Certificate of Analysis for NR-55510

Klebsiella pneumoniae, Strain MRSN 5881

Catalog No. NR-55510

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

Product Description:

Klebsiella pneumoniae (K. pneumoniae), strain MRSN 5881 was isolated in 2005 from a human wound sample in North America as part of a global surveillance program. NR-55510 was deposited as an extensively drug-resistant strain, sensitive to ceftazidime/avibactam, ertapenem, imipenem, meropenem and tigecycline, intermediately resistant to levofloxacin and resistant to amikacin, ampicillin/sulbactam, aztreonam, cefepime, ceftazidime, ceftolozane/tazobactam, ceftriaxone, ciprofloxacin, gentamicin, piperacillin/tazobactam, tetracycline, tobramycin and trimethoprim/sulfamethoxazole. NR-55510 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: 70049663 **Manufacturing Date: 20JAN2022**

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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	Resistant	Resistant (≥ 64 µg/mL)
Ampicillin/sulbactam	Resistant	Resistant (≥ 32 µg/mL)
Aztreonam	Resistant	Resistant (≥ 64 µg/mL)
Cefepime	Resistant	Intermediate (4 µg/mL)[3]
Ceftazidime	Resistant	Resistant (16 to 32 µg/mL)
Ceftazidime/avibactam	Sensitive	Sensitive (0.5 to 0.75 µg/mL)
Ceftolozane/tazobactam	Resistant	Resistant (16 µg/mL)
Ceftriaxone	Resistant	Resistant (≥ 64 µg/mL)
Ciprofloxacin	Resistant	Resistant (≥ 32 µg/mL)
Ertapenem	Sensitive	Sensitive (≤ 0.5 µg/mL)
Gentamicin	Resistant	Resistant (≥ 16 µg/mL)
Imipenem	Sensitive	Sensitive (0.19 to 0.25 µg/mL)
Levofloxacin	Intermediate	Intermediate (4 µg/mL)
Meropenem	Sensitive	Sensitive (≤ 0.25 µg/mL)
Piperacillin/tazobactam	Resistant	Resistant (≥ 128 µg/mL)
Tetracycline	Resistant	Resistant (≥ 16 µg/mL)
Tigecycline	Sensitive	Sensitive (1 µg/mL)[4]
Tobramycin	Resistant	Resistant (≥ 16 µg/mL)
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 5881 (GenBank: JAGYEW010000112.1)	99.3% sequence identity to *K. pneumoniae*, strain MRSN 5881 (GenBank: JAGYEW010000112.1)[5]

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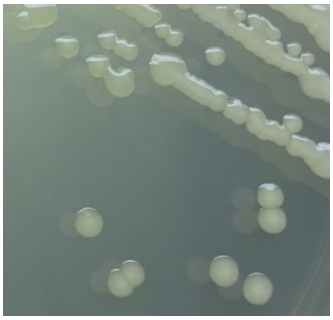
TEST	SPECIFICATIONS	RESULTS
Purity 7 days at 37°C in an aerobic atmosphere with and without 5% CO_2 on Tryptic Soy agar	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability	Growth	Growth

[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 5881 was deposited as resistant to cefepime, but showed a MIC of 4 µg/mL (interpreted as intermediately resistant) for cefepime during QC testing. Testing was performed in duplicate.
[4]MIC Interpretation Guideline: EUCAST Version 8.0 (2018)
[5]Also consistent with other *Klebsiella* species

Figure 1: Colony Morphology



/Sonia Bjorum Brower/
Sonia Bjorum Brower 27 JUN 2022
Lead Technical Writer or designee, ATCC Federal Solutions

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

Support Provided by NIAID

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