

Bacillus cereus, Strain BAG4X2-1

Catalog No. NR-28599

Product Description: *Bacillus cereus* (*B. cereus*), strain BAG4X2-1 was isolated in 2008 from a soil sample collected in Boston, Massachusetts, USA.

Lot^{1,2}: 61646461

Manufacturing Date: 27MAR2013

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis³ Cellular morphology Colony morphology ⁴ Motility ⁵ Hemolysis Biochemical tests ⁶ Production of acid from trehalose Production of acid from salicin ⁷ Production of acid from glycerol ⁷ Nitrate reduction Arginine dihydrolase activity	Gram-positive rods Report results Motile Report results Positive Report results Report results Report results Report results	Gram-positive rods Circular, entire, opaque and rough (Figure 1) Motile β-hemolytic Positive Positive Positive Positive Positive
PCR Assay of Extracted DNA 16S ribosomal RNA gene <i>B. anthracis</i> specific chromosomal marker ⁸ Presence of virulence plasmids ⁹ pXO1 (four targets) pXO2 (three targets)	~ 560 bp amplicon No amplicon No amplicons Report results	~ 560 bp amplicon No amplicon No amplicons No amplicons
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 960 base pairs)	Consistent with <i>B. cereus</i> group	Consistent with <i>B. cereus</i> group ^{10,11}
Purity (post-freeze)¹²	Growth consistent with <i>B. cereus</i>	Growth consistent with <i>B. cereus</i>
Viability (post-freeze)⁴	Growth	Growth

¹The deposited material was passaged three times on Tryptic Soy agar at 30°C for 24 hours in an aerobic atmosphere, and the resulting subculture vial and frozen. NR-28599 was produced by inoculation of the thawed subculture into Tryptic Soy broth and grown 24 hours at 30°C in an aerobic atmosphere. Broth inoculum was added to Tryptic Soy broth with 5% sheep blood kolles which were grown 24 hours at 30°C in an aerobic atmosphere to produce this lot.

²NR-28599 was deposited as *B. cereus*. Current quality control testing at ATCC could not distinguish between *B. cereus* and *B. thuringiensis* for this product.

³Presumptive 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 2, 5, 7 and 8).

⁴24 hours at 30°C in an aerobic atmosphere on Tryptic Soy agar with 5% sheep blood

⁵24 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. mycoides* are non-motile.

⁶Negative tests are observed for >7 days.

⁷*B. anthracis* is negative for glycerol and salicin.

⁸A 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.

⁹Presence of virulence plasmids was verified using a proprietary (Patent Pending) PCR-based assay. NR-28599 is reported by the depositor to contain a pXO2-like plasmid. It is not known if the targets assayed are present.

¹⁰*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).

¹¹99.9% identical to *B. cereus*, strain BAG4X2-1 (GenBank: AHDH01000011.1)

¹²Purity of this lot was assessed for 7 days on Tryptic Soy agar with 5% sheep blood at 30°C in an aerobic atmosphere.

Figure 1



Date: 20 AUG 2014

Signature:



Title: Technical Manager, BEI Authentication or designee

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