

***Klebsiella pneumoniae*, Strain CHS 64**

Catalog No. NR-48566

Product Description: *Klebsiella pneumoniae* (*K. pneumoniae*), strain CHS 64 was isolated in 2013 from the urine of a non-ICU adult human patient in North Carolina, USA. *K. pneumoniae*, strain CHS 64 was deposited as a carbapenem resistant strain and is part of a Carbapenem Resistant Enterobacteriaceae (CRE) Sequencing Project at the Broad Institute. Strain CHS 64 was also deposited as resistant to meropenem and cefoxitin, intermediately susceptible to amikacin and susceptible to tigecycline.

Lot¹: 63885485

Manufacturing Date: 11NOV2015

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology ² Motility (wet mount) VITEK [®] MS (MALDI-TOF) VITEK [®] 2 Compact (GN card)	Gram-negative rods Report results Report results <i>K. pneumoniae</i> ≥ 90% probability of being <i>K. pneumoniae</i>	Gram-negative rods Circular, convex, entire, smooth, opaque and cream (Figure 1) Non-motile <i>K. pneumoniae</i> (99.9%) <i>K. pneumoniae</i> (98% probability) ³
Antibiotic Susceptibility Profile VITEK [®] (AST-GN69) ⁴ ESBL ^{5,6} Ampicillin Amoxicillin/Clavulanic Acid Ampicillin/Sulbactam Piperacillin/Tazobactam Cefazolin Ceftazidime Ceftriaxone Cefepime Ertapenem Imipenem Gentamicin Tobramycin Ciprofloxacin Levofloxacin Nitrofurantoin Trimethoprim/Sulfamethoxazole	Report results Resistant Report results Resistant Report results Resistant Resistant Resistant Resistant Report results Resistant Resistant (= 8 µg/mL) Resistant (= 8 µg/mL) Intermediate Report results Resistant Resistant Resistant Resistant	Negative Resistant (≥ 32 µg/mL) Resistant (≥ 32 µg/mL) Resistant (≥ 32 µg/mL) Resistant (≥ 128 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Resistant (≥ 64 µg/mL) Sensitive (= 8 µg/mL) ⁷ Resistant (≥ 8 µg/mL) Resistant (= 8 µg/mL) Intermediate (= 8 µg/mL) Resistant (≥ 16 µg/mL) Resistant (≥ 4 µg/mL) Resistant (≥ 8 µg/mL) Resistant (≥ 512 µg/mL) Resistant (≥ 320 µg/mL)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1480 base pairs)	≥ 99% sequence identity to <i>K. pneumoniae</i> type strain	99.3% sequence identity to Y17656 ^{8,9}
Purity (post-freeze)¹⁰	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze)²	Growth	Growth

¹NR-48566 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.

²1 day on Tryptic Soy agar at 37°C in an aerobic atmosphere

³Percent probabilities above 90% 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.

⁴Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S22 (2012)

⁵The 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.

⁶A negative ESBL test does not rule out the presence of an ESBL as there are many types of ESBL that may not be covered with this card. Furthermore, the ESBL phenotype may be masked by an AmpC β -lactamase. For more information, refer to Gniadkowski, M. "Evolution and Epidemiology of Extended-Spectrum β -Lactamases (ESBLs) and ESBL-Producing Microorganisms." *Clin. Microbiol. Infect.* 7 (2001): 597-608. PubMed: 11737084.

⁷*K. pneumoniae*, strain CHS 64 was deposited as resistant to cefepime. Antibiotic susceptibility testing performed in duplicate determined cefepime MIC for *K. pneumoniae*, strain CHS 64 as 8 μ g/mL, which is considered sensitive. Because this isolate is not a confirmed an ESBL-producer, CLSI recommendations are not to modify the interpretation based on the susceptibilities of other antibiotics in the same class. However, while this strain appears sensitive *in vitro*, there is a possibility that it is resistant *in vivo*.

⁸Also consistent with other *Klebsiella* species

⁹99.4% sequence identity to *K. pneumoniae*, strain CHS 64 (GenBank: JMYJ01000008.1)

¹⁰Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere on Tryptic Soy agar.

Figure 1: Colony Morphology



Date: 23 FEB 2016

Signature:

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