

Klebsiella pneumoniae, Strain MRSN 681054

Catalog No. NR-55589

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Product Description:

Klebsiella pneumoniae (*K. pneumoniae*), strain MRSN 681054 was isolated in 2015 from a urine sample in Asia as part of a global surveillance program. NR-55589 was deposited as an extensively drug-resistant (XDR) strain, sensitive to amikacin and tigecycline, intermediately resistant to tobramycin and resistant to ampicillin/sulbactam, aztreonam, cefepime, ceftazidime, ceftazidime/avibactam, ceftolozane/tazobactam, ceftriaxone, ciprofloxacin, ertapenem, gentamicin, imipenem, levofloxacin, meropenem, piperacillin/tazobactam, tetracycline and trimethoprim/sulfamethoxazole. NR-55589 was produced by inoculation of BEI Resources seed lot 70051616 into Tryptic Soy broth and grown for 1 day at 37°C in an aerobic atmosphere. The material from the initial growth was added to Tryptic Soy broth, which was 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: 70080075

Manufacturing Date: 21NOV2025

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TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-negative rods	Gram-negative rods
Colony morphology	Report results	Circular, convex, entire, smooth and cream (Figure 1)
Motility (wet mount)	Report results	Non-motile
VITEK® MS (MALDI-TOF)	<i>K. pneumoniae</i>	<i>K. pneumoniae</i> (99.9%)
Antibiotic Susceptibility Profile^{1,2}		
Amikacin	Sensitive	Sensitive ($\leq 1 \mu\text{g/mL}$)
Ampicillin/sulbactam	Resistant	Resistant ($\geq 32 \mu\text{g/mL}$)
Aztreonam	Resistant	Resistant ($\geq 64 \mu\text{g/mL}$)
Cefepime	Resistant	Resistant ($\geq 32 \mu\text{g/mL}$)
Ceftazidime	Resistant	Resistant ($\geq 32 \mu\text{g/mL}$)
Ceftazidime/avibactam	Resistant	Resistant ($\geq 16 \mu\text{g/mL}$)
Ceftolozane/tazobactam	Resistant	Resistant ($\geq 32 \mu\text{g/mL}$)
Ceftriaxone	Resistant	Resistant ($\geq 64 \mu\text{g/mL}$)
Ciprofloxacin	Resistant	Resistant ($\geq 4 \mu\text{g/mL}$)
Ertapenem	Resistant	Resistant ($\geq 8 \mu\text{g/mL}$)
Gentamicin	Resistant	Resistant ($\geq 16 \mu\text{g/mL}$)
Imipenem	Resistant	Resistant ($\geq 16 \mu\text{g/mL}$)
Levofloxacin	Resistant	Resistant ($\geq 8 \mu\text{g/mL}$)
Meropenem	Resistant	Resistant ($\geq 16 \mu\text{g/mL}$)
Piperacillin/tazobactam	Resistant	Resistant ($\geq 128 \mu\text{g/mL}$)
Tetracycline	Resistant	Resistant ($\geq 16 \mu\text{g/mL}$)
Tigecycline	Resistant	Resistant ($1.5 \mu\text{g/mL}$) ^{3,4}
Tobramycin	Intermediate	Inconclusive ⁵
Trimethoprim/sulfamethoxazole	Resistant	Resistant ($\geq 320 \mu\text{g/mL}$)
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 1480 base pairs)	$\geq 99\%$ sequence identity to <i>K. pneumoniae</i> , strain MRSN 681054 (GenBank: JAGYBW010000061.1)	99.7% sequence identity to <i>K. pneumoniae</i> , strain MRSN 681054 (GenBank: JAGYBW010000061.1) ⁶

TEST	SPECIFICATIONS	RESULTS
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
Viability	Growth	Growth

¹Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

²Antibiotic susceptibility was tested using a combination of bioMérieux VITEK[®]2 AST-N812 and AST-XN33 cards and ETEST[®].

³MIC Interpretation Guideline: EUCAST Version 8.0 (2018)

⁴*K. pneumoniae*, strain MRSN 681054 was deposited as sensitive to tigecycline, but showed a MIC of 2 µg/mL (interpreted it as resistant) for lot 70051615 during QC testing.

⁵*K. pneumoniae*, strain MRSN 681054 was deposited as intermediately resistant to tobramycin but showed MICs of 4 µg/mL (interpreted as sensitive) and 8 µg/mL (interpreted as intermediately resistant) during QC testing, resulting in an inconclusive result.

⁶Also consistent with other *Klebsiella* species

Figure 1: Colony Morphology



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