Species *Fontibacterium temperatum*

Etymology

[tem.pe.ra'tum] **L. neut. adj.** *temperatum*, referring to temperate climate, the species mainly occurs in lakes of the temperate region of the Northern Hemisphere

Nomenclatural type

NCBI Assembly: GCA_964203055.1 [Ts]

Description

Type genome is *Fontibacterium temperatum* ZE-03apr19-LR-3 (GCA_964203055.1), a metagenome-assembled genome (MAG) assembled from 5 m depth from Lake Zurich, Switzerland (date: 2019-04-03). ZE-03apr19-LR-3 has a genome size of 0.9 Mbp with a genomic GC content of 29.4% and contains 28 tRNAs. The genome is of high quality, consisting of 3 contigs, with a completeness of 94%, contamination of 0% and strain heterogeneity of 0% as assessed with checkM. The metagenome was assembled with FLYE from combined long-and short-read sequencing (Oxford Nanopore and Illumina NovaSeq). Metagenomic fragment recruitment of >600 samples from five continents indicate that the species is highly abundant in temperate lakes of the Northern Hemisphere. The closest cultivated relatives are *Fontibacterium commune*, syn. '*Candidatus* Fonsibacter ubiquis' LSUCC0530 (GCF_002688585.1; later reclassified to '*Ca*. Allofontibacter communis'), with an average amino acid identity of 87.44% and average nucleotide identity of 85.23% and another newly proposed species, *Fontibacterium abundans* MiE-29 (GCA_965235095.1), with an AAI of 93.82% and an ANI of 92.5%. Current GTDB classification (R220): d__Bacteria; p__Pseudomonadota; c__Alphaproteobacteria; o__Pelagibacterales; f__Pelagibacteraceae; g__Fonsibacter; s__Fonsibacter sp000510845.

Classification

Bacteria » *Pseudomonadota* » *Alphaproteobacteria* » *Pelagibacterales* » *Pelagibacteraceae* » *Fontibacterium* » *Fontibacterium temperatum*

References

Effective publication: Fernandes et al., 2025 [1]

Registry URL

https://seqco.de/i:49881

References

1. Fernandes et al. (2025). Ecophysiology and global dispersal of the freshwater SAR11-IIIb genus Fontibacterium. *Nature Microbiology*. DOI:10.1038/s41564-025-02091-8