

## ***Klebsiella aerogenes*, Strain UCI 15**

### **Catalog No. NR-48555**

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### **For research use only. Not for use in humans.**

#### **Contributor:**

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#### **Manufacturer:**

BEI Resources

#### **Product Description:**

Bacteria Classification: *Enterobacteriaceae*, *Klebsiella*

Species: *Klebsiella aerogenes* (formerly *Enterobacter aerogenes*)<sup>1</sup>

Strain: UCI 15

Original Source: *Klebsiella aerogenes* (*K. aerogenes*), strain UCI 15 was isolated in 2013 from aspirate taken from a patient in intensive care in Irvine, California, USA.<sup>2,3</sup>

Comments: *K. aerogenes*, strain UCI 15 was deposited as a carbapenem resistant strain and is part of a [Carbapenem Resistant Enterobacteriaceae \(CRE\) Sequencing Project](#) at the Broad Institute.<sup>2,3</sup> Strain UCI 15 was also deposited as resistant to ampicillin, ampicillin/sulbactam, meropenem and cefoxitin, and sensitive to amikacin.<sup>2</sup> The complete genome of *K. aerogenes*, strain UCI 15 is available (GenBank: [JCKZ00000000](#)).

*K. aerogenes* is a Gram-negative, rod-shaped, facultatively-anaerobic opportunistic bacterium that is a commensal inhabitant of the human gastrointestinal tract. *K. aerogenes* is an emerging global public health concern as a CRE and multi-drug resistant nosocomial pathogen with significance in outbreaks occurring in industrialized nations, particularly Western Europe and the United States.<sup>4,5,6,7,8,9</sup> Carbapenem resistance is attributed to a natural expression of a chromosomal AmpC  $\beta$ -lactamase type cephalosporinase in addition to horizontal gene transfer of carbapenemase-encoding genes between *Enterobacteriaceae* isolates.<sup>4,5,6</sup> Resistance to other antibiotic classes, including  $\beta$ -lactams, aminoglycosides, fluoroquinolones and polymyxins, also occurs through the exchange of plasmids and transposons between *K. aerogenes* and other bacteria, such as *K. pneumoniae*, to adapt to changing environments.<sup>4,5,7,8,9</sup> The antibiotic-modifying enzymes gained through these processes are enabled by eight rRNA operons and 87 tRNA capable of translating foreign genes that use different codons.<sup>4</sup> Multi-drug resistant strains of *K. aerogenes* are associated with an altered expression of porins affecting membrane permeability.<sup>6,7,8</sup>

#### **Material Provided:**

Each vial contains approximately 0.5 mL of bacterial culture in Tryptic Soy broth supplemented with 10% glycerol.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

#### **Packaging/Storage:**

NR-48555 was packaged aseptically in cryovials. The product is provided frozen and should be stored at -60°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

#### **Growth Conditions:**

##### Media:

Tryptic Soy broth or Nutrient broth or equivalent

Tryptic Soy agar or Nutrient agar or Tryptic Soy agar with 5% defibrinated sheep blood or equivalent

##### Incubation:

Temperature: 37°C

Atmosphere: Aerobic

##### Propagation:

1. Keep vial frozen until ready for use, then thaw.
2. Transfer the entire thawed aliquot into a single tube of broth.
3. Use several drops of the suspension to inoculate an agar slant and/or plate.
4. Incubate the tube, slant and/or plate at 37°C for 1 day.

#### **Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Klebsiella aerogenes*, Strain UCI 15, NR-48555."

#### **Biosafety Level: 2**

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. [Biosafety in Microbiological and Biomedical Laboratories \(BMBL\)](#). 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

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**References:**

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