

Pseudomonas aeruginosa, Strain MRSN 14981

Catalog No. NR-51577

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Product Description:

Pseudomonas aeruginosa (*P. aeruginosa*), strain MRSN 14981 was isolated in 2013 from a human respiratory sample in the United States as part of a global surveillance program. *P. aeruginosa*, strain MRSN 14981 was deposited as multi-locus sequence type (MLST) ST 3004, sensitive to amikacin, gentamicin and tobramycin, intermediately resistant to aztreonam and meropenem and resistant to ceftazidime, ciprofloxacin, cefepime, imipenem, levofloxacin and piperacillin/tazobactam. NR-51577 was produced by inoculation of BEI Resources seed lot 70025061 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: 70073395

Manufacturing Date: 29JAN2025

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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, low convex, entire, smooth and cream Motile <i>P. aeruginosa</i> (99.9%)
Antibiotic Susceptibility Profile^{1,2,3} Amikacin Cefazolin Cefepime Ceftazidime Ciprofloxacin Gentamicin Levofloxacin Meropenem Piperacillin/tazobactam Tobramycin	Sensitive Resistant Sensitive Resistant Intermediate Sensitive Intermediate Intermediate Resistant Sensitive	Sensitive (≤ 2 µg/mL) Resistant (≥ 64 µg/mL) Intermediate (16 µg/mL) ^{4,5} Resistant (≥ 64 µg/mL) Intermediate (2 µg/mL) ⁶ Sensitive (≤ 1 µg/mL) Resistant (≥ 8 µg/mL) ^{5,7} Intermediate (4 µg/mL) Resistant (≥ 128 µg/mL) Sensitive (≤ 1 µg/mL)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1430 base pairs)	$\geq 99\%$ sequence identity to <i>P. aeruginosa</i> , strain MRSN 14981 (GenBank: RXWB01000131.1)	100% sequence identity to <i>P. aeruginosa</i> , strain MRSN 14981 (GenBank: RXWB01000131.1)
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 09.02 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.

³Antibiotic susceptibility was tested using a combination of bioMérieux VITEK® 2 GN81 and ETEST®.

⁴*P. aeruginosa* and other nonfermentative gram-negative bacteria are intrinsically resistant to penicillin, cephalosporins I, cephalosporin II, cephamycins, clindamycin, daptomycin, fusidic acid, glycopeptides, linezolid, macrolides, quinupristin-dalfopristin, and rifampin. These antibiotics

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were removed from the VITEK® 2 GN81 card and are no longer tested: ampicillin, amoxicillin, amoxicillin/clavulanic acid, cefoxitin, ceftriaxone, cefuroxime, ertapenem, tetracycline, tigecycline, trimethoprim/sulfamethoxazole, chloramphenicol and nitrofurantoin.

⁴*P. aeruginosa*, strain MRSN 14981 was deposited as resistant to cefepime, but showed a MIC of 8 µg/mL (interpreted as sensitive) for lot 70025060 during QC testing.

⁵Susceptibility results for this antibiotic are within one doubling dilution of specification, which is considered an equivalent result.

⁶*P. aeruginosa*, strain MRSN 14981 was deposited as resistant to ciprofloxacin, but showed a MIC of 2 µg/mL (interpreted as intermediately resistant) for lot 70025060 during QC testing.

⁷*P. aeruginosa*, strain MRSN 14981 was deposited as resistant to levofloxacin, but showed a MIC of 4 µg/mL (interpreted as intermediately resistant) for lot 70025060 during QC testing.

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