

Bacillus cereus, Strain VD014

Catalog No. NR-22141

Product Description: *Bacillus cereus* (*B. cereus*), strain VD014 was isolated in 2008 from a soil sample collected in Andalusia, Spain. Strain VD014 is reported to contain a pXO1-like plasmid.

Lot¹: 61966651

Manufacturing Date: 21AUG2013

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis² Cellular morphology ³ Colony morphology ³ Motility ⁴ Hemolysis ⁵ Biochemical characterization ⁶⁻⁸ Production of acid from trehalose Production of acid from salicin Production of acid from glycerol Nitrate reduction Arginine dihydrolase activity	Gram-positive rods Report results Motile Report results Positive Report results Positive Report results Positive Report results	Gram-positive rods Irregular, flat, undulate, rough and cream (Figure 1) Motile β-hemolytic Positive Positive Negative Positive Positive
PCR Assay of Extracted DNA⁹ 16S ribosomal RNA gene <i>B. anthracis</i> specific chromosomal marker ¹⁰ Presence of virulence plasmid markers ¹¹ pXO1 (four targets) pXO2 (three targets)	~ 560 base pair amplicon ~ 1500 base pair amplicon No amplicon Report results Report results	~ 560 base pair amplicon ~ 1500 base pair amplicon No amplicon One amplicon present No amplicons
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1500 base pairs)	Consistent with <i>B. cereus</i> group	Consistent with <i>B. cereus</i> group ¹²
Viability (post-freeze)³	Growth	Growth

¹NR-22141 was produced by inoculation of the deposited material into Nutrient broth and grown 24 hours at 37°C in an aerobic atmosphere. After one passage the broth inoculum was added to kolles which were grown 24 hours at 37°C in an aerobic atmosphere to produce this lot. Purity of this lot was assessed for 7 days under propagation conditions.

²Presumptive 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 4,7,8).

³24 hours at 37°C in an aerobic atmosphere on Nutrient agar

⁴24 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. mycooides* are non-motile.

⁵24 hours at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% sheep blood

⁶Negative tests are observed for >7 days.

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

⁸*B. thuringiensis* is positive for arginine dihydrolase activity.

⁹DNA was extracted from a broth culture produced from NR-22141 lot 61966651.

¹⁰A 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.

¹¹Presence of markers known to be found on virulence plasmids were verified using a proprietary (Patent Pending) PCR-based assay.

¹²*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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