

Proteus mirabilis, Strain 966438

Catalog No. NR-56646

For research use only. Not for use in humans.

Contributor and Manufacturer:
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Product Description:

Bacteria Classification: Enterobacteriaceae, Proteus

Species: Proteus mirabilis

Strain: 966438

Original Source: Proteus mirabilis (P. mirabilis), strain 966438 was isolated in 2013 from a wound sample from a 52-year-old female in the Philippines.

Comments: P. mirabilis, strain 966438 was deposited as part of the Global Priority Superbugs Collection. NR-56646 was deposited as resistant to amikacin, ceftazidime, ceftazidime/avibactam, ceftriaxone, ciprofloxacin, colistin, colistin/P80, doripenem, imipenem, levofloxacin and meropenem.

P. mirabilis is a Gram-negative, dimorphic, highly motile enterobacterium that is a frequent cause of urinary tract infections in patients with long-term indwelling catheters or with compromised (e.g., injured or abnormal) urinary tracts.^{1,2} Typical virulence factors are associated with adhesion, motility, immunoavoidance, nutrient acquisition, host damage, as well as biofilm formation.¹ P. mirabilis has a unique ability to differentiate between short, vegetative cells and elongated, hyperflagellated, swarmer cells.^{1,2} Due to increasing drug resistance and severe complications in infection, there has been renewed interest in P. mirabilis vaccine development. Several complete genomic sequences are now available.^{2,3}

Material Provided:

Each vial contains approximately 0.3 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-56646 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:

Nutrient broth or Tryptic Soy broth or equivalent

Nutrient agar or 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, 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: Proteus mirabilis, Strain 966438, NR-56646."

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 \(BMBL\)](#). 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

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References:

1. Armbruster, C. E. and H. L. T. Mobley. "Merging Mythology and Morphology: The Multifaceted Lifestyle of *Proteus mirabilis*." Nat. Rev. Microbiol. 10 (2012): 743-754. PubMed: 23042564.
2. Pearson, M. M., et al. "Complete Genome Sequence of Uropathogenic *Proteus mirabilis*, a Master of Both Adherence and Motility." J. Bacteriol. 190 (2008): 4027-4037. PubMed: 18375554.
3. Sullivan, N. L., et al. "The Complete Genome Sequence of *Proteus mirabilis* Strain BB2000 Reveals Differences from the *P. mirabilis* Reference Strain." Genome Announc. 1 (2013): e00024-13. PubMed: 24009111.

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