

***Pseudomonas aeruginosa*, Strain MRSN 2444**

**Catalog No. NR-51540**

This reagent is the tangible property of the U.S. Government.

**Product Description:**

*Pseudomonas aeruginosa* (*P. aeruginosa*), strain MRSN 2444 was isolated in 2009 from a human respiratory sample in the United States as part of a global surveillance program. *P. aeruginosa*, strain MRSN 2444 was deposited as multi-locus sequence type (MLST) ST 654, sensitive to amikacin, cefepime, ceftazidime and piperacillin/tazobactam, intermediately resistant to aztreonam and resistant to ciprofloxacin, gentamicin, imipenem, levofloxacin, meropenem and tobramycin. NR-51540 was produced by inoculation of BEI Resources seed lot 70024953 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: 70064787**

**Manufacturing Date: 15NOV2023**

BEI Resources is committed to ensuring digital accessibility for people with disabilities. This Certificate of Analysis contains complex tables and may not be fully accessible. Please let us know if you encounter accessibility barriers and a fully accessible document will be provided: E-mail: [Contact@BEIResources.org](mailto:Contact@BEIResources.org). We try to respond to feedback within 24 hours.

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> 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, undulate, opaque and cream  Motile <i>P. aeruginosa</i> (99%)
<b>Antibiotic Susceptibility Profile<sup>1,2</sup></b> Amikacin Amoxicillin/clavulanic acid Ampicillin Cefazolin Cefepime Cefoxitin Ceftazidime Ceftriaxone Ciprofloxacin Gentamicin Levofloxacin Meropenem Nitrofurantoin Piperacillin/tazobactam Tetracycline Tobramycin Trimethoprim/sulfamethoxazole	Intermediate Resistant Resistant Resistant Sensitive Resistant Sensitive Resistant Resistant Resistant Resistant Resistant Resistant Resistant Sensitive Resistant Resistant Report results	Intermediate (32 µg/mL) <sup>3</sup> Resistant (≥ 32 µg/mL) Resistant (≥ 32 µg/mL) Resistant (≥ 64 µg/mL) Sensitive (8 µg/mL) Resistant (≥ 64 µg/mL) Sensitive (4 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 4 µg/mL) Resistant (≥ 16 µg/mL) Resistant (≥ 8 µg/mL) Resistant (≥ 16 µg/mL) Resistant (≥ 512 µg/mL) Intermediate (32 µg/mL) <sup>4</sup> Resistant (≥ 16 µg/mL) Resistant (≥ 16 µg/mL) ≥ 320 µg/mL <sup>5</sup>
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA gene (~ 1430 base pairs)	≥ 99% sequence identity to <i>P. aeruginosa</i> , strain MRSN 2444 (GenBank: RXUP01000183.1)	100% sequence identity to <i>P. aeruginosa</i> , strain MRSN 2444 (GenBank: RXUP01000183.1)
<b>Purity</b> 11 days at 37°C in an aerobic atmosphere with and without 5% CO <sub>2</sub> on Tryptic Soy agar	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology

TEST	SPECIFICATIONS	RESULTS
Viability	Growth	Growth

<sup>1</sup>Minimum 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.

<sup>2</sup>Antibiotic susceptibility was tested using bioMérieux VITEK® 2 GN81.

<sup>3</sup>*P. aeruginosa*, strain MRSN 2444 was deposited as sensitive to amikacin, but showed a MIC of 32 µg/mL (interpreted as intermediately resistant) for lot 70024952 during QC testing.

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

<sup>5</sup>Trimethoprim/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.

/Sonia Bjorum Brower/

Sonia Bjorum Brower

16 FEB 2024

Technical Manager or designee, ATCC Federal Solutions

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

ATCC® is a trademark of the American Type Culture Collection.

You are authorized to use this product for research use only. It is not intended for human use.

