Product Information Sheet for NR-31041

Pseudomonas aeruginosa, Strain P179

Catalog No. NR-31041

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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: *Pseudomonadaceae*, *Pseudomonas*
Species: *Pseudomonas aeruginosa* (NR-31041 was deposited to BEI Resources as *Pseudomonas* sp., however, digital DNA-DNA hybridization (dDDH) testing, performed at BEI Resources, resulted in its reclassification to *Pseudomonas aeruginosa*).
Strain: P179
Original Source: *Pseudomonas aeruginosa (P. aeruginosa)*, strain P179 was isolated in or before 1983 from a human subject in Cincinnati, Ohio, USA.[1,2]
Comments: *P. aeruginosa*, strain P179 was deposited as resistant to gentamicin, streptomycin and sulfonamides.[1,2] Strain P179 contains IncP-2 plasmid pMG43, responsible for antibiotic and metal ion (borate, mercuric chloride, phenylmercuric acetate, tellurate and tellurite) resistance.[1,2] The complete genome of *P. aeruginosa*, strain P179 has been sequenced (GenBank: AQFN00000000).

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.[3,4,5] 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.[5,6]

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-31041 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 P179, NR-31041.

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. 6th ed. Washington, DC: U.S. Government Printing Office, 2020; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

1. Jacoby, G. A., Personal Communication.
2. Jacoby, G. A., et. al. "Properties of IncP-2 Plasmids of *Pseudomonas* spp." Antimicrob. Agents Chemother. 24 (1983): 168-175. PubMed: 6638986.
3. Silva Filho, L. V., et al. "*Pseudomonas aeruginosa* Infection in Patients with Cystic Fibrosis: Scientific Evidence Regarding Clinical Impact, Diagnosis, and Treatment." J. Bras. Pneumol. 39 (2013): 495-512. PubMed: 24068273.
4. 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.
5. Morita, Y., J. Tomida and Y. Kawamura. "Responses of *Pseudomonas aeruginosa* to Antimicrobials." Front. Microbiol. 4 (2014): 422. PubMed: 24409175.
6. Lister, P. D., D. J. Wolter and N. D. Hanson. "Antibacterial-Resistant *Pseudomonas aeruginosa*: Clinical Impact and Complex Regulation of Chromosomally Encoded Resistance Mechanisms." Clin. Microbiol. Rev. 22 (2009): 582-610. PubMed: 19822890.

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