

Species *Coprococcus hominis*

Etymology

[ho.mi.nis] L. gen. masc. n. *hominis*, of a human being, referring to the human gut habitat

Nomenclatural type

Strain: CGMCC 1.32463 = KCTC 15956 = NSJ 10

Description

The closest relatives to the strain are *Coprococcus eutactus* (94.23%), the type species of the genus *Coprococcus*, and *Eubacterium ruminantium* (94.11%) based on the 16S rRNA gene sequence similarity. None of the closely related species identified had an ANI value above 95% (*C. eutactus*, 80.9%; *E. ruminantium*, 77.6%). GTDB-Tk assigned the species to genus 'CAG-127' within the family *Lachnospiraceae*. The closest relative based on the genome tree is *E. ruminantium* (followed by *C. eutactus*). However, the POCP value was 51.4% to *C. eutactus*, while it was 21.7% to *Eubacterium limosum*, the type species of the genus *Eubacterium*. Therefore, the isolate was considered to represent a novel species within the genus *Coprococcus*. The isolate was found to be the same species as 'Wujia chipingensis' (Liu et al., 2021), with ANI and GGDC values of 98.3% and 84.40%, respectively. However, this species has not yet been validated. Cells are short rods (0.7-1.0 µm in length) (**Supplementary Files**) that grow well on modified Gifu Anaerobic Medium with 5% Sheep blood under anaerobic conditions. Genome analysis predicted the ability to utilise starch, and produce acetate, propionate, L-glutamate, cobalamin (vitamin B12), and folate. Antibiotic resistance may be present due to the detection of *vanU* (ARO:3000575) and tetracycline-resistance ribosomal protection protein (ARO:0000002). The G+C content is 44.2 mol%, which varies by more than 1% to that of *C. eutactus* (43.1 mol%). The type strain, CLA-AA-H212T (=DSM 112732T), was most prevalent in wastewater (37.3% of 1,000 samples positive), followed by pig gut microbiota (33.8%), and human gut microbiota (23.9%). The bacterium was isolated from the faeces of a healthy 26-year-old woman.

Classification

Bacteria » *Bacillota* » *Clostridia* » *Eubacteriales* » *Lachnospiraceae* » *Coprococcus* » *Coprococcus hominis*

References

Effective publication: Afrizal et al., 2022 [1]

Registry URL

<https://seqco.de/i:23498>

References

1. Afrizal et al. (2022). Anaerobic single-cell dispensing facilitates the cultivation of human gut bacteria. *Environmental Microbiology*. DOI:10.1111/1462-2920.15935