

Species *Methylopumilus planktonicus*^{Ts}

Etymology

[plan.kto'ni.cus] **N.L. masc. adj.** *planktonicus*, living in the plankton, planktonic; from Gr. masc. adj. planktos, wandering

Nomenclatural type

[NCBI Assembly: GCF_000981505.1](#)^{Ts}

Reference Strain

[Strain sc|0040319](#): MMS-2-53

Description

Type genome is *Methylopumilus planktonicus* MMS-2-53 (GCF_000981505.1), an axenic bacterial strain isolated by dilution-to-extinction cultivation from the water column of Lake Zurich, Switzerland. MMS-2-53 has a genome size of 1.35 Mb with a genomic GC content of 36.97%, contains 3 rRNA genes and 36 tRNAs. The genome is complete, consisting of 1 circular chromosome. *Methylopumilus planktonicus* are very tiny (0.041 µm³ during stationary growth phase and 0.075 µm³ during exponential growth phase), aerobic, non-motile and methylotrophic. The genome contains genes encoding two rhodopsins (proteorhodopsin and xantho-like rhodopsin) and the biosynthetic pathway for retinal biosynthesis. No genes for flagellar or pilus assembly and chemotaxis were annotated. Pathways for methanol oxidation (Xox) and the RuMP cycle for methylotrophy and the biosynthesis of all amino acids were predicted. *Methylopumilus planktonicus* are abundant in the plankton of freshwater lakes with a world-wide distribution and a preference for lakes with a lower nutrient level than members of another species, *Methylopumilus universalis*. None of the isolated strains were yet submitted to a culture collection because these bacteria are hard to maintain, i.e., they are very slowly growing, reach low densities in liquid culture, and do not grow on agar plates.

Classification

Bacteria » *Pseudomonadota* » *Betaproteobacteria* » *Nitrosomonadales* » *Methylophilaceae* » *Methylopumilus* » *Methylopumilus planktonicus*^{Ts}

References

Effective publication: Salcher et al., 2015 [1]

Registry URL

<https://seqco.de/i:41787>

References

1. Salcher et al. (2015). The ecology of pelagic freshwater methylotrophs assessed by a high-resolution monitoring and isolation campaign. *The ISME Journal*. [DOI:10.1038/ismej.2015.55](https://doi.org/10.1038/ismej.2015.55)