

Pseudomonas aeruginosa, Strain MRSN 436311

Catalog No. NR-51613

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Product Description:

Pseudomonas aeruginosa (*P. aeruginosa*), strain MRSN 436311 was isolated in 2016 from human urine as part of a surveillance program in the United States. *P. aeruginosa*, strain MRSN 436311 was deposited as sensitive to amikacin, ceftazidime, gentamicin and tobramycin and resistant to imipenem, cefepime, meropenem and aztreonam, with intermediate resistance to levofloxacin, ciprofloxacin and piperacillin/tazobactam.

Lot: 70025132¹

Manufacturing Date: 02AUG2019

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology ^{2,3} Motility (wet mount) VITEK® 2 (GN card)	Gram-negative rods Report results Report results <i>P. aeruginosa</i> (≥ 89%)	Gram-negative rods Colony type 1: Circular, convex, entire, smooth and cream (Figure 1) Colony type 2: Irregular, low convex, undulate, opaque, rough and white (Figure 1) Motile <i>P. aeruginosa</i> (≥ 98%)
Antibiotic Susceptibility Profile^{4,5} VITEK® (AST-GN81 Card) Ampicillin Amoxicillin/clavulanic acid Piperacillin/tazobactam Cefazolin Cefoxitin Ceftazidime Ceftriaxone Cefepime Meropenem Amikacin Gentamicin Tobramycin Ciprofloxacin Levofloxacin Tetracycline Nitrofurantoin Trimethoprim/sulfamethoxazole Etest® antibiotic test strips ⁹ Ciprofloxacin Levofloxacin	Report results Report results Intermediate Report results Report results Sensitive Report results Resistant Resistant Sensitive Sensitive Sensitive Intermediate Intermediate Report results Report results Report results Intermediate Intermediate	Resistant (≥ 32 µg/mL) Resistant (≥ 32 µg/mL) Intermediate (32 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Intermediate (8 µg/mL) ⁶ Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 16 µg/mL) Sensitive (16 µg/mL) Intermediate (8 µg/mL) ⁶ Sensitive (≤ 1 µg/mL) Sensitive (≤ 1 µg/mL) ⁷ Intermediate (4 µg/mL) Resistant (≥ 16 µg/mL) Resistant (≥ 512 µg/mL) ≥ 320 µg/mL ⁸ Intermediate (1.5 µg/mL) Resistant (8 µg/mL) ¹⁰
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1410 base pairs)	≥ 99% sequence identity to <i>P. aeruginosa</i> , strain MRSN 436311 (GenBank: RXTV01000033.1)	100% sequence identity to <i>P. aeruginosa</i> , strain MRSN 436311 (GenBank: RXTV01000033.1)
Purity (post-freeze)¹¹	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze)²	Growth	Growth

¹NR-51613 was produced by inoculation of the depositor material 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.

²1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar

³Two 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 the cells from both colony types as *P. aeruginosa*. The 16S ribosomal RNA gene of each colony type was sequenced and found to have 100% sequence identity to the other colony type and to *P. aeruginosa* strain MRSN 436311 (GenBank: RXTV01000033.1).

⁴Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

⁵Antibiotic susceptibility testing was performed using a mixed colony suspension.

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

⁷*P. aeruginosa*, strain MRSN 436311 was deposited as intermediate to ciprofloxacin, but showed a MIC of ≤ 1 µg/mL (interpreted as sensitive) for ciprofloxacin during QC testing. Testing was performed 6 times.

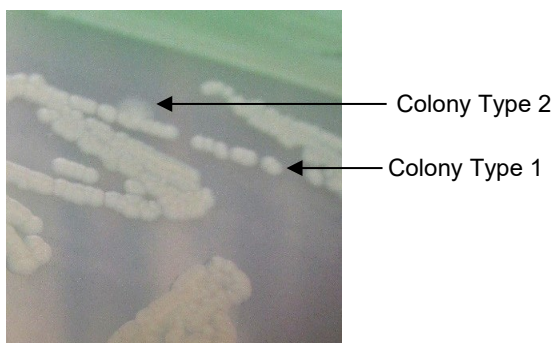
⁸Trimethoprim/sulfamethoxazole MIC interpretive standards are not available for *P. aeruginosa*, however most clinical isolates are resistant to trimethoprim/sulfamethoxazole. For more information, please refer to Köhler, T., et al. "Multidrug Efflux in Intrinsic Resistance to Trimethoprim and Sulfamethoxazole in *Pseudomonas aeruginosa*." *Antimicrob. Agents Chemother.* 40 (1996): 2288-2290. PubMed: 9036831.

⁹1 day at 37°C in an aerobic atmosphere on Mueller Hinton agar

¹⁰*P. aeruginosa*, strain MRSN 436311 was deposited as intermediate to levofloxacin, but showed a MIC of 8 µg/mL (interpreted as resistant) for levofloxacin during QC testing. Testing was performed in duplicate.

¹¹Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere with and without 5% CO₂ on Tryptic Soy agar.

Figure 1: Colony Morphology



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