Mesorhizobium denitrificans

Submitted by Van Lill, Melandre

Species *Mesorhizobium denitrificans*

Etymology

[de.ni.tri.fi'cans] **N.L. neut. part. adj.** *denitrificans*, denitrifying

Nomenclatural type

NCBI Assembly: GCF_003403035.1 [Ts]

Reference Strain

Strain sc|0039558: LA-28 = KACC 19675 = LMG 30806

Description

Cells are facultative anaerobic, oxidase negative, and catalase positive. Colonies grown on R2A agar are opaque, circular, and milky coloured. Growth occurs at 18–40°C in the presence of 1–4% NaCl (w/v) and at pH 6–8. Optimum growth occurs at 30°C and pH 6.5–7.0 in the absence of NaCl. In both aerobic and anaerobic conditions it reduces nitrate to nitrite. Negative for the hydrolysis of casein, DNase, starch, Tween 80, and Tween 20. The strain grows well on R2A agar medium, whereas it weakly grows on TSA, NA, and LB agar media, but did not grow on DNAse agar and MacConkey agar. In commercial API (ZYM, 20NE, and 32GN) kits positive for arginine dihydrolase, urease, esculin hydrolysis, alkaline phosphatase, esterase, esterase lipase, leucine arylamidase, trypsin, acid phosphatase, naphthol-AS-BI-phosphohydrolase, α-glucosidase, β-glucosidase, D-glucose, L-arabinose, D-mannose, D-mannitol, D-maltose, L-fucose, D-sorbitol, L-arabinose, valerate, L-histidine, 2-ketogluconate, 3-hydroxy-butyrate, L-proline, L-rhamnose, N-acetyl-D-glucosamine, D-ribose, inositol, D-sucrose, suberate, acetate, L-lactate, alanine, and glycogen. Negative for indole production, glucose acidification, gelatin hydrolysis, α-galactosidase, β-galactosidase, β-glucuronidase, lipase, valine arylamidase, cystine arylamidase, α-chymotrypsin, gluconate, caprate, adipate, malate, citrate, phenyl-acetate, salicin, D-melibiose, propionate, caprate, 4-hydroxy-benzoate, itaconate, malonate, 5-ketogluconate, 3-hydroxy-benzoate, L-serine, α-mannosidase, and α-fucosidase. The predominant quinone is Q-10. The major cellular fatty acids are C16:0, C19:0 cyclo ω8c, and summed feature 8. The polar lipids are PG, PE, PME, and PC, and one unidentified phospholipid PL. The DNA G+C content of genomic DNA is 61.2 mol%. The type strain, LA-28 T (= KACC 19675T = LMG 30806 T) was isolated from the sludge of wastewater treatment plant Hanam city, South Korea.

Classification

Bacteria » *Pseudomonadota* » *Alphaproteobacteria* » *Hyphomicrobiales* » *Phyllobacteriaceae* » *Mesorhizobium* » *Mesorhizobium denitrificans*

References

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

Registry URL

https://seqco.de/i:49628

References

1. Siddiqi et al. (2019). Mesorhizobium denitrificans sp. nov., a novel denitrifying bacterium isolated from sludge. *Journal of Microbiology*. DOI:10.1007/s12275-019-8590-0

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:xqez6bw7** submitted by **Van Lill, Melandre** and including 1 new name has been successfully validated.

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