

Pseudomonas aeruginosa, Strain MRSN 11278

Catalog No. NR-51564

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Product Description:

Pseudomonas aeruginosa (*P. aeruginosa*), strain MRSN 11278 was isolated in 2012 from a human respiratory sample in the United States as part of a global surveillance program. *P. aeruginosa*, strain MRSN 11278 was deposited as multi-locus sequence type (MLST) ST 829, sensitive to ceftazidime and piperacillin/tazobactam, intermediately resistant to amikacin and levofloxacin and resistant to aztreonam, cefepime, ciprofloxacin, gentamicin, imipenem, meropenem and tobramycin. NR-51564 was produced by inoculation of BEI Resources seed lot 70025006 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: 70063500

Manufacturing Date: 20SEP2023

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TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology Motility (wet mount) VITEK® MS (MALDI-TOF)	Gram-negative rods Report results Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, convex, entire, smooth and cream Motile <i>P. aeruginosa</i> (99.9%)
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 Sensitive Resistant Sensitive Resistant Sensitive Resistant Sensitive Resistant Report results Sensitive Resistant Sensitive Resistant Resistant Report results	Sensitive (16 µg/mL) ³ Resistant (≥ 32 µg/mL) Resistant (≥ 32 µg/mL) Resistant (≥ 64 µg/mL) Sensitive (8 µg/mL) ⁴ Resistant (≥ 64 µg/mL) Sensitive (≤ 1 µg/mL) Resistant (≥ 64 µg/mL) Sensitive (1 µg/mL) ⁵ Resistant (≥ 16 µg/mL) Intermediate (4 µg/mL) ⁶ Intermediate (4 µg/mL) ^{7,8} Resistant (≥ 512 µg/mL) Sensitive (≤ 4 µg/mL) Resistant (≥ 16 µg/mL) Resistant (≥ 16 µg/mL) ≥ 320 µg/mL ⁹
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1470 base pairs)	≥ 99% sequence identity to <i>P. aeruginosa</i> , strain MRSN 11278 (GenBank: RXWS01000149.1)	100% sequence identity to <i>P. aeruginosa</i> , strain MRSN 11278 (GenBank: RXWS01000149.1)
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 bioMérieux VITEK® 2 GN81.

³*P. aeruginosa*, strain MRSN 11278 was deposited as intermediately resistant to amikacin, but showed a MIC of 16 µg/mL (interpreted as sensitive) for lot 70025005 during QC testing.

⁴*P. aeruginosa*, strain MRSN 11278 was deposited as resistant to cefepime, but showed a MIC of 8 µg/mL (interpreted as sensitive) for lot 70025005 during QC testing.

⁵*P. aeruginosa*, strain MRSN 11278 was deposited as resistant to ciprofloxacin, but showed a MIC of 1 µg/mL (interpreted as sensitive) for lot 70025005 during QC testing.

⁶*P. aeruginosa*, strain MRSN 11278 was deposited as intermediately resistant to levofloxacin but showed MICs of 2 µg/mL (interpreted as sensitive) and 4 µg/mL (interpreted as intermediately resistant) for lot 70025005 during QC testing, resulting in an inconclusive result.

⁷*P. aeruginosa*, strain MRSN 11278 was deposited as resistant to meropenem, but showed a MIC of 2 µg/mL (interpreted as sensitive) for lot 70025005 during QC testing.

⁸The susceptibility result for this antibiotic is within one doubling dilution of specification, which is considered an equivalent result.

⁹Trimethoprim/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.

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