

**Bacillus cereus, Strain BAG1X1-1**

**Catalog No. NR-28575**

**Product Description:** *Bacillus cereus* (*B. cereus*), strain BAG1X1-1 was isolated in 2009 from a soil sample collected in Boston, Massachusetts, USA.

**Lot<sup>1</sup>: 61317363**

**Manufacturing Date: 07NOV2012**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis<sup>2</sup></b> Cellular morphology Colony morphology <sup>3</sup>  Motility <sup>4</sup> Hemolysis Biochemical characterization <sup>5</sup> Production of acid from trehalose Production of acid from salicin <sup>6</sup> Production of acid from glycerol <sup>6</sup> Nitrate reduction Arginine dihydrolase activity <sup>7</sup>	Gram-positive rods Report results  Motile Report results  Positive Report results Report results Report results Report results	Gram-positive rods Circular, umbonate, erose, rough and gray (Figure 1) Motile β-hemolytic  Positive Positive Positive Positive Negative
<b>PCR Assay of Extracted DNA<sup>8</sup></b> 16S ribosomal RNA gene <i>B. anthracis</i> specific chromosomal marker <sup>9</sup> Presence of virulence plasmid markers <sup>10</sup> pXO1 (four targets) pXO2 (three targets)	~ 560 bp amplicon No amplicon  Report results Report results	~ 560 bp amplicon No amplicon  One amplicon present No amplicons
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA gene (~ 1450 base pairs)	Consistent with <i>B. cereus</i> group	Consistent with <i>B. cereus</i> group <sup>11</sup>
<b>Viability (post-freeze)<sup>3</sup></b>	Growth	Growth

<sup>1</sup>NR-28575 was produced by inoculation of Nutrient broth with the deposited material and grown 24 hours at 30°C in an aerobic atmosphere. After an additional passage under the above propagation conditions, broth inoculum was added to Tryptic Soy agar with 5% sheep blood kolles which were grown 24 hours at 30°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. mycooides*) members (see footnotes 4, 6, 7).

<sup>3</sup>24 hours at 30°C in an aerobic atmosphere on Tryptic Soy agar with 5% sheep blood

<sup>4</sup>24 hours at 30°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. mycooides* are non-motile.

<sup>5</sup>Negative tests were observed for >7 days.

<sup>6</sup>*B. anthracis* is negative for glycerol and salicin.

<sup>7</sup>*B. thuringiensis* is positive for arginine dihydrolase activity.

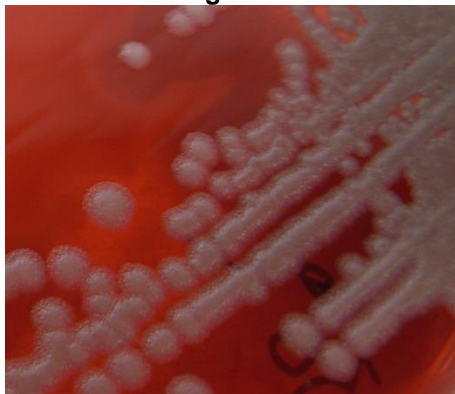
<sup>8</sup>DNA was extracted from a broth culture produced from NR-28575 lot 61317363.

<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 markers known to be found on virulence plasmids were verified using a proprietary (Patent Pending) PCR-based assay.

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

Figure 1



**Date:** 14 MAR 2014

**Signature:** 

**Title:** Technical Manager, BEI Authentication or designee

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