“Libanicoccus massiliensis” gen. nov., sp. nov., a new bacterium isolated from a stool sample from a pygmy woman

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Abstract

This study supports the main characteristics of a new genus “Libanicoccus massiliensis” strain Marseille-P3237 (CSURP3237); a new member of the order Coribacteriaceae that was isolated from a stool sample from a healthy 35-year-old pygmy woman. © 2016 The Authors. Published by Elsevier Ltd on behalf of European Society of Clinical Microbiology and Infectious Diseases.

Keywords: Culturomics, emerging bacteria, gut microbiota, human microbiota, Libanicoccus massiliensis

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Samples were collected in Congo in 2015 as part of the analysis project of human microbiome by culturomics [1]. This study was approved by the ethics committee of the Institut Federatif de Recherche IFR48 (Marseille, France) under number 09-022. Samples were diluted with phosphate-buffered saline and inoculated in a blood culture media supplemented with 5 mL blood and rumen at 37°C under anaerobic conditions. After 5 days of growth, Libanicoccus massiliensis was isolated on 5% sheep’s blood–enriched Columbia agar (bioMérieux, Marcy l’Etoile, France). Colonies were rough, with a mean diameter of 0.8 to 1.2 mm. Strain Marseille-P3237 cells are cocci, Gram negative, catalase and oxidase negative with an average diameter of 1.06 μm. This strain could not be identified by our systematic matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS) screening on a Microflex spectrometer (Bruker Daltonics, Bremen, Germany) [2]. Thus, 16S rRNA gene sequencing was performed using fD1-rP2 primers as previously described (Eurogentec, Seraing, Belgium) by a 3130-XL sequencer (Applied Biosciences, Saint Aubin, France) [3].

L. massiliensis exhibited a 93.05% sequence identity with Olsenella uli strain DSM7084 (NR_074414), the phylogenetically closest species published with standing in nomenclature (Fig. 1). Thus, strain Marseille-P3237 exhibits a 16S rRNA sequence divergence of >5% with its phylogenetically closest species with a validly published name with standing in nomenclature [4]. We propose the creation of a new genus, “Libanicoccus” (Li.ba.ni.coc’cus, N.L. masc.gen.n., Libanicoccus to refer to the Lebanese nationality for of the person who cultivated strain Marseille-P3237). Marseille-P3237 is the type strain of the new species “Libanicoccus massiliensis” gen. nov., sp. nov. (mas.i-li.en’sis, L. gen. masc. n., massiliensis pertaining to Massilia, the ancient name of the city of Marseille, where this bacterium was discovered). The sample was isolated from a stool sample from a healthy 35-year-old pygmy woman.

MALDI-TOF MS spectrum accession number

The MALDI-TOF MS spectrum of L. massiliensis is available online (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 LT598582.1.
Deposit in a culture collection

Strain Marseille-P3237 was deposited in the Collection de Souches de l'Unité des Rickettsies (CSUR, WDCM 875) under number P3237.

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Conflict of interest

None declared.

References