Certificate of Analysis for NR-55512

Klebsiella pneumoniae, Strain MRSN 6778

Catalog No. NR-55512

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Product Description:

Klebsiella pneumoniae (K. pneumoniae), strain MRSN 6778 was isolated in 2011 from a human urine sample in North America as part of a global surveillance program. NR-55512 was deposited as a multidrug-resistant strain, sensitive to amikacin, ceftazidime/avibactam, ertapenem, imipenem, meropenem, tetracycline and tigecycline, intermediately resistant to levofloxacin and piperacillin/tazobactam and resistant to ampicillin/sulbactam, aztreonam, cefepime, ceftazidime, ceftriaxone, ceftolozane/tazobactam, ciprofloxacin, gentamicin, tobramycin and trimethoprim/sulfamethoxazole. NR-55512 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: 70049659 **Manufacturing Date: 14JAN2022**

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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, mucoid and cream (Figure 1)
Motility (wet mount)	Report results	Non-motile
VITEK® 2 (GN card)	*K. pneumoniae* (≥ 89%)	*K. pneumoniae* (99%)
Antibiotic Susceptibility Profile[1,2]		
Amikacin	Sensitive	Sensitive (≤ 2 µg/mL)
Ampicillin/sulbactam	Resistant	Resistant (≥ 32 µg/mL)
Aztreonam	Resistant	Sensitive (0.064 to 0.19 µg/mL)[3]
Cefepime	Resistant	Sensitive (0.25 µg/mL)[4]
Ceftazidime	Resistant	Sensitive (0.19 to 0.38 µg/mL)[5]
Ceftazidime/avibactam	Sensitive	Sensitive (0.25 µg/mL)
Ceftolozane/tazobactam	Resistant	Sensitive (0.25 µg/mL)[6]
Ceftriaxone	Resistant	Sensitive (0.094 to 0.125 µg/mL)[7]
Ciprofloxacin	Resistant	Resistant (4 to 6 µg/mL)
Ertapenem	Sensitive	Sensitive (≤ 0.5 µg/mL)
Gentamicin	Resistant	Sensitive (0.5 µg/mL)[8]
Imipenem	Sensitive	Sensitive (0.25 µg/mL)
Levofloxacin	Intermediate	Sensitive (0.75 to 1 µg/mL)[9]
Meropenem	Sensitive	Sensitive (≤ 0.25 µg/mL)
Piperacillin/tazobactam	Intermediate	Intermediate (24 to 34 µg/mL)[10]
Tetracycline	Sensitive	Resistant (≥ 256 µg/mL)[11]
Tigecycline	Sensitive	Sensitive (1 µg/mL)[12]
Tobramycin	Resistant	Intermediate (6 µg/mL)[13]
Trimethoprim/sulfamethoxazole	Resistant	Resistant (≥ 320 µg/mL)
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 1470 base pairs)	≥ 99% sequence identity to *K. pneumoniae*, strain MRSN 6778 (GenBank: JAGYEU010000114.1)	99.4% sequence identity to *K. pneumoniae*, strain MRSN 6778 (GenBank: JAGYEU010000114.1)[14]

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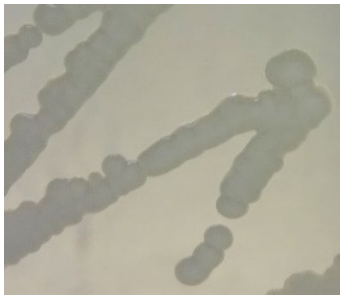
TEST	SPECIFICATIONS	RESULTS
Purity 7 days at 37°C in an aerobic atmosphere with 5% CO_2 on Tryptic Soy agar with 5% defibrinated sheep blood	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability	Growth	Growth

[1]Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)
[2]Antibiotic susceptibility was tested using a combination of bioMérieux VITEK®2 GN74 and ETEST®.
[3]*K. pneumoniae*, strain MRSN 6778 was deposited as resistant to aztreonam, but showed a MIC of 0.064 µg per mL to 0.19 µg per mL (interpreted as sensitive) for this antibiotic during QC testing. Testing was performed in duplicate.
[4]*K. pneumoniae*, strain MRSN 6778 was deposited as resistant to cefepime, but showed a MIC of 0.25 µg per mL (interpreted as sensitive) for this antibiotic during QC testing. Testing was performed in duplicate.
[5]*K. pneumoniae*, strain MRSN 6778 was deposited as resistant to ceftazidime, but showed a MIC of 0.19 µg per mL to 0.38 µg per mL (interpreted as sensitive) for this antibiotic during QC testing. Testing was performed in duplicate.
[6]*K. pneumoniae*, strain MRSN 6778 was deposited as resistant to ceftolozane/tazobactam, but showed a MIC of 0.25 µg per mL (interpreted as sensitive) for this antibiotic during QC testing. Testing was performed in duplicate.
[7]*K. pneumoniae*, strain MRSN 6778 was deposited as resistant to ceftriaxone, but showed a MIC of 0.094 µg per mL to 0.125 µg per mL (interpreted as sensitive) for this antibiotic during QC testing. Testing was performed in duplicate.
[8]*K. pneumoniae*, strain MRSN 6778 was deposited as resistant to gentamicin, but showed a MIC of 0.25 µg per mL (interpreted as sensitive) for this antibiotic during QC testing. Testing was performed in duplicate.
[9]*K. pneumoniae*, strain MRSN 6778 was deposited as resistant to levofloxacin, but showed a MIC of 0.75 µg per mL to 1 µg per mL (interpreted as intermediately resistant) for this antibiotic during QC testing. Testing was performed in duplicate.
[10]The susceptibility result for this antibiotic is within one doubling dilution of specification, which is considered an equivalent result.
[11]*K. pneumoniae*, strain MRSN 6778 was deposited as sensitive to tetracycline, but showed a MIC of ≥ 256 µg per mL (interpreted as resistant) for this antibiotic during QC testing. Testing was performed in duplicate.
[12]MIC Interpretation Guideline: EUCAST Version 8.0 (2018)
[13]*K. pneumoniae*, strain MRSN 6778 was deposited as resistant to tobramycin, but showed a MIC of 6 µg per mL (interpreted as intermediately resistant) for this antibiotic during QC testing. Testing was performed in duplicate.
[14]Also consistent with other *Klebsiella* species

Figure 1: Colony Morphology



/Sonia Bjorum Brower/
Sonia Bjorum Brower 04 AUG 2022
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