

***Klebsiella michiganensis*, Strain MIT 10-5242**

Catalog No. HM-623

For research use only. Not for use in humans.

Contributor:

James G. Fox, DVM, DACLAM, Professor, Division of Comparative Medicine, Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts, USA

Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Enterobacteriaceae*, *Klebsiella*

Species: *Klebsiella michiganensis*

Previously referred to as *Klebsiella oxytoca*, this species has been reclassified.¹

Strain: MIT 10-5242 (also referred to as 10-5242)

Original Source: *Klebsiella michiganensis* (*K. michiganensis*), Strain MIT 10-5242 was isolated from human bone in Kansas, USA.^{2,3}

Comments: *K. michiganensis*, strain MIT 10-5242 ([HMP ID 9686](#)) 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 *K. michiganensis*, strain MIT 10-5242 was sequenced at the [Broad Institute](#) (GenBank: [AGDI00000000](#)).

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.

K. michiganensis is a non-motile, Gram-negative, rod-shaped bacterium that causes frequent nosocomial infections of the urinary and respiratory tracts. It is ubiquitous in the environment and is often isolated from the skin, mucous membranes and intestines of humans and animals.⁴ Due to the extensive spread of antibiotic-resistant strains, especially of extended-spectrum β -lactamase (ESBL)-producing strains, there has been renewed interest in *K. michiganensis* infections.^{5,6}

K. michiganensis, strain MIT 10-5242 was deposited as an ampicillin-resistant strain that is negative for a cytotoxin that has been associated with hemorrhagic colitis.²

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:

HM-623 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 equivalent

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: *Klebsiella michiganensis*, Strain MIT 10-5242, HM-623."

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.

Disclaimers:

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

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

References:

1. Saha, R., et al. "*Klebsiella michiganensis* sp. nov., a New Bacterium Isolated from a Tooth Brush Holder." Curr. Microbiol. 66 (2013): 72-78. PubMed: 23053492.
2. Fox J.G., Personal Communication.
3. [HMP 9686](#) (*Klebsiella oxytoca*, strain MIT 10-5242)
4. Podschun, R. and U. Ullmann. "*Klebsiella* spp. as Nosocomial Pathogens: Epidemiology, Taxonomy, Typing Methods, and Pathogenicity Factors." Clin. Microbiol. Rev. 11 (1998): 589-603. PubMed: 9767057.
5. Decré, D., et al. "Outbreak of Multi-resistant *Klebsiella oxytoca* Involving Strains with Extended-Spectrum β -lactamases and Strains with Extended-Spectrum Activity of the Chromosomal β -lactamase." J. Antimicrob. Chemother. 54 (2004): 881-888. PubMed: 15472005.
6. Granier, S. A., et al. "Recognition of Two Genetic Groups in the *Klebsiella oxytoca* Taxon on the Basis of Chromosomal β -lactamase and Housekeeping Gene Sequences as Well as ERIC-1R PCR Typing." Int. J. Syst. Evol. Microbiol. 53 (2003): 661-668. PubMed: 12807183.

ATCC® is a trademark of the American Type Culture Collection.

