

Species *Terraquivivens tengchongensis*

Etymology

[teng.chong.en'sis] N.L. fem. adj. *tengchongensis*, of Tengchong, referring to Tengchong, China, where these organisms were identified from

Nomenclatural type

[NCBI Assembly: GCA_023261845.1](#)^{TS}

Description

Fifteen MAGs for this organism were recovered from several sampling locations in Diretiyanqu, Gumingquan, Jinze and Shuirebaozha thermal springs in the Rehai and Ruidian geothermal fields, Tengchong. Binned genomes for this species ranged between 1,094,328 bp and 1,283,151 bp, in 2 to 160 contigs, and ranged in G+C content from 44.8 to 45.3 %. Completeness estimates for these genomes were between 90.3 and 97.1 %, with contamination estimated at 0-2.91 %, based on CheckM. This species is placed in *Terraquivivens*, in the family *Wolframiiaptoraceae*, based on phylogenomic analysis using 122 archaeal marker genes. ANI values within the species range between 98 and 100 %, with all other values to the closest relatives being below species guidelines (79-85 %). In addition to the tungstate (Tup) ABC transporter detected in all members of the genus, the majority of the genomes for this species also encode a *wtpA/modA*-like protein that is homologous to *modA*-like sequences previously reported in *Pyrobaculum*. Most members of this species contain the gene *cydA* that encodes cytochrome bd ubiquinol oxidase subunit I, which appears to have been gained in only this species in the genus. Also, an unknown ferredoxin oxidoreductase, shared only by the sister species *Terraquivivens yellowstonensis*, is present in all genomes of this species studied here.

Classification

Incertae sedis (Archaea) » "Caldarchaeales" » *Wolframiiaptoraceae* » *Terraquivivens* » *Terraquivivens tengchongensis*

References

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

Registry URL

<https://seqco.de/i:22829>

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