

***Burkholderia cenocepacia*, Strain K56-2 (Valvano)**

Catalog No. NR-20535

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Burkholderiaceae*, *Burkholderia*

Species: *Burkholderia cenocepacia*

Strain: K56-2 (Valvano) (also referred to as K56-2Valvano)

Original Source: *Burkholderia cenocepacia* (*B. cenocepacia*), strain K56-2 (Valvano) was isolated prior to 1986 from sputum from a patient with cystic fibrosis in Toronto, Ontario, Canada.¹

Comment: *B. cenocepacia*, strain K56-2 (Valvano) is a cystic fibrosis associated strain. It was originally isolated by C. L. Prober at the Hospital for Sick Children in Toronto, Ontario, Canada. *B. cenocepacia*, strain K56-2 (Valvano) was deposited as a non-pigmented siderophore producer. It is a member of ET12 clonal lineage.² The complete genome sequence of *B. cenocepacia*, strain K56-2 (Valvano) is available (GenBank: [ALJA000000000](https://www.ncbi.nlm.nih.gov/nuclot/ALJA000000000)).

B. cenocepacia is a Gram-negative bacterium that is found ubiquitously throughout the environment. It was known historically as a plant pathogen but has also emerged as an opportunistic pathogen that preferentially attacks the lungs of those with cystic fibrosis.³ Virulence factors include the cable pilus gene that is involved in adhesion and colonization of the respiratory tract and a hemolysin that induces cell death.⁴ This organism also produces a variety of cytotoxins and antibiotic resistance genes.⁵

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-20535 was packaged aseptically, in screw-capped plastic cryovials. The product is provided frozen and should be stored at -80°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 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; thaw slowly.
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 to 3 days.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Burkholderia cenocepacia*, Strain K56-2 (Valvano), NR-20535."

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. Goldberg, J. B., Personal Communication.
2. Darling, P. et al. "Siderophore Production by Cystic Fibrosis Isolates of *Burkholderia cepacia*." Infec. and Immun. (1998): 874-877. PubMed: 9453660.
3. Vandamme, P., et al. "*Burkholderia cenocepacia* sp. nov.- a New Twist to an Old Story." Res. Microbiol. 154 (2003): 91-96. PubMed: 12648723.
4. Miller, D. A. and E. Mahenthiralingam. "Sequencing of the *Pseudomonas aeruginosa* and *Burkholderia cepacia* Genomes and their Applications in Relation to Cystic Fibrosis." J. R. Soc. Med. 96 Suppl 43 (2003): 57-65. PubMed: 12906327.
5. Lipuma, J. J. "Update of the *Burkholderia cepacia* Complex." Curr. Opin. Pulm. Med. 11 (2005): 528-533. PubMed: 16217180.

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