Certificate of Analysis for NR-51583

Pseudomonas aeruginosa, Strain MRSN 16383

Catalog No. NR-51583

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

Product Description:

Pseudomonas aeruginosa (P. aeruginosa), strain MRSN 16383 was isolated in 2013 from a human respiratory sample in the United States as part of a global surveillance program. *P. aeruginosa*, strain MRSN 16383 was deposited as multi-locus sequence type (MLST) ST 3006, sensitive to amikacin, aztreonam, ceftazidime, meropenem, piperacillin/tazobactam and tobramycin, intermediately resistant to gentamicin and imipenem and resistant to cefepime, ciprofloxacin and levofloxacin. NR-51583 was produced by inoculation of BEI Resources seed lot 70025073 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: 70074704 **Manufacturing Date: 26MAR2025**

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	Gram-negative rods	Gram-negative rods
Colony morphologies[1]	Report results	Colony Type 1: Circular, convex, entire, smooth and cream (Figure 1) Colony Type 2: Circular, low convex, entire, smooth and cream (Figure 1)
Motility (wet mount)	Report results	Motile
VITEK® MS (MALDI-TOF)	*P. aeruginosa*	*P. aeruginosa* (99.9%)
Antibiotic Susceptibility Profile[2,3,4]		
Amikacin	Sensitive	Sensitive (16 µg/mL)
Cefazolin	Resistant	Resistant (≥ 64 µg/mL)
Cefepime	Intermediate	Sensitive (8 µg/mL)[5]
Ceftazidime	Sensitive	Sensitive (4 µg/mL)
Ciprofloxacin	Resistant	Resistant (≥ 4 µg/mL)
Gentamicin	Intermediate	Intermediate (8 µg/mL)
Levofloxacin	Resistant	Resistant (≥ 8 µg/mL)
Meropenem	Sensitive	Sensitive (≤ 0.25 µg/mL)
Piperacillin/tazobactam	Sensitive	Sensitive (≤ 4 µg/mL)
Tobramycin	Sensitive	Sensitive (≤ 1 µg/mL)
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 1420 base pairs)	≥ 99% sequence identity to *P. aeruginosa*, strain MRSN 16383 (GenBank: RXVQ01000033.1)	100% sequence identity to *P. aeruginosa*, strain MRSN 16383 (GenBank: RXVQ01000033.1)
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

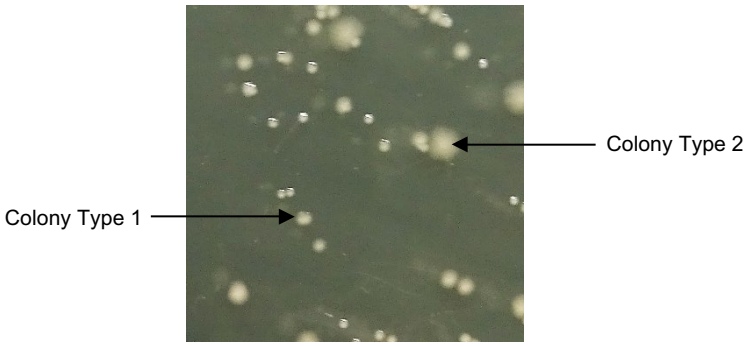
[1]Two colony types were observed. VITEK® MS (MALDI-TOF) analysis identified cells from both colony types as *P. aeruginosa*.
[2]Minimum Inhibitory Concentration (MIC); MIC interpretation was determined using VITEK® 2 software version 09.02 combined with the bioMérieux Advanced Expert System™ (AES) software 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.
[3]Antibiotic susceptibility was tested using using a combination of bioMérieux VITEK® 2 GN81 and ETEST®.

BEI Resources
www.beiresources.org
E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898

[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 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.

[5]*P. aeruginosa,* strain MRSN 16383 was deposited as resistant to cefepime, but showed an MIC of 16 µg/mL (interpreted as intermediately resistant) for lot 70025072 during QC testing. Testing was performed in duplicate. The susceptibility result of the current lot for this antibiotic is within one doubling dilution of specification, which is considered an equivalent result.

Figure 1: Colony Morphology



/Sonia Bjorum Brower/
Sonia Bjorum Brower 14 AUG 2025
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.

Support Provided by NIAID