

Certificate of Analysis for NR-55581

Klebsiella pneumoniae, Strain MRSN 607210

Catalog No. NR-55581

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

Product Description:

Klebsiella pneumoniae (K. pneumoniae), strain MRSN 607210 was isolated in 2018 from a human urine sample in North America as part of a global surveillance program. NR-55581 was deposited as a multidrug-resistant strain (MDR), sensitive to ceftazidime/avibactam, ertapenem, imipenem, meropenem, tetracycline, tigecycline and trimethoprim/sulfamethoxazole, intermediately resistant to piperacillin/tazobactam and resistant to amikacin, ampicillin/sulbactam, aztreonam, cefepime, ceftazidime, ceftolozane/tazobactam, ceftriaxone, ciprofloxacin, gentamicin, levofloxacin and tobramycin. NR-55581 was produced by inoculation of the deposited material 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 on Tryptic Soy agar under propagation conditions unless otherwise noted.

Lot: 70051132 Manufacturing Date: 30MAR2022

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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 [®] 2 (GN card) | K. pneumoniae (≥ 89%) | K. pneumoniae (95%) |
| Antibiotic Susceptibility Profile ^{1,2} | | |
| Amikacin | Resistant | Resistant (≥ 256 µg/mL) |
| Ampicillin/sulbactam | Resistant | Resistant (≥ 32 µg/mL) |
| Aztreonam | Resistant | Resistant (≥ 64 µg/mL) |
| Cefepime | Resistant | Resistant (≥ 64 µg/mL) |
| Ceftazidime | Resistant | Resistant (≥ 64 µg/mL) |
| Ceftazidime/avibactam | Sensitive | Sensitive (1.5 µg/mL) |
| Ceftolozane/tazobactam | Resistant | Resistant (12 to 48 µg/mL) |
| Ceftriaxone | Resistant | Resistant (≥ 64 µg/mL) |
| Ciprofloxacin | Resistant | Resistant (≥ 32 µg/mL) |
| Ertapenem | Sensitive | Sensitive (≤ 0.5 μg/mL) |
| Gentamicin | Resistant | Resistant (≥ 256 µg/mL) |
| Imipenem | Sensitive | Sensitive (0.38 µg/mL) |
| Levofloxacin | Resistant | Resistant (≥ 8 µg/mL) |
| Meropenem | Sensitive | Sensitive (≤ 0.25 µg/mL) |
| Piperacillin/tazobactam | Intermediate | Intermediate (64 µg/mL) |
| Tetracycline | Sensitive | Sensitive (≤ 1 μg/mL) |
| Tigecycline | Sensitive | Sensitive (≤ 0.5 μg/mL) ³ |
| Tobramycin | Resistant | Resistant (≥ 16 µg/mL) |
| Trimethoprim/sulfamethoxazole | Sensitive | Sensitive (≤ 20 µg/mL) |
| Genotypic Analysis | | |
| Sequencing of 16S ribosomal RNA gene (~ 1470 base pairs) | ≥ 99% sequence identity to K. pneumoniae, strain MRSN 607210 (GenBank: JAGYCE010000063.1) | 99.8% sequence identity to K. pneumoniae, strain MRSN 607210 (GenBank: JAGYCE010000063.1) ⁴ |

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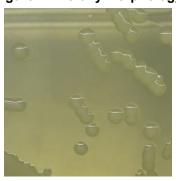


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|---|----------------|---|
| Purity 7 days at 37°C in an aerobic atmosphere with 5% CO ₂ on Tryptic Soy agar with 5% defibrinated sheep blood | morphology | Growth consistent with expected colony morphology |
| Viability | Growth | Growth |

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

Figure 1: Colony Morphology



/Sonia Bjorum Brower/ Sonia Bjorum Brower

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Lead Technical Writer or designee, ATCC Federal Solutions

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

³MIC Interpretation Guideline: EUCAST Version 8.0 (2018)

⁴Also consistent with other Klebsiella species