

***Treponema denticola*, Strain US-Trep**

Catalog No. HM-573

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: Spirochaetaceae, *Treponema*

Species: *Treponema denticola*

Strain: US-Trep (also referred to as F0459)

Original Source: *Treponema denticola* (*T. denticola*), strain US-Trep was isolated from a deep periodontal pocket in an adult human mouth in the United States.^{1,2}

Comments: *T. denticola*, strain US-Trep ([HMP ID 9728](#)) 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 *T. denticola*, strain US-Trep was sequenced at the [Broad Institute](#) (GenBank: [AGEB00000000](#)).

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.

T. denticola is a Gram-negative, obligately anaerobic, non-sporulating, motile spirochete usually found in the microflora of a human mouth, predominantly in the subgingival plaque of patients with periodontitis.³ This invasive bacterium has been identified as an important cause of periodontal disease and suspected to be involved in extra-oral infections.⁴⁻⁷

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in tryptone-yeast extract-gelatin-volatile fatty acids-serum (TYGVS) medium supplemented with 80% glycerol.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

Packaging/Storage:

HM-573 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:

TYGVS medium¹ or Modified New Oral Spirochete broth³ or equivalent

Note: Growth on agar is not recommended.

Incubation:

Temperature: 37°C

Atmosphere: Anaerobic

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 additional broth tubes.
4. Incubate tubes at 37°C for 3 to 7 days.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH as part of the Human Microbiome Project: *Treponema denticola*, Strain US-Trep, HM-573."

Biosafety Level: 1

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. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbI5/index.htm.

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References:

1. Izard, J., Personal Communication.
2. [HMP ID 9728](#) (*Treponema denticola*, strain US-Trep)
3. Chan, E. C., et al. "*Treponema denticola* (ex Brumpt 1925) sp. nov., nom. rev., and Identification of New Spirochete Isolates from Periodontal Pockets." Int. J. Syst. Bacteriol. 43 (1993): 196-203. PubMed: 8494734.
4. Dashper, S. G., et al. "Virulence Factors of the Oral Spirochete *Treponema denticola*." J. Dent. Res. 90 (2011): 691-703. PubMed: 20940357.
5. Frederick, J. R., et al. "Molecular Signaling Mechanisms of the Periopathogen, *Treponema denticola*." J. Dent. Res. 90 (2011): 1155-1163. PubMed: 21447698.
6. Gaibani, P., et al. "Killing of *Treponema denticola* by Mouse Peritoneal Macrophages." J. Dent. Res. 89 (2010): 521-526. PubMed: 20200417.
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8. Seshadri, R., et al. "Comparison of the Genome of the Oral Pathogen *Treponema denticola* with Other Spirochete Genomes." Proc. Natl. Acad. Sci. USA 101 (2004): 5646-5651. PubMed: 15064399.
9. Dewhirst, F. E., et al. "The Diversity of Periodontal Spirochetes by 16S rRNA Analysis." Oral Microbiol. Immunol. 15 (2000): 196-202. PubMed: 11154403.
10. Salvador, S. L., S. A. Syed and W. J. Loesche. "Comparison of Three Dispersion Procedures for Quantitative Recovery of Cultivable Species of Subgingival Spirochetes." J. Clin. Microbiol. 25 (1987): 2230-2232. PubMed: 3320092.

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