Certificate of Analysis for NR-48976

Klebsiella pneumoniae, Strain JHCK1

Catalog No. NR-48976

Product Description: *Klebsiella pneumoniae* (*K. pneumoniae*), strain JHCK1 was isolated in the 1980s from a newborn with meningitis in Buenos Aires, Argentina.

Lot[1]: 70018989 **Manufacturing Date: 19SEP2018**

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram-negative rods	Gram-negative rods
Colony morphology[2]	Report results	Circular, convex, entire, smooth and cream (Figure 1)
Motility (wet mount)	Report results	Non-motile
VITEK® MS (MALDI-TOF)	*K. pneumoniae*	*K. pneumoniae* (99.9%)
Biochemical characterization		
VITEK® 2 Compact (GN card)	*K. pneumoniae* (≥ 89%)	*K. pneumoniae* (99%)
Antibiotic Susceptibility Profile[3]		
VITEK® (AST-GN69)		
ESBL[4]	Negative	Negative
Ampicillin	Resistant	Resistant (≥ 32 µg/mL)
Amoxicillin/clavulanic Acid	Resistant	Resistant (≥ 32 µg/mL)
Ampicillin/sulbactam	Resistant	Resistant (≥ 32 µg/mL)
Piperacillin/tazobactam	Resistant	Resistant (≥ 128 µg/mL)
Cefazolin	Resistant	Resistant (≥ 64 µg/mL)
Ceftazidime	Sensitive	Sensitive (≤ 1 µg/mL)
Ceftriaxone	Sensitive	Sensitive (≤ 1 µg/mL)
Cefepime	Sensitive	Sensitive (≤ 1 µg/mL)
Ertapenem	Sensitive	Sensitive (≤ 0.5 µg/mL)
Imipenem	Sensitive	Sensitive (≤ 0.25 µg/mL)
Gentamicin	Resistant	Resistant (≥ 16 µg/mL)
Tobramycin	Resistant	Resistant (≥ 16 µg/mL)
Ciprofloxacin	Sensitive	Sensitive (≤ 0.25 µg/mL)
Levofloxacin	Sensitive	Sensitive (≤ 0.12 µg/mL)
Nitrofurantoin	Intermediate	Sensitive (≤ 32 µg/mL)[6]
Trimethoprim/sulfamethoxazole	Resistant	Resistant (≥ 320 µg/mL)
VITEK® (AST-XN06)		
Ticarcillin	Resistant	Resistant (≥ 128 µg/mL)
Piperacillin	Resistant	Resistant (≥ 128 µg/mL)
Cefalotin	Resistant	Resistant (≥ 64 µg/mL)
Cefuroxime	Sensitive	Sensitive (= 4 µg/mL)
Cefuroxime Axetil	Sensitive	Sensitive (= 4 µg/mL)
Cefotetan	Sensitive	Sensitive (≤ 4 µg/mL)
Cefoxitin	Sensitive	Sensitive (≤ 4 µg/mL)
Cefpodoxime	Sensitive	Sensitive (≤ 0.25 µg/mL)
Cefotaxime	Sensitive	Sensitive (≤ 1 µg/mL)
Ceftizoxime	Sensitive	Sensitive (≤ 1 µg/mL)
Aztreonam	Sensitive	Sensitive (≤ 1 µg/mL)
Doripenem	Sensitive	Sensitive (≤ 0.12 µg/mL)
Meropenem	Sensitive	Sensitive (≤ 0.25 µg/mL)
Amikacin	Resistant	Resistant (≥ 64 µg/mL)
Nalidixic Acid	Sensitive	Sensitive (≤ 2 µg/mL)
Moxifloxacin	Sensitive	Sensitive (≤ 0.25 µg/mL)
Norfloxacin	Sensitive	Sensitive (≤ 0.5 µg/mL)

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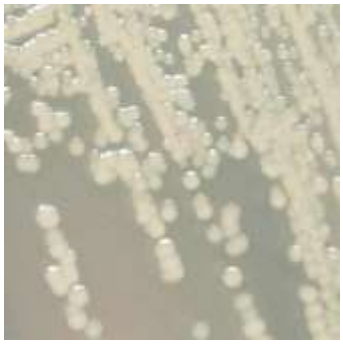
TEST	SPECIFICATIONS	RESULTS
Antibiotic Susceptibility Profile (continued)		
VITEK® (AST-XN06)		
Tetracycline	Resistant	Resistant (≥ 16 µg/mL)
Tigecycline	Sensitive	Sensitive (≤ 0.5 µg/mL)
Etest® antibiotic test strips[6]		
Chloramphenicol	Resistant	Resistant (> 256 µg/mL)
Nitrofurantoin	Report results	Sensitive (= 32 µg/mL)
Genotypic Analysis		
Sequencing of 16S ribosomal RNA gene (~ 1470 base pairs)	≥ 99% sequence identity to *K. pneumoniae,* strain JHCK1 (GenBank: ANGH02000040.1)	99.9% sequence identity to *K. pneumoniae,* strain JHCK1 (GenBank: ANGH02000040.1)[7]
Purity (post-freeze)[8]	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology[9]
Viability (post-freeze)[2]	Growth	Growth

[1]NR-48976 was produced by inoculation of BEI Resources NRS-48976 lot 63431902 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.
[2]1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar
[3]Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2012)
[4]The VITEK® 2 ESBL Test is a confirmatory test for Extended-Spectrum Beta-Lactamases (ESBLs) inhibited by clavulanic acid and utilizes cefepime, cefotaxime and ceftazidime, with and without clavulanic acid, to determine a positive or negative result.
[5]Lot-to-lot variability has been observed with nitrofurantoin testing using the VITEK® AST-GN69 card.
[6]1 day at 37°C in an aerobic atmosphere on Mueller Hinton agar
[7]Also consistent with other organisms
[8]Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere with 5% CO_2 on Tryptic Soy agar and in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood.
[9]Two colony types were observed after 1 day at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood. Plating of the individual colony types showed that they did not revert to the mixed colony type. VITEK® MS (MALDI-TOF) analysis identified cells from both colony types as *K. pneumoniae*. The 16S ribosomal RNA gene of each colony type was sequenced and found to be consistent with the other colony type and the published sequence (GenBank: ANGH00000000).

Figure 1: Colony Morphology



/Heather Couch/
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Program Manager or designee, ATCC Federal Solutions

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