

Acinetobacter baumannii, Strain MRSN 4943

Catalog No. NR-52166

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Product Description:

Acinetobacter baumannii (*A. baumannii*), strain MRSN 4943 was isolated in 2011 from a human respiratory sample in the USA as part of a global surveillance program. *A. baumannii*, strain MRSN 4943 was deposited as multi-locus sequence type (MLST) ST 2, sensitive to colistin, imipenem and meropenem, intermediately resistant to amikacin and tobramycin and resistant to ampicillin/sulbactam, cefepime, ceftazidime, ceftriaxone, ciprofloxacin, gentamicin, levofloxacin, tetracycline and trimethoprim/sulfamethoxazole. NR-52166 was produced by inoculation of BEI Resources seed lot 70038547 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. Quality control testing was completed under propagation conditions unless otherwise noted.

Lot: 70058391

Manufacturing Date: 02FEB2023

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TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology Growth at 44°C ± 2°C ¹ 1 day in an aerobic atmosphere on Tryptic Soy agar Motility ² Hardy Diagnostics™ Motility Test Medium with TTC Indicator for 1 day at 37°C in an aerobic atmosphere VITEK® MS (MALDI-TOF)	Gram-negative rods Report results Growth Report results <i>A. baumannii</i>	Gram-negative rods Circular, convex, entire, smooth and cream (Figure 1) Growth Motile <i>A. baumannii</i> (99.9%)
Antibiotic Susceptibility Profile ^{3,4} Amikacin Ampicillin/sulbactam Cefepime Ceftriaxone Ceftazidime Ciprofloxacin Gentamicin Imipenem Levofloxacin Meropenem Trimethoprim/sulfamethoxazole Tobramycin Tetracycline	Intermediate Resistant Resistant Resistant Resistant Resistant Resistant Sensitive Resistant Sensitive Resistant Intermediate Resistant	Sensitive (2 to 3 µg/mL) ⁵ Intermediate (12 to 24 µg/mL) ⁶ Intermediate (16 µg/mL) ⁷ Resistant (≥ 64 µg/mL) Resistant (24 µg/mL) Resistant (≥ 4 µg/mL) Resistant (≥ 16 µg/mL) Sensitive (1 µg/mL) Resistant (> 32 µg/mL) Sensitive (0.5 to 1 µg/mL) Resistant (≥ 320 µg/mL) Sensitive (1.5 µg/mL) ⁸ Resistant (≥ 16 µg/mL)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1480 base pairs)	≥ 99% sequence identity to <i>A. baumannii</i> , strain MRSN 4943 (GenBank: VHEM01000084.1)	100% sequence identity to <i>A. baumannii</i> , strain MRSN 4943 (GenBank: VHEM01000084.1)
Purity 7 days at 37°C in an aerobic atmosphere with and without 5% CO ₂ on Tryptic Soy agar	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology

TEST	SPECIFICATIONS	RESULTS
Viability	Growth	Growth

¹Growth at 44°C differentiates *A. baumannii* from *A. calcoaceticus* and *A. pittii*, which do not grow at 44°C.

²*A. baumannii*, strain MRSN 4943 tested positive for motility in BEI Resources seed lot 70038547, but this was not observed in lot 70038535. Twitching motility was observed in wet-mount for lot 70058391. *Acinetobacter baumannii* lack flagella but exhibit a twitching/swarming motility, which may be due to type IV pili or excretion of polysaccharide. For additional information please refer to McQueary, C. N., et al., "Extracellular Stress and Lipopolysaccharide Modulate *Acinetobacter baumannii* Surface-Associated Motility." *J. Microbiol.* 50 (2012): 434-43. PubMed: 22752907.

³Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

⁴Antibiotic susceptibility was tested using a combination of VITEK®2 GN81 and E-test strips.

⁵*A. baumannii*, strain MRSN 4943 was deposited as intermediately resistant to amikacin, but showed an MIC of 2 µg/mL to 3 µg/mL (interpreted as sensitive) for this lot during QC testing. Testing was performed in duplicate.

⁶*A. baumannii*, strain MRSN 4943 was deposited as resistant to ampicillin/sulbactam, but repeated testing showed a MIC of 12 µg/mL (interpreted as intermediately resistant) and 24 µg/mL (interpreted as resistant) for this lot during QC testing.

⁷The susceptibility result for this antibiotic is within one doubling dilution of specification, which is considered an equivalent result.

⁸*A. baumannii*, strain MRSN 4943 was deposited as intermediately resistant to tobramycin, but showed a MIC of 1.5 µg/mL (interpreted as sensitive) for this lot during QC testing. Testing was performed in duplicate.

Figure 1: Colony Morphology



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