

***Klebsiella pneumoniae*, Strain MRSN 414780**

Catalog No. NR-55554

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Product Description:

Klebsiella pneumoniae (*K. pneumoniae*), strain MRSN 414780 was isolated in 2016 from a human urine sample in North America as part of a global surveillance program. NR-55554 was deposited as an extensively drug-resistant strain (XDR), sensitive to amikacin, ceftazidime/avibactam, ceftolozane/tazobactam, ertapenem, imipenem and meropenem, intermediately resistant to piperacillin/tazobactam, tigecycline and tobramycin and resistant to ampicillin/sulbactam, aztreonam, cefepime, ceftazidime, ceftriaxone, ciprofloxacin, gentamicin, levofloxacin, tetracycline and trimethoprim/sulfamethoxazole. NR-55554 was produced by inoculation of the deposited 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. Quality control testing was completed under propagation conditions unless otherwise noted.

Lot: 70050674

Manufacturing Date: 25FEB2022

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TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology Motility (wet mount) VITEK® 2 (GN card) VITEK® MS (MALDI-TOF)	Gram-negative rods Report results Report results <i>K. pneumoniae</i> (≥ 89%) <i>K. pneumoniae</i>	Gram-negative rods Circular, convex, entire, smooth, mucoid and cream (Figure 1) Non-motile <i>K. pneumoniae</i> (99%) <i>K. pneumoniae</i> (99.9%)
Antibiotic Susceptibility Profile^{1,2} Amikacin Ampicillin/sulbactam Aztreonam Cefepime Ceftazidime Ceftazidime/avibactam Ceftolozane/tazobactam Ceftriaxone Ciprofloxacin Ertapenem Gentamicin Imipenem Levofloxacin Meropenem Piperacillin/tazobactam Tetracycline Tigecycline Tobramycin Trimethoprim/sulfamethoxazole	Sensitive Resistant Resistant Sensitive Resistant Sensitive Sensitive Resistant Sensitive Sensitive Sensitive Sensitive Sensitive Intermediate Resistant Intermediate Intermediate Resistant	Sensitive (≤ 2 µg/mL) Resistant (≥ 32 µg/mL) Resistant (32 µg/mL) Sensitive (2 µg/mL) Resistant (16 µg/mL) Sensitive (1.0 to 1.5 µg/mL) Sensitive (1.5 µg/mL) Resistant (≥ 64 µg/mL) Sensitive (0.25 to 0.75 µg/mL) Sensitive (≤ 0.5 µg/mL) Sensitive (0.5 µg/mL) Inconclusive ³ Sensitive (0.5 to 0.75 µg/mL) Sensitive (≤ 0.25 µg/mL) Intermediate (32 to 64 µg/mL) Resistant (≥ 16 µg/mL) Inconclusive ^{4,5} Intermediate (8 µg/mL) Resistant (≥ 320 µg/mL)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1450 base pairs)	≥ 99% sequence identity to <i>K. pneumoniae</i> , strain MRSN 414780 (GenBank: JAGYDF010000080.1 and JAGYDF010000081.1)	99.8% sequence identity to <i>K. pneumoniae</i> , strain MRSN 414780 (GenBank: JAGYDF010000080.1 and JAGYDF010000081.1) 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 GN74 and ETEST®.

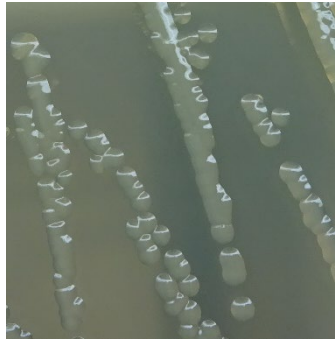
³*K. pneumoniae*, strain MRSN 414780 was deposited as being resistant to imipenem. Repeated antibiotic susceptibility testing determined that for strain MRSN 414780, the imipenem MICs are 0.75 µg per mL and 1 µg per mL (interpreted as sensitive), 1.5 µg per mL (interpreted as intermediately resistant) and 2 µg per mL and 3 µg per mL (interpreted as resistant).

⁴MIC Interpretation Guideline: EUCAST Version 8.0 (2018)

⁵*K. pneumoniae*, strain MRSN 414780 was deposited as being intermediately resistant to tigecycline. Repeated antibiotic susceptibility testing determined that for strain MRSN 414780, the tigecycline MICs are 0.75 µg per mL and 2 µg per mL, which are interpreted as sensitive and resistant, respectively.

⁶Also consistent with other *Klebsiella* species

Figure 1: Colony Morphology



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