Species *Planktophila glycosidica*

Etymology

[gly.co.si.di'ca] **N.L. fem. adj.** *glycosidica*, named for the high number of carbohydrate active enzymes (CAZy) encoded by its genome

Nomenclatural type

Genome sc|0004105 Ts

Description

Etymology. It is named ‘glycosidica’ after the high number of carbohydrate active enzymes (CAZy) encoded by its genome.
Brief description. *Planktophila glycosidica* MKE-14 (ENA accession number GCA_965267915) was isolated from the epilimnion (0.5m depth) of the eutrophic Klíčava Reservoir, Czech Rebublic (date 2021-04-08). Recruitment analysis showed that even though is not very abundant in environment, it is present in various eutrophic lakes and reservoirs in Europe, including beside Klíčava Reservoir, Lake Loclat (Switzerland), Lake Tiefwaren, Stechlin and Breiter Luzin (Germany), Římov and Žlutice Reservoirs (Czech Republic). It has a circular genome of 1,436,726 bp and a GC content of 45.89%. It encodes one rRNA operon and 38 tRNAs, having a coding density of 95.52%. The genome encodes for rhodopsins and the retinal biosynthesis pathway. It can produce most amino acids, but it is auxotrophic for asparagine. The genome encodes for a total of 54 CAZy belonging to 36 different protein families. The closest cultivated relative is *Planktophila warneckii* RE-85 with who is shares an average nucleotide identity of 71.1%. The Current GTDB classification (r220) is d__Bacteria; p__Actinomycetota; c__Actinomycetia; o__Nanopelagicales; f__Nanopelagicaceae; g__Planktophila; s__.

Classification

Bacteria » *Actinomycetota* » *Actinomycetes* » *Nanopelagicales* » *Nanopelagicaceae* » *Planktophila* » *Planktophila glycosidica*

References

Effective publication: Chiriac et al., 2025 [1]
Assigned taxonomically: Jezbera et al., 2009 [2]

Registry URL

https://seqco.de/i:51028

References

1. Chiriac et al. (2025). Ecological success in freshwater lakes: insights from novel cultivated lineages of the abundant Nanopelagicales order. *Microbiome*. DOI: 10.1186/s40168-025-02272-x
2. Jezbera et al. (2009). 'Candidatus Planktophila limnetica', an actinobacterium representing one of the most numerically important taxa in freshwater bacterioplankton. *INTERNATIONAL JOURNAL OF SYSTEMATIC AND EVOLUTIONARY MICROBIOLOGY*. DOI: 10.1099/ijs.0.010199-0