

Enterobacter cloacae complex, Strain BEI05

Catalog No. NR-50395

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Contributor and Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: Enterobacteriaceae, Enterobacter

Species: Enterobacter cloacae complex

Strain: BEI05

Original Source: Enterobacter cloacae complex (E. cloacae complex), strain BEI05 is from an unknown origin.

Species of the *E. cloacae* complex are Gram-negative, rod-shaped, facultatively-anaerobic opportunistic bacteria that are a commensal inhabitant of the human gastrointestinal tract.^{1,2} The *E. cloacae* complex nomenclature is mainly based on whole genome DNA-DNA hybridizations and phenotypic characterization.^{3,4} The *E. cloacae* complex includes six species (*E. asburiae*, *E. cloacae*, *E. hormaechei*, *E. kobei*, *E. ludwigii* and *E. nimipressuralis*) and currently only *Enterobacter* isolates that belong to the *E. cloacae* complex are considered of clinical significance and are increasingly isolated as nosocomial pathogens.^{1,3,5} Carbapenem resistance is attributed to a natural expression of a chromosomal AmpC β -lactamase type cephalosporinase in addition to horizontal gene transfer of carbapenemase-encoding genes between *Enterobacteriaceae* isolates.^{6,7}

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-50395 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 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: *Enterobacter cloacae* complex, Strain BEI05, NR-50395."

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, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

1. Paauw, A., et al. "Genomic Diversity within the *Enterobacter cloacae* Complex." Plos One 21 (2008): e3018. PubMed: 18716657.
2. Sanders, W. E. and C. C. Sanders. "Enterobacter spp.: Pathogens Poised to Flourish at the Turn of the Century." Clin. Microbiol. Rev. 10 (1997): 220-241. PubMed: 9105752
3. Mezzatesta, M. L., F. Gona, and S. Stefani. "Enterobacter cloacae Complex: Clinical Impact and Emerging Antibiotic Resistance." Future Microbiol. 7 (2012): 887-902. PubMed: 22827309.
4. Hoffmann, H., and A. Roggenkamp. "Population Genetics of the Nomenclature Species *Enterobacter cloacae*." Appl. Environ. Microbiol. 69 (2003): 5306-5318. PubMed: 12957918.
5. Pollett, S., et al. "Phenotypic and Molecular Characteristics of Carbapenem-Resistant *Enterobacteriaceae* in a Health Care System in Los Angeles, California, from 2011 to 2013." J. Clin. Microbiol. 52 (2014): 4003-4009. PubMed: 25210072.
6. Pecora, N. D., et al. "Genomically Informed Surveillance for Carbapenem-Resistant *Enterobacteriaceae* in a Health Care System." mBio 6 (2015): e01030. PubMed: 26220969.
7. Nordmann, P., L. Dortet, and L. Poirel. "Carbapenem Resistance in *Enterobacteriaceae*: Here is the Storm!" Trends Mol. Med. 18 (2012): 263-272. PubMed: 22480775.

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