Species *Lacustribacter communis*^{Ts}

Etymology

[com.mu'nis] **L. masc. adj.** *communis*, common; referring to a wide distribution in freshwater lakes.

Nomenclatural type

NCBI Assembly: GCA_965194335.1 Ts

Reference Strain

Strain scJ0038962: MsE-M52

Description

Type strain is *Lacustribacter communis* MsE-M52 (GCA_965194335.1), isolated from 5 m depth from Lake Most, Czechia (date: 2019-10-01), *via* high-throughput dilution to extinction cultivation. MsE-M52 has a genome size of 2.1 Mbp with a genomic GC content of 53.3%, contains 3 rRNA genes and 42 tRNAs. The genome is complete, consisting of a circular chromosome. The genome contains genes encoding anoxygenic aerobic phototrophy (*pufABLM*). Genes for flagellar assembly were annotated. Pathways for urea and taurine degradation, thiosulfate oxidation (Sox pathway), glycolate oxidation, and the biosynthesis of all amino acids except for aspartate were predicted. Further, pathways for thiamine, riboflavin, NAD, pantothenate, coenzyme A, THF, and heme biosynthesis were identified. The closest cultivated relatives are the undescribed *Burkholderiales* bacterium LSUCC0115 (GCA_009646425.1), with an average amino acid identity of 61.9% and average nucleotide identity of 67.9% and the newly established genus *Hahnella,* with 60.4-61.7% AAI and 67.2-67.9% ANI. The closest validly described relative is *Limnobacter thiooxidans* CS-K2 (GCF_036323495.1) with an AAI of 53.95% and an ANI of 66.33%. Current GTDB classification (R220): d__Bacteria; p__Pseudomonadota; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae; g__UBA954; s__UBA954 sp002293155.

Classification

Bacteria » *Pseudomonadota* » *Betaproteobacteria* » *Burkholderiales* » *Burkholderiaceae* » *Lacustribacter* » *Lacustribacter communis*^{Ts}

References

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

Registry URL

https://seqco.de/i:48709

References

1. Salcher et al. (2025). Bringing the uncultivated microbial majority of freshwater ecosystems into culture. *Nature Communications*. DOI:10.1038/s41467-025-63266-9