Certificate of Analysis for NR-51559

Pseudomonas aeruginosa, Strain MRSN 8912

Catalog No. NR-51559

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Product Description:

Pseudomonas aeruginosa (P. aeruginosa), strain MRSN 8912 was isolated in 2007 as part of a surveillance program in the United States. *P. aeruginosa*, strain MRSN 8912 was deposited as sensitive to amikacin and ceftazidime and resistant to gentamicin, ciprofloxacin, tobramycin, aztreonam, cefepime, piperacillin/tazobactam, imipenem, levofloxacin and meropenem.

Lot: 70024994[1] **Manufacturing Date: 22MAY2019**

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* (99%)
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	Resistant	Resistant (≥ 128 µg/mL)
Cefazolin	Report results	Resistant (≥ 64 µg/mL)
Cefoxitin	Report results	Resistant (≥ 64 µg/mL)
Ceftazidime	Sensitive	Sensitive (4 µg/mL)
Ceftriaxone	Report results	Resistant (≥ 64 µg/mL)
Cefepime	Resistant	Intermediate (16 µg/mL)[4]
Meropenem	Resistant	Resistant (≥ 16 µg/mL)
Amikacin	Sensitive	Sensitive (4 µg/mL)
Gentamicin	Resistant	Resistant (≥ 16 µg/mL)
Tobramycin	Resistant	Resistant (≥ 16 µg/mL)
Ciprofloxacin	Resistant	Intermediate (2 µg/mL)[5]
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[6]
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 1470 base pairs)	≥ 99% sequence identity to *P. aeruginosa,* strain MRSN 8912 (GenBank: RXTC01000070.1)	100% sequence identity to *P. aeruginosa*, strain MRSN 8912 (GenBank: RXTC01000070.1)
Purity (post-freeze)[7,8]	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze)[2]	Growth	Growth

[1]NR-51559 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]*P. aeruginosa*, strain MRSN 8912 was deposited as resistant to cefepime. Antibiotic susceptibility testing performed in duplicate determined that the susceptibility of strain MRSN 8912 to cefepime is intermediate.
[5]*P. aeruginosa*, strain MRSN 8912 was deposited as resistant to ciprofloxacin. Antibiotic susceptibility testing performed in duplicate determined that the susceptibility of strain MRSN 8912 to ciprofloxacin is intermediate.

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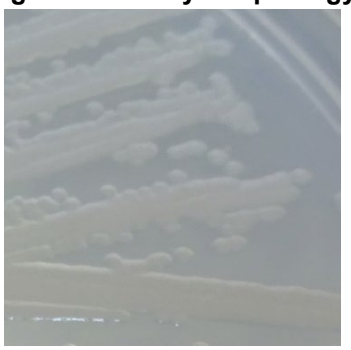
[6]Trimethoprim/sulfamethoxazole MIC interpretive standards are not available for *P. aeruginosa*, however most clinical isolates are resistant to trimethoprim/sulfamethoxazole. For more information, please refer to Köhler, T., et al. "Multidrug Efflux in Intrinsic Resistance to Trimethoprim and Sulfamethoxazole in *Pseudomonas aeruginosa*." Antimicrob. Agents Chemother. 40 (1996): 2288-2290. PubMed: 9036831.
[7]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.
[8]Two colony types were observed after 1 day. Plating of the individual colony types showed that they reverted to a single colony type that is consistent expected colony morphology of *P. aeruginosa.*

Figure 1: Colony Morphology



/Heather Couch/
Heather Couch 17 DEC 2019
Program Manager or designee, ATCC Federal Solutions

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