Certificate of Analysis for NR-41919

Klebsiella pneumoniae, Strain BIDMC 4

Catalog No. NR-41919

Product Description: *Klebsiella pneumoniae (K. pneumoniae),* strain BIDMC 4 was isolated in 2009 from human abdomen tissue in Boston, Massachusetts, USA. *K. pneumoniae*, strain BIDMC 4 was deposited as a carbapenem-resistant strain and is part of a Carbapenem-Resistant Enterobacteriaceae (CRE) Sequencing Project at the Broad Institute. Strain BIDMC 4 was deposited as resistant to ampicillin/sulbactam, ceftazidime, ceftriaxone, ciprofloxacin and meropenem.

Lot[1]: 70007977 **Manufacturing Date: 01SEP2017**

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-negative rods	Gram-negative rods
Colony morphology[2]	Report results	Circular, convex, entire, smooth, mucoid and cream (Figure 1)
Motility (wet mount)	Report results	Non-motile
VITEK® 2 Compact (GN card)	*K. pneumoniae* (≥ 89%)	*K. pneumoniae* (99%)[3]
VITEK® MS (MALDI-TOF)	*K. pneumonia*	*K. pneumoniae* (99%)
Antibiotic Susceptibility Profile		
VITEK® (AST-GN83)[4]		
Ampicillin	Report results	Resistant (≥ 32 µg/mL)
Amoxicillin/clavulanic acid	Report results	Resistant (≥ 32 µg/mL)
Ampicillin/sulbactam	Resistant	Resistant (≥ 32 µg/mL)
Piperacillin/tazobactam	Report results	Resistant (≥ 128 µg/mL)
Cefazolin	Report results	Resistant (≥ 64 µg/mL)
Cefuroxime	Report results	Resistant (≥ 64 µg/mL)
Cefuroxime axetil	Report results	Resistant (≥ 64 µg/mL)
Cefoxitin	Report results	Resistant (≥ 64 µg/mL)
Cefotaxime	Report results	Resistant (= 32 µg/mL)
Ceftazidime	Resistant	Resistant (≥ 64 µg/mL)
Ceftriaxone	Resistant	Resistant (= 16 µg/mL)
Cefepime	Report results	Resistant (≥ 64 µg/mL)
Aztreonam	Report results	Resistant (≥ 64 µg/mL)
Meropenem	Resistant	Resistant (= 8 µg/mL)
Amikacin	Report results	Resistant (≥ 64 µg/mL)
Gentamicin	Report results	Resistant (≥ 16 µg/mL)
Ciprofloxacin	Resistant	Resistant (≥ 4 µg/mL)
Nitrofurantoin	Report results	Resistant (= 256 µg/mL)
Trimethoprim/sulfamethoxazole	Report results	Resistant (= 80 µg/mL)
Etest® antibiotic test strips[5]		
Ceftriaxone[6]	Report results	Resistant (= 8 µg/mL)
Tobramycin[6]	Report results	Resistant (= 256 µg/mL)
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 730 base pairs)	≥ 99% sequence identity to *K. pneumonia,* strain BIDMC 4 (GenBank: JCNI01000011.1)	99.9% sequence identity to *K. pneumonia,* strain BIDMC 4 (GenBank: JCNI01000011.1)[7]
Purity (post-freeze)[8]	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze)[2]	Growth	Growth

[1]NR-41919 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.

BEI Resources
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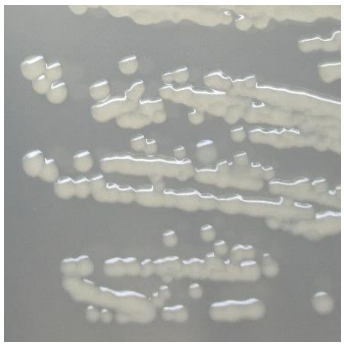
[2]1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar
[3]Percent probabilities above 89% indicate a close match to the typical biochemical pattern for the given organism, with a percent probability of 99% being a perfect match between the test reaction pattern and the unique biochemical pattern of the given organism or organism group. For additional information, please refer to O'Hara, C. M. and J. M. Miller. "Evaluation of the VITEK 2 ID-GNB Assay for Identification of Members of the Family Enterobacteriaceae and Other Nonenteric Gram-Negative Bacilli and Comparison with the VITEK GNI+ Card." J. Clin. Microbiol. 41 (2003): 2096-2101. PubMed: 12734254.
[4]Minimum Inhibitory Concentration (MIC); MIC interpretation was determined using VITEK® 2 software version 07.01 combined with the bioMérieux Advanced Expert System™ (AES) software using the interpretation standard CLSI M100-S22 (2012) and the interpretation guideline "Natural Resistance." For more information, please refer to Sanders, C. C., et al. "Potential Impact of the VITEK 2 System and the Advanced Expert System on the Clinical Laboratory of a University-Based Hospital." J. Clin. Microbiol. 39 (2001): 2379-2385. PubMed: 11427542.
[5]1 day at 37°C in an aerobic atmosphere on Mueller Hinton agar
[6]MIC Interpretation Guideline: CLSI M100-S22 (2012)
[7]Also consistent with other organisms
[8]Purity of this lot was assessed for 9 days at 37°C in an aerobic atmosphere with 5% CO_2 on Tryptic Soy agar with 5% defibrinated sheep blood.

Figure 1: Colony Morphology



Date: 05 JAN 2018 **Signature:**

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