

***Proteus mirabilis*, Strain 1104843**

Catalog No. NR-56702

For research use only. Not for use in humans.

Contributor and Manufacturer:

ATCC®

Product Description:

Bacteria Classification: *Enterobacteriaceae*, *Proteus*

Species: *Proteus mirabilis*

Strain: 1104843

Original Source: *Proteus mirabilis* (*P. mirabilis*), strain 1104843 was isolated in 2014 from a urine sample from a 50-year-old male in Greece.

Comments: *P. mirabilis*, strain 1104843 was deposited as part of the Global Priority Superbugs Collection. NR-56702 was deposited as resistant to cefepime, ceftazidime, ceftriaxone, ciprofloxacin, 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-56702 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 1104843, NR-56702.”

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). Current Edition. Washington, DC: U.S. Government Printing Office.

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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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