

# **Certificate of Analysis for NR-51517**

### Pseudomonas aeruginosa, Strain MRSN 321

### Catalog No. NR-51517

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#### **Product Description:**

Pseudomonas aeruginosa (P. aeruginosa), strain MRSN 321 was isolated in 2010 from a human wound sample in the United States as part of a global surveillance program. P. aeruginosa, strain MRSN 321 was deposited as multi-locus sequence type (MLST) ST 663, sensitive to amikacin, ciprofloxacin, gentamicin, levofloxacin and tobramycin and resistant to aztreonam, cefepime, ceftazidime, imipenem, meropenem and piperacillin/tazobactam. NR-51517 was produced by inoculation of BEI Resources seed lot 70024589 into Tryptic Soy broth and grown for 1 day at 37°C in an aerobic atmosphere. Broth inoculum was added to Tryptic Soy agar kolles, which were grown for 1 day at 37°C in an aerobic atmosphere to produce this lot. Quality control testing was completed under propagation conditions unless otherwise noted.

Lot: 70060197 Manufacturing Date: 21APR2023

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TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-negative rods	Gram-negative rods
Colony morphology	Report results	Circular, low convex, entire, smooth, mucoid and green (Figure 1)
Motility (wet mount)	Report results	Motile
VITEK® 2 (GN card)	P. aeruginosa (≥ 89%)	P. aeruginosa (99%)
Antibiotic Susceptibility Profile <sup>1,2</sup>		
Amikacin	Sensitive	Sensitive (≤ 2 μg/mL)
Amoxicillin/clavulanic acid	Resistant	Resistant (≥ 32 μg/mL)
Ampicillin	Resistant	Resistant (≥ 32 µg/mL)
Cefazolin	Resistant	Resistant (≥ 64 µg/mL)
Cefepime	Resistant	Intermediate (12 to 16 µg/mL) <sup>3</sup>
Cefoxitin	Resistant	Resistant (≥ 64 µg/mL)
Ceftazidime	Resistant	Resistant (≥ 64 µg/mL)
Ceftriaxone	Resistant	Resistant (≥ 64 µg/mL)
Ciprofloxacin	Sensitive	Sensitive (≤ 0.25 μg/mL)
Gentamicin	Sensitive	Sensitive (≤ 1 μg/mL)
Levofloxacin	Sensitive	Sensitive (1 µg/mL)
Meropenem	Resistant	Resistant (≥ 16 µg/mL)
Nitrofurantoin	Resistant	Resistant (≥ 512 µg/mL)
Piperacillin/tazobactam	Resistant	Resistant (≥ 128 µg/mL)
Tetracycline	Resistant	Resistant (≥ 16 µg/mL)
Tobramycin	Sensitive	Sensitive (≤ 1 μg/mL)
Trimethoprim/sulfamethoxazole	Report results	≥ 320 µg/mL <sup>4</sup>
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene	≥ 99% sequence identity to	100% sequence identity to
(~ 1480 base pairs)	P. aeruginosa, strain MRSN 321 (GenBank: RXUG01000033.1)	P. aeruginosa, strain MRSN 321 (GenBank: RXUG01000033.1)
Purity	Growth consistent with expected	Growth consistent with expected
7 days at 37°C in an aerobic atmosphere with and without 5% CO <sub>2</sub> on Tryptic Soy agar	colony morphology	colony morphology
Viability	Growth	Growth

**BEI Resources** 

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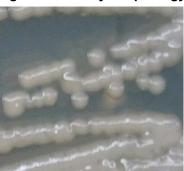
¹Minimum Inhibitory Concentration (MIC); MIC interpretation was determined using VITEK® 2 software version 07.01 combined with the bioMérieux Advanced Expert System™ (AES) software using the interpretation standard CLSI M100-S28 (2018) and the interpretation guideline "Natural Resistance." For more information, please refer to Sanders, C. C., et al. "Potential Impact of the VITEK® 2 System and the Advanced Expert System on the Clinical Laboratory of a University-Based Hospital." J. Clin. Microbiol. 39 (2001): 2379-2385. PubMed: 11427542.

<sup>2</sup>Antibiotic susceptibility was tested using a combination of bioMérieux VITEK® 2 GN81 and ETEST®.

<sup>3</sup>P. aeruginosa, strain MRSN 321 was deposited as resistant to cefepime, but showed a MIC of 12 to 16 μg/mL (interpreted as intermediately resistant) for this lot during QC testing.

<sup>4</sup>Trimethoprim/sulfamethoxazole MIC interpretive standards are not available for *P. aeruginosa*, however most clinical isolates are resistant to trimethoprim/sulfamethoxazole. For more information, please refer to Köhler, T., et al. "Multidrug Efflux in Intrinsic Resistance to Trimethoprim and Sulfamethoxazole in *Pseudomonas aeruginosa.*" <u>Antimicrob. Agents Chemother.</u> 40 (1996): 2288-2290. PubMed: 9036831.

Figure 1: Colony Morphology



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Technical Manager or designee, ATCC Federal Solutions

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