Ciceribacter ferrooxidans sp. nov.

Submitted by Van Lill, Melandre

Species *Ciceribacter ferrooxidans*

Etymology

[fer.ro.o.xi'dans] **L. neut. n.** *ferrum*, iron; **N.L. pref.** *ferro-*, pertaining to ferrous iron; **N.L. v.** *oxido*, to oxidise; **N.L. masc. part. adj.** *ferrooxidans*, oxidising ferrous iron

Nomenclatural type

NCBI Assembly: GCF_004137355.1 [Ts]

Reference Strain

Strain sc|0038875: F8825

Description

Cells are Gram-negative, facultatively chemolithotrophic, facultatively anaerobic, non-spore-forming, rod-shaped (1.0– 2.0 × 0.6–0.8 μm) with a single flagellum. Growth is good on DSMZ 98 medium but slow on LB. Colonies are circular, convex, entire, glistening, semi-translucent white, and covered with abundant polysaccharides on the surface. Growth occurs in 0–3.5% (w/v) NaCl at pH 6.0–9.0 (optimum at 7.5), and at 20–42°C (optimum at 37°C). Nitrate is reduced to nitrite and nitrogen gas. Utilizes thiosulfate and ferrous iron for electron donor. Carbon sources include bicarbonate, D-maltose, D-trehalose, D-cellobiose, gentiobiose, sucrose, D-turanose, D-raffinose, α-D-lactose, D-melibiose, β-methyl D-glucoside, D-salicin, N-acetyl-D-glucosamine, N-acetyl-D-galactosamine, α-D-glucose, D-mannose, D-fructose, D-galactose, 3-methyl glucose, D-fucose, L-fucose, L-rhamnose, D-sorbitol, D-mannitol, D-arabitol, myo-inositol, glycerol, D-glucose-6-phosphate, D-fructose-6-phosphate, glycyl-L-proline, L-alanine, L-arginine, L-aspartic acid, L-glutamic acid, L-pyroglutamic acid, L-serine, pectin, L-galactonic acid lactone, D-glucuronic acid, mucic acid, p-hydroxy-phenylacetic acid, L-lactic acid, α-keto-glutaric acid, D-malic acid, L-malic acid, bromo-succinic acid, and γ-amino-butryric acid, but not dextrin, N-acetyl-β-D-mannosamine, N-acetyl neuraminic acid, nosine, D-aspartic acid, gelatin, L-histidine, D-galacturonic acid, D-gluconic acid, glucuronamide, quinic acid, D-saccharic acid, D-lactic acid methyl ester, citric acid, acetoacetic acid, and formic acid. Cells are resistant to tetrazolium blue, nalidixic acid, and potassium tellurite, but susceptible to fusidic acid, troleandomycin, rifamycin SV, minocycline, lincomycin, guanidine HCl, niaproof 4, vancomycin, tetrazolium violet, lithium chloride, aztreonam, sodium butyrate, and sodium bromate. The major fatty acids are summed feature 1 (C18:1ω9c or/and C 18:1ω11t or/and C 18:1ω13c), C14:0 3-OH, and C18:0. The polar lipids are phosphatidymonomethylethanolamine, phosphatidylethanolamine, phosphatidylcholine, nitrogen containing phosphoglycolipid, phosphoglycolipid, and unknown phospholipid. The predominant isoprenoid quinone is ubiquinone Q-10. The DNA G + C content of the type strain is 63.1 mol%. The type strain, F8825 (= CCTCC AB 2018196 = KCTC62948), was isolated from the Fe(II)-rich sediment of anurban creek in Pearl River Delta, China.

Classification

Bacteria » *Pseudomonadota* » *Alphaproteobacteria* » *Hyphomicrobiales* » *Rhizobiaceae* » *Ciceribacter* » *Ciceribacter ferrooxidans*

References

Effective publication: Deng et al., 2020 [1]

Registry URL

https://seqco.de/i:39197

References

1. Deng et al. (2020). Ciceribacter ferrooxidans sp. nov., a nitrate-reducing Fe(II)-oxidizing bacterium isolated from ferrous ion-rich sediment. *Journal of Microbiology*. DOI:10.1007/s12275-020-9471-2

Register List Certificate of Validation

On behalf of the *Committee on the Systematics of Prokaryotes Described from Sequence Data* (SeqCode Committee), we hereby certify that the Register List **seqco.de/r:ktuoeccb** submitted by **Van Lill, Melandre** and including 1 new name has been successfully validated.

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