Product Information Sheet for HM-752

Proteus mirabilis, Strain WGLW4

Catalog No. HM-752

For research use only. Not for use in humans.

Contributors:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Morganellaceae*, *Proteus* (previously classified as *Enterobacteriaceae*)[1]
Species: *Proteus mirabilis*
Strain: WGLW4
Original Source: *Proteus mirabilis (P. mirabilis)*, strain WGLW4 was isolated from human urine in Boston, Massachusetts, USA.[2]
Comments: *P. mirabilis*, strain WGLW4 (HMP ID 1310) 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 WGLW4 was sequenced at the Broad Institute (GenBank: AMGU00000000).
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.[3,4] Typical virulence factors are associated with adhesion, motility, immunoavoidance, nutrient acquisition, host damage, as well as biofilm formation.[3] *P. mirabilis* has a unique ability to differentiate between short, vegetative cells and elongated, hyperflagellated, swarmer cells.[3,4] 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.[4,5]

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-752 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-Burtani (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 WGLW4, HM-752."

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.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

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References:

1. Adeolu, M., et al. "Genome-Based Phylogeny and Taxonomy of the 'Enterobacterales': Proposal for Enterobacterales ord. nov. Divided into the Families Enterobacteriaceae, Erwiniaceae fam. nov., Pectobacteriaceae fam. nov., Yersiniaceae fam. nov., Hafniaceae fam. nov., Morganellaceae fam. nov., and Budviciaceae fam. nov." Int. J. Syst. Evol. Microbiol. 66 (2016): 5575-5599. PubMed: 27620848.
2. Garrett, W. S. and L. H. Wardwell, Personal Communication.
3. 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.
4. 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.
5. 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.
6. HMP ID 1310 (*Proteus mirabilis*, strain WGLW4)
7. 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.

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