Product Information Sheet for NR-50573

Pseudomonas aeruginosa, Strain PA14

Catalog No. NR-50573

For research use only. Not for human use.

Contributor:
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Manufacturer:
BEI Resources

Product Description:
Bacteria Classification: *Pseudomonadaceae*, *Pseudomonas*
Species: *Pseudomonas aeruginosa*
Strain: PA14 (also referred to as UCBPP-PA14)
Original Source: *Pseudomonas aeruginosa* (*P. aeruginosa*), strain PA14 was isolated in the early 1970s from the blood of a burn patient at Mercy Hospital in Pittsburgh, Pennsylvania, USA.[1]
Comments: *P. aeruginosa*, strain PA14 was deposited as resistant to rifampicin and susceptible to meropenem, ofloxacin, ceftazidime, amikacin and tobramycin.[1] Strain PA14 is a multi-host pathogen that is virulent in a variety of mammalian and nonvertebrate hosts: humans, mice, worms (*Caenorhabditis elegans*), insects (*Drosophila melanogaster*) and plants (*Arabidopsis thaliana*).[2-5] Strain PA14 has been used to create a collection of sequence-defined, non-redundant transposon insertion mutants (PA14NR Set), in which non-essential genes have been disrupted by the insertion of either the *mariner*-based transposon MAR2xT or the TnPhoA transposon.[6] The complete genome of *P. aeruginosa*, strain PA14 has been sequenced (GenBank: CP000438).

P. aeruginosa is a Gram-negative, aerobic, rod-shaped bacterium with unipolar motility that thrives in many diverse environments including soil, water, and certain eukaryotic hosts. It is a key emerging opportunistic pathogen in animals, including humans, and plants. While it rarely infects healthy individuals, *P. aeruginosa* causes severe acute and chronic nosocomial infections in immunocompromised or catheterized patients, especially in patients with cystic fibrosis, burns, cancer or HIV.[7-9] Infections of this type are often highly antibiotic resistant, difficult to eradicate, and often lead to death. The ability of *P. aeruginosa* to survive on minimal nutritional requirements, tolerate a variety of physical conditions, and rapidly develop resistance during the course of therapy has allowed it to persist in both community and hospital settings.[9,10]

Material Provided:
Each vial contains approximately 0.5 mL of bacterial culture in Nutrient broth supplemented with 10% glycerol.

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

Packaging/Storage:
NR-50573 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 Brain Heart Infusion broth or Nutrient broth or equivalent
Tryptic Soy agar with 5% defibrinated sheep blood or Brain Heart Infusion agar or Nutrient agar 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: *Pseudomonas aeruginosa*, Strain PA14, NR-50573."

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:

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8. Dettman, J. R., et al. "Evolutionary Genomics of Epidemic and Nonepidemic Strains of *Pseudomonas aeruginosa*." Proc. Natl. Acad. Sci. USA 110 (2013): 21065-21070. PubMed: 24324153.
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