

Genus *Azoamicus*

Etymology

[A.zo.a'mi.cus] N.L. pref. *azo-*, pertaining to nitrogen; L. masc. n. *amicus*, friend; N.L. masc. n. *Azoamicus*, friend that pertains to nitrogen

Nomenclatural type

Species *Azoamicus ciliaticola*^{T5}

Description

'*Candidatus Azoamicus ciliaticola*' is an obligate endosymbiont of an anaerobic ciliate and has a dedicated role in respiration and providing energy for its eukaryotic host. '*Candidatus A. ciliaticola*' contains a highly reduced 0.29-Mb genome that encodes core genes for central information processing, the electron transport chain, a truncated tricarboxylic acid cycle, ATP generation and iron–sulfur cluster biosynthesis. The genome encodes a respiratory denitrification pathway instead of aerobic terminal oxidases, which enables its host to breathe nitrate instead of oxygen. '*Candidatus A. ciliaticola*' and its ciliate host represent an example of a symbiosis that is based on the transfer of energy in the form of ATP, rather than nutrition.

Classification

Bacteria » *Pseudomonadota* » *Gammaproteobacteria* » "Azoamiales" » "Azoamicaceae" » *Azoamicus*

References

Effective publication: Graf et al., 2021 [1]

Registry URL

<https://seqco.de/i:49071>

References

1. Graf et al. (2021). Anaerobic endosymbiont generates energy for ciliate host by denitrification. *Nature*. [DOI:10.1038/s41586-021-03297-6](https://doi.org/10.1038/s41586-021-03297-6)