

# Pseudomonas aeruginosa, Strain MRSN 12283

## Catalog No. NR-51572

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## Product Description:

*Pseudomonas aeruginosa* (*P. aeruginosa*), strain MRSN 12283 was isolated in 2012 from a human urine sample in the United States as part of a global surveillance program. *P. aeruginosa*, strain MRSN 12283 was deposited as multi-locus sequence type (MLST) ST 646, sensitive to amikacin, aztreonam, ceftazidime, ciprofloxacin, cefepime, gentamicin, levofloxacin, tobramycin and piperacillin/tazobactam, intermediately resistant to meropenem and resistant to imipenem. NR-51572 was produced by inoculation of BEI Resources seed lot 70025042 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: 70072948

Manufacturing Date: 06DEC2024

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| TEST                                                                                                                                                                                                               | SPECIFICATIONS                                                                                                                              | RESULTS                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Phenotypic Analysis</b><br>Cellular morphology<br>Colony morphologies <sup>1</sup><br><br>Motility (wet mount)<br>VITEK® MS (MALDI-TOF)                                                                         | Gram-negative rods<br>Report results<br><br>Report results<br><i>P. aeruginosa</i>                                                          | Gram-negative rods<br>Colony type 1: Irregular, flat, undulate, smooth, opaque and cream (Figure 1)<br>Colony type 2: Circular, low convex, entire, smooth and cream (Figure 1)<br>Motile<br><i>P. aeruginosa</i> (99.9%)                                        |
| <b>Antibiotic Susceptibility Profile</b> <sup>2,3,4</sup><br>Amikacin<br>Cefazolin<br>Cefepime<br>Ceftazidime<br>Ciprofloxacin<br>Gentamicin<br>Levofloxacin<br>Meropenem<br>Piperacillin/tazobactam<br>Tobramycin | Sensitive<br>Resistant<br>Sensitive<br>Sensitive<br>Sensitive<br>Sensitive<br>Sensitive<br>Sensitive<br>Sensitive<br>Sensitive<br>Sensitive | Sensitive (4 µg/mL)<br>Resistant (≥ 64 µg/mL)<br>Sensitive (4 µg/mL)<br>Sensitive (2 µg/mL)<br>Sensitive (≤ 0.25 µg/mL)<br>Sensitive (4 µg/mL)<br>Sensitive (0.5 µg/mL)<br>Intermediate (4 µg/mL) <sup>5,6</sup><br>Sensitive (8 µg/mL)<br>Sensitive (≤ 1 µg/mL) |
| <b>Genotypic Analysis</b><br>Sequencing of 16S ribosomal RNA gene (~ 1430 base pairs)                                                                                                                              | ≥ 99% sequence identity to <i>P. aeruginosa</i> , strain MRSN 12283 (GenBank: RXWK01000038.1)                                               | 99.9% sequence identity to <i>P. aeruginosa</i> , strain MRSN 12283 (GenBank: RXWK01000038.1)                                                                                                                                                                    |
| <b>Purity</b><br>7 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                                                                                                                                                                                                                |
| <b>Viability</b>                                                                                                                                                                                                   | Growth                                                                                                                                      | Growth                                                                                                                                                                                                                                                           |

<sup>1</sup>Two colony types were observed. Plating of the individual colony types showed that they did not revert to the mixed colony type. VITEK® MS (MALDI-TOF) analysis identified cells from both colony types as *P. aeruginosa*.

<sup>2</sup>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.

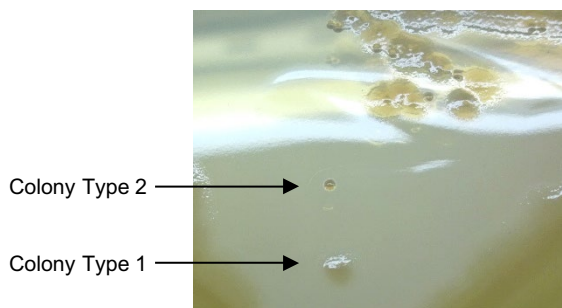
<sup>3</sup>Antibiotic susceptibility was tested using bioMérieux VITEK® 2 GN81.

<sup>4</sup>*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, ceftriaxone, cefuroxime, ertapenem, tetracycline, tigecycline, trimethoprim/sulfamethoxazole, chloramphenicol and nitrofurantoin.

<sup>5</sup>*P. aeruginosa* strain MRSN 12283 was deposited as intermediately resistant to meropenem, and was found to be sensitive for lot 70025041, but showed a MIC of 4µg/mL (interpreted as intermediately resistant ) for lot 70072948 during QC testing.

<sup>6</sup>Susceptibility results for this antibiotic is within one doubling dilution of specification, which is considered an equivalent result.

**Figure 1: Colony Morphology**



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