

NEW SPECIES

'Marseilla massiliensis' gen. nov., sp. nov., isolated from human right colon**D. Ricaboni^{1,2}, M. Mailhe¹, V. Vitton³, P. E. Fournier¹, S. Khelaifia¹ and D. Raoult¹**

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Abstract

We report here the main characteristics of 'Marseilla massiliensis' strain Marseille-P2475^T (CSURP2475) isolated from the human right colon. © 2016 The Author(s). Published by Elsevier Ltd on behalf of European Society of Clinical Microbiology and Infectious Diseases.

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In the context of an ongoing study aimed to describe the human microbiota of different gut levels by culturomics [1] and molecular tools, we isolated a pure culture of a bacterial strain that escaped matrix-assisted laser desorption-ionization time-of-flight (MALDI-TOF) identification on a MicroFlex spectrometer (Bruker Daltonics, Bremen, Germany) [2]. This strain was isolated from a right colon lavage of a 58-year-old French woman who underwent colonoscopy due to a positive faecal haemoglobin test. Informed and signed consent were collected and the agreement of the National Ethics Committee of the IFR48 (Marseille, France) was obtained under number 09-022.

Strain Marseille-P2745 was first cultivated by direct seeding of a fresh right-colon sample on 5% sheep blood–Columbia agar medium (bioMérieux, Marcy l'Etoile, France) incubated at 37°C for 3 days in an anaerobic atmosphere (anaeroGEN; Oxoid Ltd, Dardilly, France). Colonies obtained by sub-culturing the strain Marseille-P2745 on 5% sheep blood–Columbia agar medium (bioMérieux) after 48 h of incubation varied from 0.5 to 1 mm in diameter and were circular, convex, smooth, opaque, yellow-greyish and not frankly haemolytic. Bacterial cells were Gram-negative, rod-shaped, not spore forming and not mobile, 1.5 µm in length and 0.6 µm in

diameter. Strain Marseille-P2745 exhibited negative reactions for catalase and oxidase activities.

The 16S rRNA gene sequence was obtained using the fD1-rP2 primers as previously described, with a 3130-XL sequencer (Applied Biosciences, Saint Aubin, France). Strain Marseille-P2475 exhibited 89.1% sequence similarity with *Prevotella loescheii* strain JCM 12249 (NR 113108), the closest validated species with a standing in nomenclature (Fig. 1) [3], which putatively classifies it as a new genus within the family *Prevotellaceae* among the *Bacteroidetes* phylum [4].

The family *Prevotellaceae* comprises four genera with validly published names *Prevotella*, *Alloprevotella*, *Hallella* and *Paraprevotella* [5]. The *Prevotella* genus was created in 1990 to differentiate among the *Bacteroides* genus those species that were only moderately saccharolytic and not able to show proper growth in bile-enriched medium [6]. Species belonging to this genus are Gram-negative, obligately anaerobic, non-spore-forming, non-motile, rods and are considered part of the human microflora, especially from mouth, upper airways and urogenital tract [6]. In some circumstances they are able to induce a wide range of diseases such as bacteraemia, disseminated abscesses, meningitis and endocarditis [7]. On the basis of the 16S rRNA gene sequence divergence of the strain Marseille-P2745 (10.9%) with the phylogenetically closest species [8], we propose here the creation of the new genus 'Marseilla' gen. nov., and the strain Marseille-P2475^T as the type strain of 'Marseilla massiliensis' gen. nov., sp. nov., the first representative species of this new genus. 'Marseilla massiliensis' gen. nov., sp.

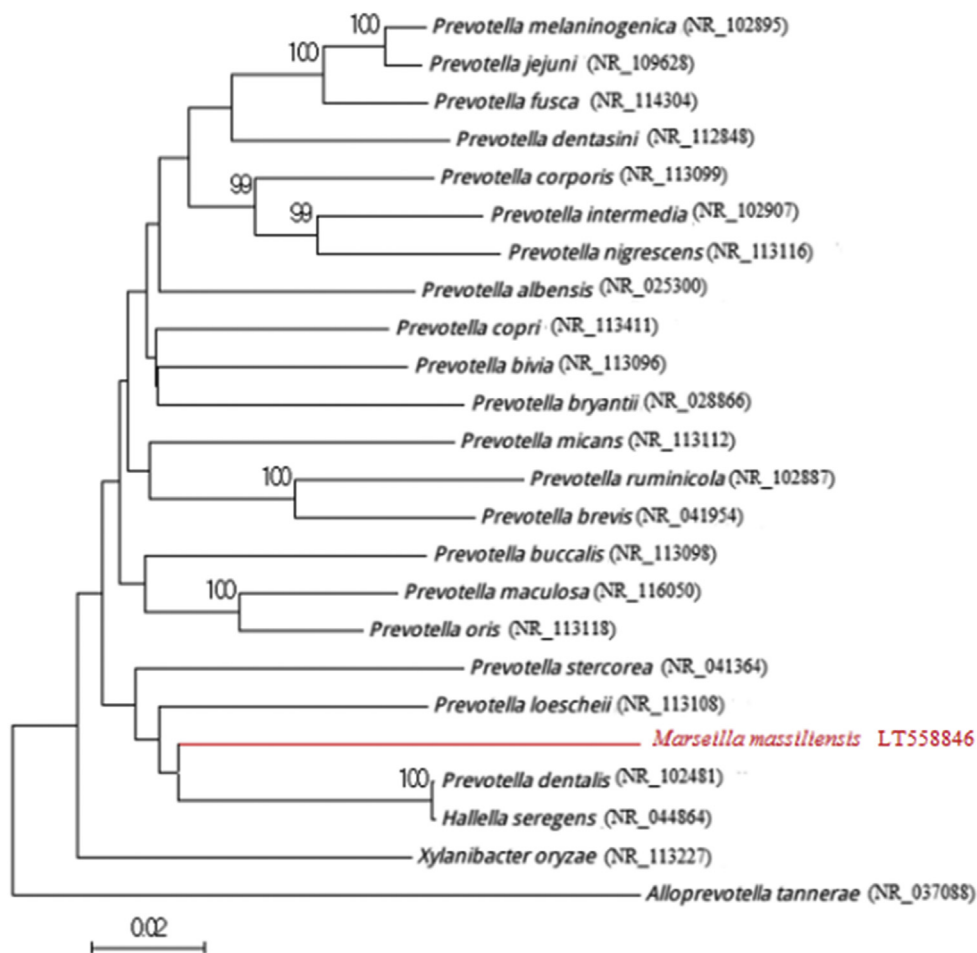


FIG. 1. Phylogenetic tree showing the position of ‘*Marseilla massiliensis*’ strain P2475^T relative to other phylogenetically close members of the family *Prevotellaceae*. GenBank accession numbers are indicated in parentheses. Sequences were aligned using CLUSTALW, and phylogenetic inferences were obtained using the maximum likelihood method within the MEGA software. Numbers at the nodes are percentages of bootstrap values obtained by repeating the analysis 500 times to generate a majority consensus tree. Only values >95% were displayed. The scale bar indicates a 2% nucleotide sequence divergence.

nov. (Mar. seil’la. N.L. fem.n. *Marseilla* from Marseille, the city where the strain was isolated; mas.si.li.en’sis, L., fem. adj., *massiliensis* for Massilia, the Roman name of Marseille, where strain Marseille-P2475^T was isolated).

MALDI-TOF spectrum

The MALDI-TOF spectrum of ‘*Marseilla massiliensis*’ strain Marseille-P2475^T is available at <http://www.mediterranee-infection.com/article.php?laref=256&titre=urms-database>.

Nucleotide Sequence Accession Number

The 16S rRNA gene sequence was deposited in GenBank under Accession number LT558846.

Deposit in a Culture Collection

Strain Marseille-P2475^T was deposited in the Collection de Souches de l’Unité des Rickettsies (CSUR, WDCM 875) under number Marseille-P2475.

Conflict of Interest

The authors have no conflicts of interest to declare.

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