Species Candidatus Rhabdochlamydia porcellionis

Etymology

porcellionis

Nomenclatural type

<u>Unknown</u>

Description

'Candidatus Rhabdochlamydia porcellionis' comprises intracellular bacteria within membrane-bound vacuoles in the cytoplasm of hepatopancreatic cells of the terrestrial isopod Porcellio scaber. Cells are non-motile, noncultivable on cell-free media and have the Gram-negative microscopic appearance of a cell wall without a discernible peptidoglycan layer. Morphology of 'Candidatus Rhabdochlamydia porcellionis' corresponds to the description of 'Chlamydia isopodii' (Shay et al., 1985) and a 'Rickettsiella-like organism' (Drobne et al., 1999). Bacteria exhibit a chlamydia-like developmental cycle, in which the cells appear in three morphological forms (reticulate, intermediate and mature elementary bodies) that are packed in membrane-bound vacuoles in the cytoplasm of the host cell. Reticulate bodies with coccoid morphology can be small (up to 1 μ m in diameter), which multiply by binary fission, or larger ($1-4 \mu m$ in diameter), with granular inclusions in the cytoplasm. Morphology of intermediate bodies is coccoid (350-650 nm in diameter), with an electron-dense area in the centre of the cell. Mature elementary bodies have a five-layered cell wall, variable rod-shaped morphology (250– 700 nm in length and 100-150 nm in diameter) and oblong structures in the cytoplasm. On the basis of its 16S rRNA gene sequence, 'Candidatus Rhabdochlamydia porcellionis' forms a distinctive lineage within the order Chlamydiales, close to the family Simkaniaceae, with an oligonucleotide that is complementary to a unique region of the 16S rRNA gene (5'-GAAATGCAAAGGACAGCATC-3'). Assignment to 'Candidatus Rhabdochlamydia porcellionis' is based on the sequence of the 16S rRNA gene (GenBank accession no. AY223862) and the distinctive morphology of the elementary bodies.

Classification

Bacteria » Chlamydiota » Chlamydiia » Parachlamydiales » "Rhabdochlamydiaceae" » "Rhabdochlamydia" » Candidatus Rhabdochlamydia porcellionis

References

Effective publication: Kostanjsek et al., 2004 [1] Assigned taxonomically: Kostanjsek et al., 2004 [1]

Registry URL

https://seqco.de/i:264

References

 Kostanjsek et al. (2004). 'Candidatus Rhabdochlamydia porcellionis', an intracellular bacterium from the hepatopancreas of the terrestrial isopod Porcellio scaber (Crustacea: Isopoda). *International Journal of Systematic* and Evolutionary Microbiology. DOI:10.1099/ijs.0.02802-0