

## ***Clostridium difficile*, Strain P24**

### **Catalog No. NR-32900**

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

#### **Contributor:**

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#### **Manufacturer:**

BEI Resources

#### **Product Description:**

Bacteria Classification: *Clostridiaceae*, *Clostridium*

Species: *Clostridium difficile*

Strain: P24

Original Source: *Clostridium difficile* (*C. difficile*), strain P24 was obtained in 2001 from fecal material of a human patient with a relapsing *C. difficile* infection in western Pennsylvania, USA.<sup>1</sup>

Comments: Strain P24 was deposited as a toxigenic strain.<sup>1</sup> The complete genome of *C. difficile*, strain P24 is available (GenBank: [AYMA000000000](https://www.ncbi.nlm.nih.gov/nuclseq/AYMA000000000)).

*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>2</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>3</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-32900 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: *Clostridium difficile*, Strain P24, NR-32900."

#### **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/bmbI5/index.htm](http://www.cdc.gov/biosafety/publications/bmbI5/index.htm).

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# References:

1. Marsh, J. W., Personal Communication.
2. 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.
3. Kelly, C. P. and J. T. LaMont. "Clostridium difficile - More Difficult than Ever." N. Engl. J. Med. 359 (2008): 1932-1940. PubMed: 18971494.
4. Marsh, J. W. "Counterpoint: Is Clostridium difficile a Food-borne Disease?" Anaerobe 21 (2013): 62-63. PubMed: 23528985.

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