

Species *Blautia fusiformis*

Etymology

[fu.si.for.mis] L. masc. n. *fuscus*, spindle; L. fem. n. *forma*, form; N.L. adj. *fusiformis*, spindle-shaped, pertaining to the cell morphology

Nomenclatural type

Strain: CLA-AA-H217 = DSM 112726 = JCM 35880

Description

The isolates CLA-AA-H217 and CLA-AA-H275 had the highest 16S rRNA genes sequence identity to multiple *Blautia* species, particularly *Blautia obeum* (96.80-97.07%), indicating its position within the genus *Blautia*. The assignment based on POCP value (82.0% to *Blautia obeum*) and classification according to GTDB-Tk also support the genus assignment. No validly named species with a sequenced genome within the GTDB-Tk database was identified with ANI value above 95% (77.15-77.48% to *Blautia intestinalis*), thus confirming the isolate as a novel species within the genus *Blautia*. The isolate was found to be the same species as 'Blautia massiliensis' (Durand et al., 2017b; Liu et al., 2021), with ANI and GGDC values of 97.9-98.3% and 83.2-86.7%, respectively. However, this species name has never been validated. The species grows on modified Gifu Anaerobic Medium under anaerobic conditions, forming short rod-shaped cells with slightly pointy end (length 1.5-2.5 µm). Genome analysis identified the presence of genes for utilisation of glucose and starch, and production of acetate, propionate, L-glutamate, cobalamin (vitamin B12), folate, and riboflavin (vitamin B2). No antibiotic resistance genes were detected. The G+C content is 44.1 mol%, whereas that of *B. obeum* is 41.6 mol% and *B. coccoides* (type species) 45.6 mol%. The species was most prevalent in human gut microbiota (69.3-70.5% of 1,000 samples positive), followed by pig gut microbiota (55.0-56.3%), wastewater (46.6-53.5%), activated sludge (39.8-52.4%), and chicken gut microbiota (50.3-50.4%). The type strain, CLA-AA-H217T (=DSM 112726T) was isolated from the faeces of a healthy 26-year-old woman. The other strain within this species, CLA-AA-H275 (=DSM 113286), was isolated from the faeces of a healthy 30-year-old man.

Classification

Bacteria » *Bacillota* » *Clostridia* » *Lachnospirales* » *Lachnospiraceae* » *Blautia* » *Blautia fusiformis*

Registry URL

<https://seqco.de/i:23501>