**Clostridium difficile**, Isolate 20110979

Catalog No. NR-49285

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**Contributor:**
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**Manufacturer:**
BEI Resources

**Product Description:**

Bacteria Classification: Clostridiaeae, *Clostridium* (A taxonomic change to *Peptostreptococcaceae*, *Peptoclostridium* has been proposed.)\(^1\)
Species: *Clostridium difficile* (*Peptoclostridium difficile*)
Isolate: 20110979
Original Source: *Clostridium difficile* (*C. difficile*), isolate 20110979 was obtained from the stool of an elderly female patient with a community-associated (CA) *C. difficile* infection in midwestern USA in 2011.\(^2\)
Comments: *C. difficile*, isolate 20110979 is part of the *Emerging Infections Program - Clostridium difficile Surveillance Project* at the Centers for Disease Control and Prevention.\(^2,3\) Isolates were selected to represent the diversity of strain types and geographical locations circulating in the U.S. during 2010-2011. Isolate 20110979 was deposited as PCR ribotype 027, North American pulsed-field gel electrophoresis type 1 (NAP1), containing tcdA, tcdB and tcdC (with 18 base pair deletion) of the PaLoc operon as well as the *C. difficile* binary toxin (CDT).\(^2\)

*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. *C. difficile* infection is the leading cause of gastroenteritis-associated death and has become the most common cause of hospital-associated (HA) infections in the USA.\(^3\) Epidemic strains of *C. difficile* associated with severe disease are generally positive for CDT, contain an 18 base pair deletion in tcdC, are resistant to fluoroquinolones, have PCR ribotype 027 and pulse-field gel electrophoresis type NAP1, restriction endonuclease analysis (REA) type B1 and toxinoctype III (CDT*, TcdA* and TcdB*).\(^4\) *C. difficile* produces a cytotoxin (TcdB) and an enterotoxin (TcdA) whose genes are part of the PaLoc operon. The operon also contains the tcdC gene which is a negative regulator of the tcdA and tcdB genes. The CDT is comprised of two parts encoded by cdtA (enzymatic component) and cdtB (binding component).\(^4\)

of these toxins in the gut 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.\(^5\)

**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-49285 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.

**Biosafety Level:**
2


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**References:**

**Citation:**
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References:  
2.  Limbago, B., Personal Communication.  

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