

Clostridium difficile, Isolate 20120184

Catalog No. NR-49289

Product Description: *Clostridium difficile* (*C. difficile*; also referred to as *Peptoclostridium difficile*), isolate 20120184 was obtained from the stool of an elderly female patient with a fatal healthcare-associated (HA) *C. difficile* infection in Tennessee, USA, in 2011. Isolate 20120184 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).

Lot¹: 63719802

Manufacturing Date: 04SEP2015

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology ² Hemolysis ² Motility (wet mount) Biochemical tests: Esculin hydrolysis ³ Gelatin hydrolysis ³ VITEK® MS (MALDI-TOF)	Gram-positive rods Report results Report results Report results Positive Positive Consistent with <i>C. difficile</i>	Gram-positive rods Irregular, flat, undulate, rough and gray (Figure 1) Non-hemolytic Motile Positive Positive Consistent with <i>C. difficile</i>
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1390 base pairs)	Consistent with <i>C. difficile</i>	Consistent with <i>C. difficile</i>
PCR Assay of Extracted DNA Presence of <i>C. difficile</i> -specific genes ⁴ Triose phosphate isomerase (<i>tpi</i>) Presence of toxin genes ^{4,5} <i>cdtB</i> <i>tcdA</i> (wild type) <i>tcdA</i> (partial deletion) <i>tcdB</i>	~ 230 base pair amplicon ~ 510 base pair amplicon ~ 370 base pair amplicon No amplicon ~ 160 base pair amplicon	~ 230 base pair amplicon ~ 510 base pair amplicon ~ 370 base pair amplicon No amplicon ~ 160 base pair amplicon
Purity (post-freeze) Anaerobic growth ⁶ Aerobic growth ⁷	Growth consistent with expected morphology No growth	Growth consistent with expected morphology No growth
Viability (post-freeze) ²	Growth	Growth

¹NR-49289 was produced by inoculation of the deposited material into Modified Reinforced Clostridial medium and incubated for 2 days at 37°C in an anaerobic atmosphere (< 0.5% O₂; Remel™ Anaero Pack-Anaero™ R681001). The material from the initial growth was passaged in Modified Reinforced Clostridial medium for 2 days at 37°C in an anaerobic atmosphere to produce this lot.

²2 days at 37°C in an anaerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood

³Tests were assessed after 7 days at 37°C in an anaerobic atmosphere. The gelatin tube was placed at 4°C for one hour prior to result determination.

⁴Lemee, L., et al. "Multiplex PCR Targeting *tpi* (Triose Phosphate Isomerase), *tcdA* (Toxin A), and *tcdB* (Toxin B) Genes for Toxigenic Culture of *Clostridium difficile*." *J. Clin. Microbiol.* 42 (2004): 5710-5714. PubMed: 15583303.

⁵Antikainen, J., et al. "Detection of Virulence Genes of *Clostridium difficile* by Multiplex PCR." *APMIS*. 117 (2009): 607-613. PubMed: 19664132.

⁶Purity of this lot was assessed for 7 days at 37°C in an anaerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood.

⁷Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere with 5% CO₂ on Tryptic Soy agar with 5% defibrinated sheep blood.

Figure 1: Colony Morphology

**Date:** 17 NOV 2015**Signature:**

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