Species *Acidimicrobilacustris thunensis*

Etymology
[thu.nen'sis] **N.L. masc. adj.** *thunensis*, of Thun, referring to Lake Thun, the isolation source of the type strain.

Nomenclatural type
NCBI Assembly: GCA_965194345.1 [Ts]

Reference Strain
Strain sc|0040411: TE-7

Description
Type strain is *Acidimicrobilacustris thunensis* TE-7 (GCA_965194345.1), isolated from 5 m depth from Lake Thun, Switzerland (date: 2019-11-11), *via* high-throughput dilution to extinction cultivation. TE-7 has a genome size of 2.38 Mbp with a genomic GC content of 60.6%, contains 3 rRNA genes and 46 tRNAs. The genome is complete, consisting of a circular chromosome. The genome contains genes encoding rhodopsins but lacks the biosynthetic pathway for retinal biosynthesis. No genes for flagella or pilus assembly and chemotaxis were annotated. Pathways for taurine degradation, assimilatory sulfate reduction and methane/alkanesulfonate oxidation and biosynthesis for all amino acids except histidine were predicted. Further, pathways for riboflavin, pyridoxal, NAD, coenzyme A, biotin and heme were identified. The closest cultivated relatives are *Rhabdothermincola salaria* (GCF_021246445.1) with an average amino acid identity of 66.55% and an average nucleotide identity of 71.1% and another newly proposed species, *Acidimicrobilacustris europaeus* KE-4 (GCA_965194515.1), with an AAI of 73.1% and an ANI of 72%. Current GTDB (R220) classification: d__Bacteria; p__Actinomycetota; c__Acidimicrobiia; o__Acidimicrobiales; f__UBA8139; g__F1-20-MAGs160; s__F1-20-MAGs160 sp945878725.

Classification
Bacteria » *Actinomycetota* » *Acidimicrobiia* » *Acidimicrobiales* » *Acidimicrobilacustridaceae* » *Acidimicrobilacustris* » *Acidimicrobilacustris thunensis*

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

Registry URL
https://seqco.de/i:48740

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