

## *Klebsiella pneumoniae*, Isolate 8

Catalog No. NR-15417

**For research use only. Not for human use.**

### Contributor:

NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH

### Product Description:

Bacteria Classification: *Enterobacteriaceae*, *Klebsiella*

Species: *Klebsiella pneumoniae*

Comments: *Klebsiella pneumoniae* (*K. pneumoniae*), isolate 8 contains the  $\beta$ -lactamase *K. pneumoniae* carbapenemase (*bla*<sub>KPC</sub>) gene.

*K. pneumoniae* is a Gram-negative enterobacterium that is a major cause of nosocomial infections of the urinary and respiratory tracts.<sup>1</sup> The primary isolates emerging from these settings contain the plasmid-bound *bla*<sub>KPC</sub> gene conferring specific resistance to the carbapenem class of antibiotics, as well as other  $\beta$ -lactams.<sup>1-3</sup> Virulence is derived from the complex acidic polysaccharide capsules, which provide protection from phagocytosis, and also give the colonies their characteristic mucoid appearance.<sup>1</sup>

The presence of the *bla*<sub>KPC</sub> gene in NR-15417 has been confirmed by PCR amplification of a *bla*<sub>KPC</sub> gene specific sequence from extracted DNA.

### Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in 0.5X 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-15417 was packaged aseptically, in screw-capped plastic 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 equivalent

Tryptic Soy Agar or equivalent

#### Incubation:

Temperature: 35 to 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 tubes and plate at 37°C for 24 hours.

### Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: *Klebsiella pneumoniae*, Isolate 8, NR-15417."

### 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, 5th ed. Washington, DC: U.S. Government Printing Office, 2007; see [www.cdc.gov/od/ohs/biosfty/bmlb5/bmlb5toc.htm](http://www.cdc.gov/od/ohs/biosfty/bmlb5/bmlb5toc.htm).

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### References:

1. Podschun, R. and U. Ullmann. "*Klebsiella* spp. As Nosocomial Pathogens: Epidemiology, Taxonomy,

- Typing Methods, and Pathogenicity Factors." Clin. Microbiol. Rev. 11 (1998): 589-603. PubMed: 9767057.
2. Endimiani, A., et al. "Characterization of *bla*<sub>KPC</sub>-Containing *Klebsiella pneumoniae* Isolates Detected in Different Institutions in the Eastern U.S.A." J. Antimicrob. Chemother. 63 (2009): 427-437. PubMed: 19155227.
  3. Rasmussen, B. A. and K. Bush. "Carbapenem-Hydrolyzing  $\beta$ -Lactamases." Antimicrob. Agents Chemother. 41 (1997): 223-232. PubMed: 9021171.
  4. Walther-Rasmussen, J. and N. Hoiby. "Class A Carbapenemases." J. Antimicrob. Chemother. 60 (2007): 470-482. PubMed: 17595289.

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