

## Klebsiella pneumoniae, Strain MRSN 7076

### Catalog No. NR-55513

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### Product Description:

*Klebsiella pneumoniae* (*K. pneumoniae*), strain MRSN 7076 was isolated in 2003 from a human wound sample in North America as part of a global surveillance program. NR-55513 was deposited as an extensively drug-resistant strain, sensitive to amikacin, ceftazidime/avibactam, ciprofloxacin, ertapenem, imipenem, levofloxacin and meropenem, intermediately resistant to piperacillin/tazobactam and resistant to ampicillin/sulbactam, aztreonam, cefepime, ceftazidime, ceftolozane/tazobactam, ceftriaxone, gentamicin, tetracycline, trimethoprim/sulfamethoxazole, tigecycline and tobramycin. NR-55513 was produced by inoculation of BEI Resources seed lot 70049658 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: 70076380

Manufacturing Date: 11JUN2025

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| TEST                                                                                                                                                                                                                                                                                                                                                                                               | SPECIFICATIONS                                                                                                                                                                                                                                                         | RESULTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Phenotypic Analysis</b><br>Cellular morphology<br>Colony morphology<br><br>Motility (wet mount)<br>VITEK® MS (MALDI-TOF)                                                                                                                                                                                                                                                                        | Gram-negative rods<br>Report results<br><br>Non-motile<br><i>K. pneumoniae</i>                                                                                                                                                                                         | Gram-negative rods<br>Circular, convex, entire, smooth, mucoid and cream to light cream (Figure 1)<br>Non-motile<br><i>K. pneumoniae</i> (99.9%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Antibiotic Susceptibility Profile<sup>1,2</sup></b><br>Amikacin<br>Ampicillin/sulbactam<br>Aztreonam<br>Cefepime<br>Ceftazidime<br>Ceftazidime/avibactam<br>Ceftolozane/tazobactam<br>Ceftriaxone<br>Ciprofloxacin<br>Ertapenem<br>Gentamicin<br>Imipenem<br>Levofloxacin<br>Meropenem<br>Piperacillin/tazobactam<br>Tetracycline<br>Tigecycline<br>Tobramycin<br>Trimethoprim/sulfamethoxazole | Sensitive<br>Resistant<br>Resistant<br>Intermediate<br>Resistant<br>Sensitive<br>Sensitive<br>Resistant<br>Sensitive<br>Sensitive<br>Resistant<br>Sensitive<br>Sensitive<br>Sensitive<br>Sensitive<br>Intermediate<br>Resistant<br>Resistant<br>Resistant<br>Resistant | Sensitive ( $\leq 2 \mu\text{g/mL}$ )<br>Resistant ( $\geq 32 \mu\text{g/mL}$ )<br>Resistant ( $\geq 64 \mu\text{g/mL}$ )<br>Intermediate ( $8 \mu\text{g/mL}$ ) <sup>3</sup><br>Resistant ( $16 \mu\text{g/mL}$ )<br>Sensitive ( $0.38 \mu\text{g/mL}$ )<br>Sensitive ( $0.75 \mu\text{g/mL}$ ) <sup>4</sup><br>Resistant ( $\geq 64 \mu\text{g/mL}$ )<br>Sensitive ( $0.38 \mu\text{g/mL}$ )<br>Sensitive ( $\leq 0.5 \mu\text{g/mL}$ )<br>Resistant ( $\geq 16 \mu\text{g/mL}$ )<br>Sensitive ( $0.094 \mu\text{g/mL}$ )<br>Sensitive ( $1 \mu\text{g/mL}$ )<br>Sensitive ( $\leq 0.25 \mu\text{g/mL}$ )<br>Intermediate ( $24 \mu\text{g/mL}$ )<br>Resistant ( $\geq 16 \mu\text{g/mL}$ )<br>Resistant ( $\geq 8 \mu\text{g/mL}$ ) <sup>5</sup><br>Resistant ( $\geq 16 \mu\text{g/mL}$ )<br>Resistant ( $\geq 320 \mu\text{g/mL}$ ) |
| <b>Genotypic Analysis</b><br>Sequencing of 16S ribosomal RNA gene (~ 1470 base pairs)                                                                                                                                                                                                                                                                                                              | $\geq 99\%$ sequence identity to <i>K. pneumoniae</i> , strain MRSN 7076 (GenBank: JAGYET010000100.1)                                                                                                                                                                  | 99.7% sequence identity to <i>K. pneumoniae</i> , strain MRSN 7076 (GenBank: JAGYET010000100.1) <sup>6</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| TEST                                                                                                             | SPECIFICATIONS                                    | RESULTS                                           |
|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| <b>Purity</b><br>7 days at 37°C in an aerobic atmosphere with and without 5% CO <sub>2</sub> on Tryptic Soy agar | Growth consistent with expected colony morphology | Growth consistent with expected colony morphology |
| <b>Viability</b>                                                                                                 | Growth                                            | Growth                                            |

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018).

<sup>2</sup>Antibiotic susceptibility was tested using a combination of bioMérieux VITEK® 2 GN74 and ETEST®.

<sup>3</sup>*K. pneumoniae*, strain MRSN 7076 was deposited as resistant to cefepime, but showed a MIC of 8 µg/mL (interpreted as intermediately resistant) for lot 70049657 during QC testing.

<sup>4</sup>*K. pneumoniae*, strain MRSN 7076 was deposited as resistant to ceftolozane/tazobactam, but showed a MIC of 1.5 µg/mL (interpreted as sensitive) for lot 70049657 during QC testing.

<sup>5</sup>MIC Interpretation Guideline: EUCAST Version 8.0 (2018).

<sup>6</sup>Also consistent with other *Klebsiella* species.

**Figure 1: Colony Morphology**



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14 JAN 2026

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