

# Bacillus cereus, Strain VD078

Catalog No. NR-22135

**Product Description:** *Bacillus cereus* (*B. cereus*), strain VD078 was isolated in 2008 from a soil sample collected in Greenland.

Lot<sup>1</sup>: 61956002

Manufacturing Date: 15AUG2013

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> <sup>2</sup> Cellular morphology Colony morphology <sup>3</sup>  Motility <sup>4</sup> Hemolysis <sup>5</sup> Biochemical tests <sup>6</sup> Production of acid from trehalose Production of acid from salicin <sup>7</sup> Production of acid from glycerol <sup>7</sup> Nitrate reduction Arginine dihydrolase activity <sup>8</sup>	Gram-positive rods Report results  Motile Report results  Positive Report results Report results Report results Report results	Gram-positive rods Circular, raised, entire, opaque, ground-glass and cream (Figure 1) Motile β-hemolytic  Positive Positive Positive Positive Negative
<b>PCR Assay of Extracted DNA</b> 16S ribosomal RNA gene <i>B. anthracis</i> specific chromosomal marker <sup>9</sup> Presence of virulence plasmids <sup>10</sup> pXO1 (four targets) pXO2 (three targets)	~ 560 bp amplicon No amplicon  No amplicons Report results	~ 560 bp amplicon No amplicon  No amplicons No amplicons
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA gene (~ 870 base pairs)	Consistent with <i>B. cereus</i> group	Consistent with <i>B. cereus</i> group <sup>11,12</sup>
<b>Purity (post-freeze)</b> <sup>13</sup>	Growth consistent with <i>B. cereus</i>	Growth consistent with <i>B. cereus</i>
<b>Viability (post-freeze)</b> <sup>3</sup>	Growth	Growth

<sup>1</sup>The deposited material was inoculated into Tryptic Soy broth and grown at 37°C for 24 hours in an aerobic atmosphere, and the resulting subculture was vialled and frozen. NR-22135 was produced by inoculation of the thawed subculture into Tryptic Soy broth and grown 21 hours at 37°C in an aerobic atmosphere. Broth inoculum was added to Tryptic Soy agar kolles which were grown 21 hours at 37°C in an aerobic atmosphere to produce this lot.

<sup>2</sup>Presumptive identification of *B. cereus* was performed using phenotypic tests that eliminate other *B. cereus* group (*B. cereus*, *B. anthracis*, *B. thuringiensis* and *B. mycoides*) members (see footnotes 4, 7 and 8).

<sup>3</sup>23 hours at 37°C in an aerobic atmosphere on Tryptic Soy agar

<sup>4</sup>24 hours at 37°C in an aerobic atmosphere on motility test media with triphenyltetrazolium chloride (TTC). In the *B. cereus* group, *B. cereus* and *B. thuringiensis* are motile, whereas *B. anthracis* and *B. mycoides* are non-motile.

<sup>5</sup>24 hours at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% sheep blood

<sup>6</sup>Negative tests are observed for >7 days.

<sup>7</sup>*B. anthracis* is negative for glycerol and salicin.

<sup>8</sup>*B. thuringiensis* is positive for arginine dihydrolase activity.

<sup>9</sup>A proprietary (Patent Pending) PCR-based assay capable of differentiating *B. anthracis* from the remainder of the *B. cereus* group was used to further eliminate *B. anthracis* as a possible species.

<sup>10</sup>Presence of virulence plasmids was verified using a proprietary (Patent Pending) PCR-based assay. NR-22135 is reported by the depositor to contain a pXO1-like plasmid. It is not known if the targets assayed are present.

<sup>11</sup>*B. cereus* group species cannot be classified based on 16S sequence (Spencer, R. C. "Bacillus anthracis." *J. Clin. Pathol.* 56 (2003): 182-187. PubMed: 12610093).

<sup>12</sup>≥ 99.7% identical to *B. cereus*, strain VD078 (GenBank: AHEV01000034.1)

<sup>13</sup>Purity of this lot was assessed for 7 days on Tryptic Soy agar at 37°C in an aerobic atmosphere.

# Certificate of Analysis for NR-22135

Figure 1



**Date:** 16 AUG 2014

**Signature:**

**Title:**

Technical Manager, BEI Authentication or designee

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