"Eggerthella timonensis" gen. nov. isolated from a human stool sample

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Abstract

We report the main characteristics of *"Eggerthella timonensis"* strain Marseille-P3135 which was isolated from a stool sample of a healthy 8-year-old pygmy (Baka) girl.

Keywords: Culturomics, *Eggerthella timonensis*, emerging bacteria, gut microbiota, human microbiota
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Ahead of the initiation of the study, ethical approval (09-022) was obtained from Institut Fédératif de Recherche IFR48. Samples were collected from Congo and stored at 4°C. *"Eggerthella timonensis"* strain Marseille-P3135 was isolated from a stool sample of a healthy 8-year-old pygmy (Baka) girl as part of the study aiming to describe the human gut microbiota using culturomics as a technique [1].

Samples were diluted with phosphate-buffered saline and incubated for 30 days in a blood culture bottle with 5 mL of sheep's blood under anaerobic conditions at 37°C. Strain Marseille-P3135 was isolated after 10 days on 5% sheep's blood–enriched Columbia agar (bioMérieux, Marcy l'Etoile, France). We failed to identify this bacteria using matrix-assisted desorption ionization–time of flight mass spectrometry (MALDI-TOF MS) screening on a Microflex spectrometer (Bruker Daltonics, Bremen, Germany) [2].

The colonies of strain Marseille-P3135 were smooth with a mean diameter of 0.5 mm. Bacterial cells were Gram and catalase positive, oxidase negative and rod shaped with a diameter of 0.7 to 1.6 µm. The 16S rRNA gene sequencing was performed on 3130-XL sequencer (Applied Biosciences, Saint Aubin, France) using fD1-rP2 primer (Eurogentec, Seraing, Belgium) as previously described [3]. Strain Marseille-P3135 exhibited a 97.62% sequence identity with *Eggerthella sinensis* strain HKU14 (NR_042840.1), the phylogenetically closest species with standing in nomenclature (Fig. 1). Thus, strain Marseille-P3135 can be classified as a member of the genus *Eggerthella* within the family *Coriobacteriaceae* and under the *Actinobacteria* phylum [4].

Because the 16S rRNA gene sequence of Marseille-P3135 and *E. sinensis* strain HKU14 diverge by more than 1.3% [5], we discovered a new species *"Eggerthella timonensis"* (ti.m-o.nen′sis, N.L. masc. adj. *timonensis,* pertaining to Timone, the name of the main university hospital in Marseille, France, where strain Marseille-P3135 was isolated). Strain Marseille-P3135 is the type strain of the new species *"Eggerthella timonensis."*

MALDI-TOF MS spectrum

The MALDI-TOF MS spectrum of *"Eggerthella timonensis"* 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 LT598568.

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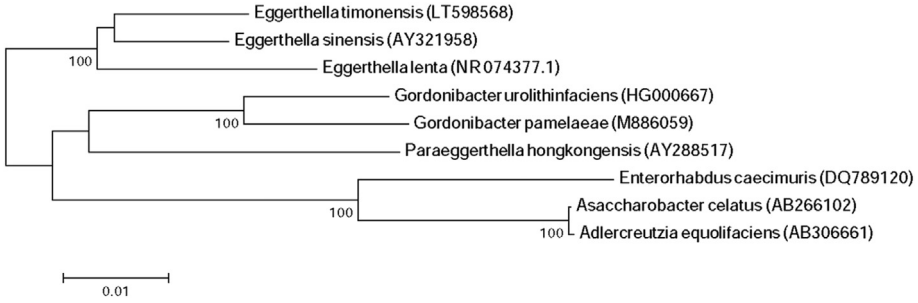

FIG. 1. Phylogenetic tree representing position of *"Eggerthella timonensis"* strain Marseille-P3135 among its neighbours. Sequences of strains utilized in this tree were aligned using CLUSTALW. Additionally, by means of MEGA software, and using maximum-likelihood method, phylogenetic inferences were obtained. Bootstrapping values obtained after 500 repeats are shown on nodes. Note that only bootstrap scores of at least 90% were kept. Scale bar indicates 2% nucleotide sequence divergence.

Deposit in a culture collection

Strain Marseille-P3135 was deposited in the Collection de Souches de l'Unité des Rickettsies (CSUR, WDCM 875) under number P3135.

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Conflict of Interest

None declared.

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