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'*Tidjanibacter massiliensis*' gen. nov., sp. nov., a new bacterial species isolated from human colon

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Abstract

We report the summary of main characteristics of *Tidjanibacter massiliensis* strain Marseille-P3084^T, a new bacterial species isolated from the liquid sample of the colon of a patient with a history of irritable bowel syndrome.

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Keywords: Culturomics, gut microbiota, new species, taxonogenomics, '*Tidjanibacter massiliensis*'

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In April 2016, a 48-year-old patient underwent a colonoscopy to investigate a history of irritable bowel syndrome. We studied samples from the wash of his right and left colon by culturomics [1] to analyse the bacterial repertoire of the human gut microbiota from stored samples of the digestive tract. Informed consent was obtained from the patient, and the ethics committee of the Institut Fédératif de Recherche IFR48 approved the study under number 2016-010.

We isolated strain Marseille-P3084^T, which could not be identified by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS) (Microflex; Bruker Daltonics, Bremen, Germany) [2], and we sequenced its 16S rRNA gene using fDI-rP2 primers as previously described [3] with a 3130-XL sequencer (Applied Biosciences, Saint Aubin, France).

Strain Marseille-P3084^T was first isolated after direct inoculation of the samples on Colombia agar with 5% of sheep's blood (COS; bioMérieux, Marcy l'Etoile, France) and a 3-day incubation in an anaerobic atmosphere (anaeroGen Compact;

Oxoid, Thermo Scientific, Dardilly, France) at 37°C. Colonies were white and punctiform. Cells were Gram-negative bacilli with a length of 1.2 µm and a width of 0.5 µm. Strain Marseille-P3084^T did not exhibit catalase or oxidase activities. This strain was motile and non-endospore forming.

Strain Marseille-P3084^T had a 92.1% sequence similarity [4] with *Alistipes putredinis* type strain ATCC 29800^T (GenBank accession no. L16497), the phylogenetically closest species with standing in nomenclature (Fig. 1), which was first isolated from human sources in 2003 [5]. Strain Marseille-P3084^T displayed a sequence divergence of >5% [6] with its phylogenetically closest species with standing in nomenclature, so we propose the creation of a new genus '*Tidjanibacter*' gen. nov. (ti.dja.ni.bac'ter, N.L. masc. n., *Tidjani* in honor of Maryam Tidjani Alou, a Nigerian pioneer of culturomics, and *bacter*, 'bacterium'). '*Tidjanibacter massiliensis*' gen. nov., sp. nov. (mas.si.li.en'sis, L. masc. adj. *massiliensis*, 'Massilia,' the Roman name of Marseille), is part of the *Rikenellaceae* family and the *Bacteroidetes* phylum. Strain Marseille-P3084 is the type strain of the new species *Tidjanibacter massiliensis* gen. nov., sp. nov.

MALDI-TOF MS spectrum

The MALDI-TOF MS spectrum of *Tidjanibacter massiliensis* strain Marseille-P3084^T is available online (<http://www>).

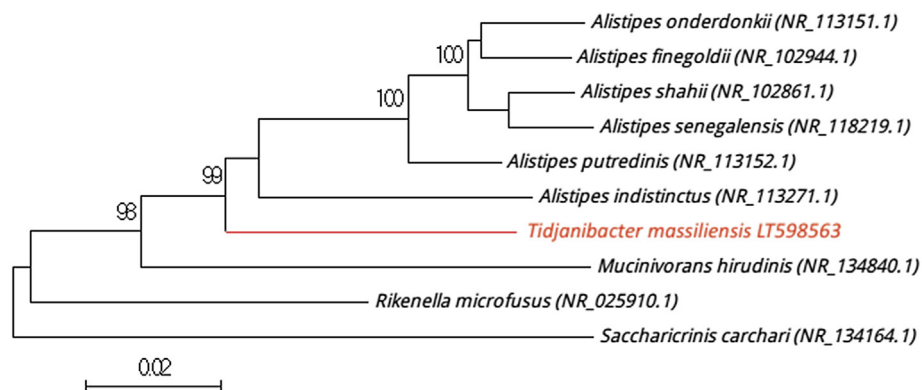


FIG. 1. Phylogenetic tree showing position of *Tidjanibacter massiliensis* strain Marseille-P3084^T relative to other phylogenetically close neighbours. Sequences were aligned using Muscle 3.8.31 with default parameters, and phylogenetic inferences were obtained using neighbour-joining method with 1000 bootstrap replicates within MEGA6 software. Only bootstrap values >95% are shown. Scale bar represents 2% nucleotide sequence divergence.

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Nucleotide sequence accession number

The 16S rRNA gene sequence of *Tidjanibacter massiliensis* strain Marseille-P3084^T was deposited in GenBank under accession number LT598563.

Deposit in a culture collection

Tidjanibacter massiliensis strain Marseille-P3084^T was deposited in the Collection de Souches de l'Unité des Rickettsies (CSUR, WDCM 875) under number P3084 and in the Deutsche Sammlung von Mikroorganismen und Zellkulturen (DSMZ) under number DSM 103552.

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Conflict of Interest

None declared.

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