pdf](http://gscid.igs.umaryland.edu/doc/whitepapers/comparative_phylogenomics_of_clostridium_difficile.pdf)>
4. 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.
5. Kelly, C. P. and J. T. LaMont. "*Clostridium difficile* - More Difficult than Ever." N. Engl. J. Med. 359 (2008): 1932-1940. PubMed: 18971494.
6. Marsh, J. W. "Counterpoint: Is *Clostridium difficile* a Food-borne Disease?" Anaerobe 21 (2013): 62-63. PubMed: 23528985.

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