Species *Candidatus* Hafkinia simulans

Etymology

N.L. adj. *simulans*, imitating, because the infectious form of this endosymbiont resembles the diatoms eaten by its host ciliate

Nomenclatural type

Unknown

Description

Macronuclear endosymbiont of the free-living ciliate *F. salmastra*, sampled in a brackish water pond of the "Parco Naturale di Migliarino, San Rossore, Massaciuccoli" (Migliarino, Pisa district, Italy). Infectious form (IF) spindle-shaped or skittles-like, straight form, 8–30 × 2.0–3.5 µm in size. IF shows cellular subcompartments: cytoplasm, periplasm, and recognition tip. IFs with extensive periplasmic space often produce several stripes and dots along the cell body. Rod-shaped reproductive forms (RF) 2–4 × 1.0–1.5 µm in size, with homogeneous cytoplasm. IFs with shape and size similar to the diatom *Pheodactylum tricornutum*, the organism eaten by the host ciliate. According to this observed apparent imitation of the food, it has been hypothesized that the endosymbiont developed its morphology to better colonize particular ciliate hosts. No "connecting piece" or killer traits detected. Endosymbiont can perform horizontal transmission between hosts of the same species. Uncultured. Other characteristics are present in generic description. Basis of assignment: 16S rRNA gene sequence (MH319377) and probe Hafk_sim_147 (5′-TGA AGT TTC CTC CAG TTA TTC-3′). Type species of the genus.

Classification

Bacteria » *Pseudomonadota* » *Alphaproteobacteria* » *Holosporales* » "Holosporaceae" » *Candidatus* Hafkinia » *Candidatus* Hafkinia simulans

References

Effective publication: Fokin et al., 2019 [1]

Registry URL

https://seqco.de/i:294

References

1. Fokin et al. (2019). "Candidatus Hafkinia simulans" gen. nov., sp. nov., a Novel Holospora-Like Bacterium from the Macronucleus of the Rare Brackish Water Ciliate Frontonia salmastra (Oligohymenophorea, Ciliophora): Multidisciplinary Characterization of the New Endosymbiont and Its Host. *Microbial Ecology*. DOI:10.1007/s00248-018-1311-0