Certificate of Analysis for NR-51599

Pseudomonas aeruginosa, Strain MRSN 25678

Catalog No. NR-51599

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

Product Description:

Pseudomonas aeruginosa (P. aeruginosa), strain MRSN 25678 was isolated from human urine in 2014 as part of a surveillance program in the United States. *P. aeruginosa*, strain MRSN 25678 was deposited as sensitive to amikacin, imipenem and tobramycin and resistant to aztreonam, ciprofloxacin, cefepime and levofloxacin, with intermediate resistance to ceftazidime, gentamicin, meropenem and piperacillin/tazobactam.

Lot: 70025104[1] **Manufacturing Date: 01AUG2020**

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-negative rods	Gram-negative rods
Colony morphology[2]	Report results	Circular, convex, entire, smooth and cream (Figure 1)
Motility (wet mount)	Report results	Motile
VITEK® 2 (GN card)	*P. aeruginosa* (≥ 89%)	*P. aeruginosa* (97%)
Antibiotic Susceptibility Profile[3]		
VITEK® (AST-GN81 Card)		
Ampicillin	Report results	Resistant (≥ 32 µg/mL)
Amoxicillin/clavulanic acid	Report results	Resistant (≥ 32 µg/mL)
Piperacillin/tazobactam	Intermediate	Sensitive (16 µg/mL)[4]
Cefazolin	Report results	Resistant (≥ 64 µg/mL)
Cefoxitin	Report results	Resistant (≥ 64 µg/mL)
Ceftazidime	Intermediate	Intermediate (16 µg/mL)
Ceftriaxone	Report results	Resistant (≥ 64 µg/mL)
Cefepime	Resistant	Resistant (≥ 64 µg/mL)
Meropenem	Intermediate	Intermediate (2-4 µg/mL)
Amikacin	Sensitive	Intermediate (32 µg/mL)[5]
Gentamicin	Intermediate	Sensitive (4 µg/mL)[4]
Tobramycin	Sensitive	Sensitive (≤ 1 µg/mL)
Ciprofloxacin	Resistant	Intermediate (2 µg/mL)[6]
Levofloxacin	Resistant	Intermediate (4 µg/mL)[7]
Tetracycline	Report results	Resistant (≥ 16 µg/mL)
Nitrofurantoin	Report results	Resistant (≥ 512 µg/mL)
Trimethoprim/sulfamethoxazole	Report results	≥ 320 µg/mL[8]
Etest® antibiotic test strips[9]		
Gentamicin	Intermediate	Intermediate (12 µg/mL)
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 1400 base pairs)	≥ 99% sequence identity to *P. aeruginosa,* strain MRSN 25678 (GenBank: RXUN01000193.1)	100% sequence identity to *P. aeruginosa,* strain MRSN 25678 (GenBank: RXUN01000193.1)
Purity (post-freeze)[10]	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze)[2]	Growth	Growth

[1]NR-51599 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.
[2]1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar
[3]Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)
[4]The susceptibility result for this antibiotic is within one doubling dilution of specification, which is considered an equivalent result.

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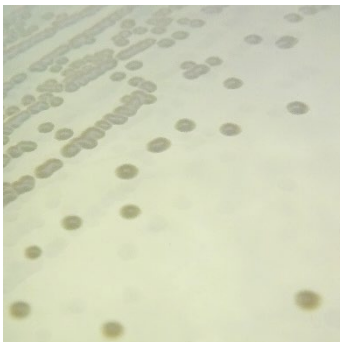
[5]*P. aeruginosa,* strain MRSN 25678 was deposited as sensitive to amikacin, but showed a MIC of 32 µg/mL (interpreted as intermediate) for amikacin during QC testing. Testing was performed in duplicate.
[6]*P. aeruginosa,* strain MRSN 25678 was deposited as resistant to ciprofloxacin, but showed a MIC of 2 µg/mL (interpreted as intermediate) for ciprofloxacin during QC testing. Testing was performed in duplicate.
[7]*P. aeruginosa,* strain MRSN 25678 was deposited as resistant to levofloxacin, but showed a MIC of 4 µg/mL (interpreted as intermediate) for levofloxacin during QC testing. Testing was performed in duplicate.
[8]Trimethoprim/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.
[9]1 day at 37°C in an aerobic atmosphere on Mueller Hinton agar
[10]Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere with and without 5% CO_2 on Tryptic Soy agar.

Figure 1: Colony Morphology



/Heather Couch/
Heather Couch 20 JAN 2020
Program Manager or designee, ATCC Federal Solutions

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