

Pseudomonas aeruginosa, Strain MRSN 8136

Catalog No. NR-51556

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Product Description:

Pseudomonas aeruginosa (*P. aeruginosa*), strain MRSN 8136 was isolated in 2012 from a human wound sample in the United States as part of a global surveillance program. *P. aeruginosa*, strain MRSN 8136 was deposited as multi-locus sequence type (MLST) ST 381, sensitive to amikacin, gentamicin and tobramycin, intermediately resistant to piperacillin/tazobactam and resistant to aztreonam, cefepime, ceftazidime, ciprofloxacin, imipenem, levofloxacin and meropenem. NR-51556 was produced by inoculation of BEI Resources seed lot 70024989 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: 70070583

Manufacturing Date: 14AUG2024

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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^{1,2,3} Amikacin Cefazolin Cefepime Ceftazidime Ciprofloxacin Gentamicin Levofloxacin Meropenem Piperacillin/tazobactam Tobramycin	Sensitive Resistant Resistant Resistant Resistant Sensitive Resistant Resistant Resistant Sensitive	Sensitive (16 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 4 µg/mL) Intermediate (6 µg/mL) ⁴ Resistant (≥ 8 µg/mL) Resistant (≥ 16 µg/mL) Resistant (≥ 128 µg/mL) ⁵ Sensitive (≤ 1 µg/mL)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1410 base pairs)	≥ 99% sequence identity to <i>P. aeruginosa</i> , strain MRSN 8136 (GenBank: RXTF01000062.1)	100% sequence identity to <i>P. aeruginosa</i> , strain MRSN 8136 (GenBank: RXTF01000062.1)
Purity 11 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 and ETEST®.

³*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.

⁴The susceptibility result for this antibiotic is within one doubling dilution of specification, which is considered an equivalent result.

⁵*P. aeruginosa*, strain MRSN 8136 was deposited as intermediately resistant to piperacillin/tazobactam, but showed a MIC of ≥ 128 µg/mL (interpreted as resistant) for lot 70024988 during QC testing.

/Sonia Bjorum Brower/

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