Certificate of Analysis for NR-51612

Pseudomonas aeruginosa, Strain MRSN 435288

Catalog No. NR-51612

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

Product Description:

Pseudomonas aeruginosa (P. aeruginosa), strain MRSN 435288 was isolated in 2016 from a human respiratory sample in the United States as part of a global surveillance program. *P. aeruginosa*, strain MRSN 435288 was deposited as multi-locus sequence type (MLST) ST 3012, sensitive to amikacin, aztreonam, ceftazidime, cefepime, piperacillin/tazobactam, meropenem and tobramycin, intermediately resistant to gentamicin and imipenem and resistant to ciprofloxacin and levofloxacin. NR-51612 was produced by inoculation of BEI Resources seed lot 70025131 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: 70075484 Manufacturing Date: 23APR2025

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 morphology	Report results	Circular, convex, entire, smooth and cream to green (Figure 1)
Motility (wet mount)	Report results	Motile
VITEK® MS (MALDI-TOF)	*P. aeruginosa*	*P. aeruginosa* (99.9%)
Antibiotic Susceptibility Profile[1,2,3]		
Amikacin	Intermediate	Sensitive (16 µg/mL)[4]
Cefazolin	Resistant	Resistant (≥ 64 µg/mL)
Cefepime	Sensitive	Sensitive (2 µg/mL)
Ceftazidime	Sensitive	Sensitive (≤ 1 µg/mL)
Ciprofloxacin	Report results	Sensitive (1 µg/mL)[5]
Gentamicin	Sensitive	Sensitive (4 µg/mL)[6]
Levofloxacin	Intermediate	Intermediate (4 µg/mL)[7]
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 (~ 1440 base pairs)	≥ 99% sequence identity to *P. aeruginosa*, strain MRSN 435288 (GenBank: RXTW01000106.1)	100% sequence identity to *P. aeruginosa*, strain MRSN 435288 (GenBank: RXTW01000106.1)
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]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.

[2]Antibiotic susceptibility was tested using bioMérieux VITEK® 2 GN81.

[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 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.

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

© 2025 American Type Culture Collection (ATCC). All rights reserved.

[4]*P. aeruginosa*, strain MRSN 435288 was deposited as sensitive to amikacin, but showed a MIC of 32 µg/mL (interpreted as intermediately resistant) for lot 70025130 during QC testing.
[5]*P. aeruginosa*, strain MRSN 435288 was deposited as resistant to ciprofloxacin, but showed a MICs of 1 µg/mL (interpreted as sensitive) and 2 µg/mL (interpreted as intermediately resistant) for lot 70025130 during QC testing, resulting in an inconclusive result.
[6]*P. aeruginosa*, strain MRSN 435288 was deposited as intermediately resistant to gentamicin, but showed a MIC of 4 µg/mL (interpreted as sensitive) for lot 70025130 during QC testing.
[7]*P. aeruginosa*, strain MRSN 435288 was deposited as resistant to levofloxacin, but showed MIC of 4 µg/mL (interpreted as intermediately resistant) for lot 70025130 during QC testing.

Figure 1: Colony Morphology

/Sonia Bjorum Brower/
Sonia Bjorum Brower 17 SEP 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.

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.

Support Provided by NIAID

BEI Resources
www.beiresources.org

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

© 2025 American Type Culture Collection (ATCC). All rights reserved.