Complete Genome Sequence of Lactococcus lactissubsp. lactis A12, a Strain Isolated from Wheat Sourdough


To cite this version:

Maeva Guellerin, Delphine Passerini, Catherine Fontagné-Faucher, Hervé Robert, Valérie Gabriel, et al.. Complete Genome Sequence of Lactococcus lactissubsp. lactis A12, a Strain Isolated from Wheat Sourdough. Genome Announcements, 2016, 4 (5), pp.2 P. 10.1128/genomeA.00692-16. hal-01578250

HAL Id: hal-01578250
https://hal.science/hal-01578250
Submitted on 28 May 2019

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L’archive ouverte pluridisciplinaire HAL, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d’enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.
Complete Genome Sequence of \textit{Lactococcus lactis} subsp. \textit{lactis} A12, a Strain Isolated from Wheat Sourdough

Maëva Guellerin, Delphine Passerini, Catherine Fontagné-Faucer, Hervé Robert, Valérie Gabriel, Valentin Loux, Christophe Klop, Yves Le Loir, Christelle Coddeville, Marie-Line Daveran-Mingot, Pascal Le Bourgeois

Univ. Toulouse, Univ. Paul Sabatier, Toulouse, France; CNRS, UMR 5100, Toulouse, France; Univ. de Toulouse, INSIA, UPS, INP, Toulouse, France; INRA, UR 1077 Mathémétique, Informatique et Génome, Jouy-en-Josas, France; Plateforme Bioinformatique Toulouse, Midi-Pyrénées UBA, INRA, Auzeville Castanet-Tolosan, France; INRA, UMR1253 Science and Technologie du Lait et de l’Œuf, Rennes, France

We report here the complete genome sequence of \textit{Lactococcus lactis} subsp. \textit{lactis} strain A12, a strain isolated from sourdough.

Although \textit{Lactococcus lactis} is mostly studied for its role in fermented milk production, it can inhabit nondairy biotopes, such as plant and animal material, and is occasionally found among sourdough microflora. \textit{Lactococcus lactis} subsp. \textit{lactis} strain LBAGE-A12, abbreviated as strain A12, has been isolated from a French traditional wheat sourdough and belongs to the multilocus sequence type (MLST) group of environmental strains. A draft genome sequence of this strain has previously been released (accession no. CBLU00000000.1) for a study combining genomic, transcriptomic, and phenotypic analyses.

The complete genome sequence of strain A12 was obtained as follows: a 3-kb-long paired-end library of total DNA was constructed and sequenced on the 454-GS FLX platform (Eurofins follow: a 3-kb-long paired-end library of total DNA was constructed and sequenced on the 454-GS FLX platform (Eurofins, Rennes, France).)

The complete genome of \textit{L. lactis} subsp. \textit{lactis} A12 consists of a single circular chromosome of 2,603,898 bp (average 35.6% G+C content) containing 2,624 coding sequences (CDSs), including 39 pseudogenes, 65 tRNA genes, and six ribosomal operons. The strain contains four plasmids: pA12-1 (5,736 bp, 33.7% G+C content), pA12-2 (9,105 bp, 34.8% G+C content), pA12-3 (42,401 bp, 33.5% G+C content), and pA12-4 (69,485 bp, 32.9% G+C content). Unexpectedly, the last two plasmids harbor a nearly identical region of 21,475 bp in size that contain genes previously found to be involved in raffinose metabolism.

\textbf{Accession number(s).} The complete chromosome and plasmid complement of \textit{L. lactis} subsp. \textit{lactis} A12 strain have been deposited in European Nucleotide Archive under the accession numbers LT599049 to LT599053.

\textbf{ACKNOWLEDGMENT}

Strain A12 belongs to the culture collection UPS-LBAGE (WDCM1016) and is available upon request (cathy.faucer@iut-tlse3.fr).

\textbf{FUNDING INFORMATION}

This work, including the efforts of Maëva Guellerin, Delphine Passerini, Christelle Coddeville, Marie-Line Daveran-Mingot, Paul Ritzenhaler, and Pascal Le Bourgeois, was funded by Région Midi-Pyrénées (APRRTT 2010). This work, including the efforts of Maëva Guellerin, Delphine Passerini, Catherine Fontagné-Faucer, Hervé Robert, Valérie Gabriel, Christelle Coddeville, Marie-Line Daveran-Mingot, Paul Ritzenhaler, and Pascal Le Bourgeois, was funded by Université de Toulouse.

\textbf{REFERENCES}


