

***Pseudomonas aeruginosa*, Strain MRSN 20176**

Catalog No. NR-51595

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

Product Description:

Pseudomonas aeruginosa (*P. aeruginosa*), strain MRSN 20176 was isolated in 2013 from a human in Afghanistan as part of a global surveillance program. *P. aeruginosa*, strain MRSN 20176 was deposited as multi-locus sequence type (MLST) ST 316, sensitive to meropenem, intermediately resistant to amikacin and resistant to aztreonam, cefepime, ceftazidime, ciprofloxacin, gentamicin, imipenem, levofloxacin, piperacillin/tazobactam and tobramycin. NR-51595 was produced by inoculation of BEI Resources seed lot 70025097 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: 70059160

Manufacturing Date: 02MAR2023

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. We try to respond to feedback within 24 hours.

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, slight peaked, undulate, smooth and cream (Figure 1) 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	Resistant Resistant Resistant Resistant Resistant Resistant Resistant Resistant Resistant Resistant Resistant Resistant Resistant Resistant Resistant Resistant Resistant Resistant Report results	Resistant (≥ 64 µg/mL) ³ Resistant (≥ 32 µg/mL) Resistant (≥ 32 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 4 µg/mL) Resistant (≥ 16 µg/mL) Resistant (≥ 8 µg/mL) Sensitive (1 µg/mL) Resistant (≥ 512 µg/mL) Resistant (≥ 128 µg/mL) Resistant (≥ 16 µg/mL) Resistant (≥ 16 µg/mL) ≥ 320 µg/mL ⁴
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1470 base pairs)	≥ 99% sequence identity to <i>P. aeruginosa</i> , strain MRSN 20176 (GenBank: RXUW01000149.1)	99.9% sequence identity to <i>P. aeruginosa</i> , strain MRSN 20176 (GenBank: RXUW01000149.1)
Purity 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

TEST	SPECIFICATIONS	RESULTS
Viability	Growth	Growth

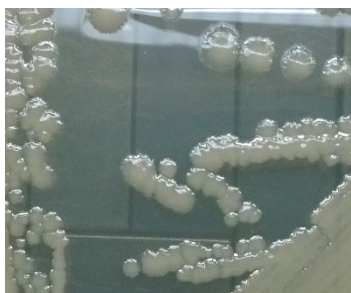
¹Minimum Inhibitory Concentration (MIC); MIC interpretation was determined using VITEK® 2 software version 07.01 combined with the bioMérieux Advanced Expert System™ (AES) software using the interpretation standard CLSI M100-S28 (2018) and the interpretation guideline “Natural Resistance.” For more information, 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 20176 was deposited as intermediately resistant to amikacin, but showed a MIC of ≥ 64 µg/mL (interpreted as resistant) for lot 70025096 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.

Figure 1: Colony Morphology



/Sonia Bjorum Brower/
Sonia Bjorum Brower

25 JAN 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.

