

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

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.

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

³*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.

⁴Trimethoprim/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*.” *Antimicrob. Agents Chemother.* 40 (1996): 2288-2290. PubMed: 9036831.

Figure 1: Colony Morphology



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