

Proteus mirabilis, Strain WGLW6

Catalog No. HM-753

For research use only. Not for use in humans.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: Enterobacteriaceae, *Proteus*

Species: *Proteus mirabilis*

Strain: WGLW6

Original Source: *Proteus mirabilis* (*P. mirabilis*), strain WGLW6 was isolated from a stool sample of a mouse with *T-bet*^{-/-} × *Rag2*^{-/-} ulcerative colitis (TRUC) in Boston, Massachusetts, USA.^{1,2,3}

Comments: *P. mirabilis*, strain WGLW6 ([HMP ID 1311](#)) is a reference genome for [The Human Microbiome Project](#) (HMP). HMP is an initiative to identify and characterize human microbial flora. The complete genome of *P. mirabilis*, strain WGLW6 was sequenced at the [Broad Institute](#) (GenBank: [AMGT000000000](#)).

Note: HMP material is taxonomically classified by the depositor. Quality control of these materials is only performed to demonstrate that the material distributed by BEI Resources is identical to the deposited material.

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.^{4,5} Typical virulence factors are associated with adhesion, motility, immunoevasion, nutrient acquisition, host damage, as well as biofilm formation.⁴ *P. mirabilis* has a unique ability to differentiate between short, vegetative cells and elongated, hyperflagellated, swarmer cells.^{4,5} 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.^{5,6}

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:

HM-753 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 Luria-Bertani (LB) broth or equivalent

Nutrient agar or Tryptic Soy 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 as part of the Human Microbiome Project: *Proteus mirabilis*, Strain WGLW6, HM-753."

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. [HMP ID 1311](#) (*Proteus mirabilis*, Strain WGLW6)
2. Garret, W. S. and L. H. Wardwell, Personal Communication.
3. Garrett, W. S., et al. "Enterobacteriaceae Act in Concert with the Gut Microbiota to Induce Spontaneous and Maternally Transmitted Colitis." *Cell Host Microbe* 8 (2010): 292-300. PubMed: 20833380.
4. 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.
5. 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.
6. 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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