



Genome Sequence of the Moderately Halophilic Yellow Sea Bacterium *Lentibacillus salicampi* ATCC BAA-719^T

Milto Simoes Junior,^a  Kyle S. MacLea^{a,b,c}

^aBiotechnology Program, University of New Hampshire, Manchester, New Hampshire, USA

^bBiology Program, University of New Hampshire, Manchester, New Hampshire, USA

^cDepartment of Life Sciences, University of New Hampshire, Manchester, New Hampshire, USA

ABSTRACT *Lentibacillus salicampi* SF-20^T (=ATCC BAA-719^T) was first isolated from a Yellow Sea salt field in Korea in 2002. Here, we report that the *L. salicampi* ATCC BAA-719^T genome sequence has a predicted length of 3,897,716 bp, containing 3,945 total genes and a CRISPR array, with a G+C content of 43.0%.

Strains and species from the firmicute genus *Lentibacillus* have been identified in a number of salty environments (1–8). The type species of that genus, *Lentibacillus salicampi* ATCC BAA-719, was first collected in 2002 from a salt field of the Yellow Sea in Korea (1), and other strains of this species have also been identified in fermented fish sauces (2). *L. salicampi* SF-20^T (=ATCC BAA-719^T) is described as a Gram-variable rod-shaped aerobic and motile bacterium capable of growing in 3% to 25% NaCl and forming spherical to oval endospores (1, 2). Characteristically, *L. salicampi* has meso-diaminopimelic acid as the diagnostic diamino acid in its peptidoglycan and has a cellular fatty acid profile that contains large amounts of branched fatty acids, particularly as anteiso-C_{15:0} and iso-C_{16:0} (1). Additionally, *L. salicampi* is closely related to species in other halophilic *Bacillaceae* genera, including *Virgibacillus*, *Gracilibacillus*, *Halobacillus*, *Filobacillus*, and *Pontibacillus* (1, 2, 9). As BAA-719 is the type strain of the *Lentibacillus* genus, its genome sequence is expected to be especially useful in resolving the assignment of new strains to the correct genera and for resolving taxonomic discrepancies among these halophilic bacilli. Here, we report the genome sequence of *L. salicampi* ATCC BAA-719^T.

L. salicampi ATCC BAA-719^T was obtained from ATCC (Manassas, VA, USA) in a freeze-dried form, then rehydrated and cultured in marine broth 2216 (BD Difco, Billerica, MA, USA), and incubated at 30°C for 96 h at 1 atm. After rehydration, *L. salicampi* was grown at log phase before its genomic DNA (gDNA) was isolated using the QIAamp DNA mini kit (Qiagen, Valencia, CA, USA). Fragmentation of gDNA and attachment of sequence adapters were undertaken using the KAPA HyperPlus kit (KR1145, v.3.16; Wilmington, MA, USA) followed by sequencing on an Illumina HiSeq 2500 instrument (Hubbard Center for Genome Studies, Durham, NH, USA). Raw 250-bp reads (5,761,192 reads in total) were trimmed using Trimmomatic v.0.38 (settings were paired-end mode with a window size of 4, quality requirement of 15, and minimum read length of 36) and then assembled with the default parameters using SPAdes v.3.13.0 (10, 11). After the removal of small (<500-bp) contigs along with contaminants flagged with the NCBI Prokaryotic Genome Assembly Pipeline (PGAP) v.4.8 (below), QUAST v.5.0.2 (12) analysis verified 135 contigs—the largest being 483,654 bp—with an N_{50} value of 64,911 bp and a genome coverage of approximately 315 \times . PGAP (13, 14) provided gene identification and annotation. The assembled genome was 3,897,716 bp long, and PGAP revealed a total of 3,945 genes, 3,725 protein-coding sequences, 130 pseudogenes, 64 tRNAs, 21 copies of the rRNA genes, of which only the 5S rRNA gene

Citation Simoes Junior M, MacLea KS. 2019. Genome sequence of the moderately halophilic yellow sea bacterium *Lentibacillus salicampi* ATCC BAA-719^T. Microbiol Resour Announc 8:e00702-19. <https://doi.org/10.1128/MRA.00702-19>.

Editor Julia A. Maresca, University of Delaware

Copyright © 2019 Simoes Junior and MacLea. This is an open-access article distributed under the terms of the [Creative Commons Attribution 4.0 International license](https://creativecommons.org/licenses/by/4.0/).

Address correspondence to Kyle S. MacLea, Kyle.MacLea@UNH.edu.

K.S.M. dedicates this work to Emma Thibodeau Clement (1917 to 1999).

Received 11 June 2019

Accepted 29 June 2019

Published 18 July 2019

