Certificate of Analysis for NR-51562

Pseudomonas aeruginosa, Strain MRSN 9718

Catalog No. NR-51562

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Product Description:

Pseudomonas aeruginosa (P. aeruginosa), strain MRSN 9718 was isolated in 2012 from human urine as part of a surveillance program in the United States. *P. aeruginosa*, strain MRSN 9718 was deposited as sensitive to amikacin, aztreonam, cefepime, ceftazidime, ciprofloxacin, gentamicin, imipenem and tobramycin and resistant to levofloxacin and meropenem with intermediate resistance to piperacillin/tazobactam.

Lot: 70025001[1] **Manufacturing Date: 07JUN2019**

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-negative rods	Gram-negative rods
Colony morphologies[2,3]	Report results	Colony type 1: Circular, low convex, entire, smooth and cream (Figure 1) Colony type 2: Circular, convex, entire, smooth and cream (Figure 1)
Motility (wet mount)	Report results	Motile
VITEK® 2 (GN card)	*P. aeruginosa* (≥ 89%)	*P. aeruginosa* (99%)
Antibiotic Susceptibility Profile[4,5]		
VITEK® (AST-GN81 Card)		
Ampicillin	Report results	Resistant (≥ 32 µg/mL)
Amoxicillin/clavulanic acid	Report results	Variable (16-≥ 32 µg/mL)
Piperacillin/tazobactam	Intermediate	Sensitive (16 µg/mL)[6]
Cefazolin	Report results	Resistant (≥ 64 µg/mL)
Cefoxitin	Report results	Resistant (≥ 64 µg/mL)
Ceftazidime	Sensitive	Sensitive (4 µg/mL)
Ceftriaxone	Report results	Variable (16-≥ 64 µg/mL)
Cefepime	Sensitive	Sensitive (≤ 4 µg/mL)
Meropenem	Resistant	Variable (4-≥ 16 µg/mL)
Amikacin	Sensitive	Sensitive (≤ 2 µg/mL)
Gentamicin	Sensitive	Sensitive (≤ 1 µg/mL)
Tobramycin	Sensitive	Sensitive (≤ 1 µg/mL)
Ciprofloxacin	Sensitive	Resistant (≥ 4 µg/mL)[7]
Levofloxacin	Resistant	Resistant (≥ 8 µg/mL)
Tetracycline	Report results	Resistant (≥ 16 µg/mL)
Nitrofurantoin	Report results	Resistant (≥ 512 µg/mL)
Trimethoprim/sulfamethoxazole	Report results	≥ 320 µg/mL[8]
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 1470 base pairs)	≥ 99% sequence identity to *P. aeruginosa*, strain MRSN 9718 (GenBank: RXSZ01000188.1)	100% sequence identity to *P. aeruginosa*, strain MRSN 9718 (GenBank: RXSZ01000188.1)
Purity (post-freeze)[9]	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze)[2]	Growth	Growth

[1]NR-51562 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

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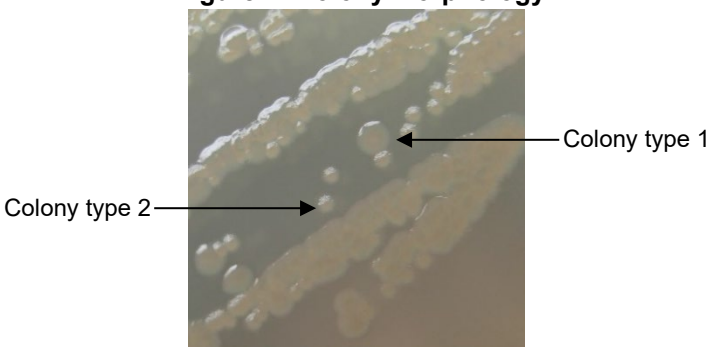
[3]Two colony types were observed. Plating of the individual colony types showed that they did not revert to the mixed colony type. VITEK® GN card analysis identified cells from both colony types as *P. aeruginosa*. The 16S ribosomal RNA gene of each colony type was sequenced and found to have 100% sequence identity to the other colony type and to *P. aeruginosa* strain MRSN 9718 (GenBank: RXSZ01000188.1).
[4]Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)
[5]Antibiotic susceptibility testing was performed for each colony type and interpretations are identical except where indicated.
[6]The susceptibility result for this antibiotic is within one doubling dilution of specification, which is considered an equivalent result.
[7]*P. aeruginosa* strain MRSN 9718 was deposited as sensitive to ciprofloxacin. Repeated antibiotic susceptibility testing determined that strain MRSN 9718 is resistant to ciprofloxacin.
[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]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/
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