

Register list for 3 new names including *Pristimantibacillus lignocellulolyticus* sp. nov.

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Abstract

In this study, the polymer-degrading capability of a minimal lignocellulolytic microbial consortium (MELMC) was explored by genome-resolved metagenomics. The MELMC was mostly composed (>90%) of three bacterial members (*Pseudomonas protegens*; *Pristimantibacillus lignocellulolyticus* gen. nov., sp. nov.; and *Ochrobactrum gambitense* sp. nov) recognized by their high-quality metagenome-assembled genomes (MAGs). Here, the PacBio-HiFi metagenome sequencing was useful to reconstruct the genomes of the three most abundant MELMC species, unveiling two novel bacterial taxa involved in lignocellulose and plastics transformation.

Genus *Pristimantibacillus*

Etymology

[Pris.ti.man.ti.ba.cil'lus] N.L. masc. n. *Pristimantis*, from Pristimantis natural reserve, where soil samples were taken to select the minimal lignocellulolytic bacterial consortium including a member of this taxon; L. masc. n. *bacillus*, little staff, a rod; N.L. masc. n. *Pristimantibacillus*, a rod-shaped cell from Pristimantis natural reserve

Nomenclatural type

Species *Pristimantibacillus lignocellulolyticus*^{Ts}

Description

A genus established on the basis of MiGA taxonomic novelty analyses, AAI, dDDH, 16S rRNA gene phylogenetic reconstruction, and phylogenomic analyses and is classified as a member of the *Paenibacillaceae* family. The type species of the genus is *Pristimantibacillus lignocellulolyticus*.

Classification

Bacteria » *Bacillota* » *Bacilli* » *Caryophanales* » *Paenibacillaceae* » *Pristimantibacillus*

References

Proposed: Díaz Rodríguez et al., 2022

Registry URL

<https://seqco.de/i:23509>

Species *Pristimantibacillus lignocellulolyticus*^{Ts}

Etymology

[lig.no.cel.lu.lo.ly'ti.cus] N.L. neut. n. *lignocellulosum*, lignocellulose; N.L. masc. adj. *lyticus*, (from Gr. masc. adj. lytikos) able to dissolve; N.L. masc. adj. *lignocellulolyticus*, capable of degrading lignocellulose as part of a lignocellulolytic bacterial consortium

Nomenclatural type

[INSDC Nucleotide: CP097899](#)^{Ts}

Description

The species is established on the same basis as the genus and the type material is the genome MAG5.

Classification

Bacteria » *Bacillota* » *Bacilli* » *Caryophanales* » *Paenibacillaceae* » *Pristimantibacillus* » *Pristimantibacillus lignocellulolyticus*^{Ts}

References

Proposed: Díaz Rodríguez et al., 2022

Registry URL

<https://seqco.de/i:23510>

Species *Ochrobactrum gambitense*

Etymology

[gam.bi.ten'se] N.L. neut. adj. *gambitense*, of Gambita, the municipally where soil samples were taken to select the minimal lignocellulolytic bacterial consortium "MELMC"

Nomenclatural type

[INSDC Nucleotide: CP098020](#)^{Ts}

Description

The species is established on the basis of MiGA taxonomic novelty analysis, and the type material is the genome MAG4.

Classification

Bacteria » *Pseudomonadota* » *Alphaproteobacteria* » *Hyphomicrobiales* » *Brucellaceae* » *Ochrobactrum* » *Ochrobactrum gambitense*

References

Proposed: Díaz Rodríguez et al., 2022

Registry URL

<https://seqco.de/i:23485>

References

1. Díaz Rodríguez et al. (2022). Novel bacterial taxa in a minimal lignocellulolytic consortium and their potential for lignin and plastics transformation. *ISME Communications*. [DOI:10.1038/s43705-022-00176-7](https://doi.org/10.1038/s43705-022-00176-7)

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:xwx6hrsf submitted by Jimenez, Diego and including 3 new names has been successfully validated.

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