

***Pseudomonas aeruginosa*, Strain MRSN 994**

Catalog No. NR-51519

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Product Description:

Pseudomonas aeruginosa (*P. aeruginosa*), strain MRSN 994 was isolated in 2010 from a human respiratory sample in the United States as part of a global surveillance program. *P. aeruginosa*, strain MRSN 994 was deposited as multi-locus sequence type (MLST) ST 27, sensitive to amikacin, gentamicin and tobramycin and resistant to aztreonam, ceftazidime, ciprofloxacin, cefepime, imipenem, levofloxacin, meropenem and piperacillin/tazobactam. NR-51519 was produced by inoculation of BEI Resources seed lot 70024593 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: 70055209

Manufacturing Date: 24AUG2022

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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, convex, undulate, smooth and green 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 Intermediate Resistant Resistant Resistant Resistant Resistant Resistant Sensitive Resistant Resistant Resistant Resistant Resistant Sensitive Report results	Sensitive (≤ 2 µg/mL) Resistant (≥ 32 µg/mL) Resistant (≥ 32 µg/mL) Resistant (≥ 64 µg/mL) Intermediate (16 µg/mL) ³ Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 4 µg/mL) Sensitive (≤ 1 µg/mL) Resistant (≥ 8 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 994 (GenBank: RXSX0100034.1)	100% sequence identity to <i>P. aeruginosa</i> , strain MRSN 994 (GenBank: RXSX0100034.1)
Purity (post-freeze) 7 days at 37°C in an aerobic atmosphere with 5% CO ₂ on Tryptic Soy agar with 5% defibrinated sheep blood	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze)	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 994 was deposited as resistant to cefepime, but showed a MIC of 16 µg/mL (interpreted as intermediately resistant) for lot 70024592 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.

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