Species *Terraquivivens tikiterensis*[Ts]

Etymology

[ti.ki.ter.en'sis] **N.L. fem. adj.** *tikiterensis*, of Tikitere, referring to Tikitere, Rotorua, New Zealand, where this organism was identified from

Nomenclatural type

NCBI Assembly: GCA_003056285.1 [Ts]

Description

The MAG of this organism was recovered from environmental sequencing of samples from Tikitere, Rotorua, New Zealand. The binned genome totals 1,536,389 bp and has a G+C content of 51.3 %. The genome completeness is estimated at 99.0 %, with very low (0.49 %) contamination based on CheckM. Comprehensive phylogenomic analysis of 120 archaeal marker genes places this taxon in the proposed candidate genus, *Terraquivivens*, in the proposed candidate family *Wolframiiraptoraceae*. ANI values between this taxon and other members of the genus fall well below species delineation guidelines (76-78 %), and along with geographic isolation of this taxon from close relatives, delineation as a novel species is supported. Along with the tungstate (Tup) ABC transporter subunits, the molybdate transporter (*modABC*) and an additional putative *wtpA/modA*-like gene, homologous to *modA*-like sequences in *Pyrobaculum* species, suggest versatility in uptake of either molybdate or tungstate by this species. Two gene fragments encoding 4-hydroxybutyryl-CoA dehydratase (*abfD*) together, have been identified from the genome, indicating potential autotrophic CO2 fixation through the oxygen-tolerant hydroxypropionate/hydroxybutyrate (HP/HB) cycle, while no other members of the family were found to possess these genes.

Classification

Incertae sedis (Archaea) » “Caldarchaeales” » *Wolframiiraptoraceae* » *Terraquivivens* » *Terraquivivens tikiterensis*[Ts]

References

Effective publication: Buessecker et al., 2022 [1]

Registry URL

https://seqco.de/i:22826

References

1. Buessecker et al. (2022). An essential role for tungsten in the ecology and evolution of a previously uncultivated lineage of anaerobic, thermophilic Archaea. *Nature Communications*. DOI:10.1038/s41467-022-31452-8