# Certificate of Analysis for NR-51544

## *Pseudomonas aeruginosa*, Strain MRSN 5498

### Catalog No. NR-51544

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

### Product Description:

*Pseudomonas aeruginosa (P. aeruginosa)*, strain MRSN 5498 was isolated in 2005 from human tissue as part of a surveillance program in the United States. *P. aeruginosa*, strain MRSN 5498 was deposited as sensitive to amikacin and ceftazidime and resistant to aztreonam, ciprofloxacin, cefepime, gentamicin, imipenem, levofloxacin, meropenem, tobramycin and piperacillin/tazobactam.

**Lot: 70024960[1]** **Manufacturing Date: 17MAY2019**

| TEST | SPECIFICATIONS | RESULTS |
|---|---|---|
| **Phenotypic Analysis** | | |
| Cellular morphology | Gram-negative rods | Gram-negative rods |
| Colony morphology[2] | Report results | Circular, slightly peaked, undulate, opaque 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 | Resistant (32 µg/mL) |
| Meropenem | Resistant | Resistant (≥ 16 µg/mL) |
| Amikacin | Sensitive | Sensitive (16 µg/mL) |
| Gentamicin | Resistant | Resistant (≥ 16 µg/mL) |
| Tobramycin | Resistant | Resistant (≥ 16 µg/mL) |
| Ciprofloxacin | Resistant | Resistant (≥ 4 µg/mL) |
| 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[4] |
| **Genotypic Analysis** | | |
| Sequencing of 16S ribosomal RNA gene (~ 1460 base pairs) | ≥ 99% sequence identity to *P. aeruginosa,* strain MRSN 5498 (GenBank: RXTS01000053.1) | 100% sequence identity to *P. aeruginosa,* strain MRSN 5498 (GenBank: RXTS01000053.1) |
| **Purity (post-freeze)[5]** | Growth consistent with expected colony morphology | Growth consistent with expected colony morphology |
| **Viability (post-freeze)[2]** | Growth | Growth |

[1]NR-51544 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]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.
[5]Purity of this lot was assessed for 8 days at 37°C in an aerobic atmosphere with and without 5% $CO_2$ on Tryptic Soy agar.

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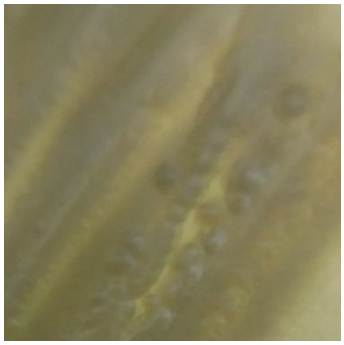
**Figure 1: Colony Morphology**



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