Permanent draft genome sequence of Frankia sp. strain ACN1ag, a nitrogen-fixing actinobacterium isolated from the root nodules of Alnus glutinosa

Erik Swanson
University of New Hampshire, Durham

Rediet Oshone
University of New Hampshire, Durham

Stephen D. Simpson
University of New Hampshire, Durham, Stephen.Simpson@unh.edu

Krystalynne Morris
University of New Hampshire, Durham, Krystalynne.Morris@unh.edu

Feseha Abebe-Akele
University of New Hampshire, Durham

See next page for additional authors

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Authors
Erik Swanson, Rediet Oshone, Stephen D. Simpson, Krystalynne Morris, Feseha Abebe-Akele, William Kelley Thomas, and Louis S. Tisa
Permanent Draft Genome Sequence of \emph{Frankia} sp. Strain ACN1\textsuperscript{ag}, a Nitrogen-Fixing Actinobacterium Isolated from the Root Nodules of \emph{Alnus glutinosa}

Erik Swanson, Rediet Oshone, Stephen Simpson, Krystalynne Morris, Feseha Abebe-Akele, W. Kelley Thomas, Louis S. Tisa

University of New Hampshire, Durham, New Hampshire, USA

\emph{Frankia} strain ACN1\textsuperscript{ag} is a member of \emph{Frankia} lineage Ia, which are able to re-infect plants of the \emph{Betulaceae} and \emph{Myricaceae} families. Here, we report a 7.5-Mbp draft genome sequence with a G+C content of 72.35\% and 5,687 candidate protein-encoding genes.

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The draft genome of \emph{Frankia} sp. strain ACN1\textsuperscript{ag} was generated at the Hubbard Genome Center (University of New Hampshire, Durham, NH, USA) using Illumina technology (24) techniques. A standard Illumina shotgun library was constructed and sequenced using the Illumina HiSeq2000 platform, which generated 14,474,194 reads (260-bp insert size) totaling 2,127.7 Mbp. The Illumina sequence data were assembled using CLC Genomics Workbench version 8.0.1 and AllPaths-LG version r41043 (25). The final draft assembly contained 108 contigs with an \textit{N}_{50} of 157.4 kb. The total size of the genome is 7.5 Mbp, and the final assembly is based on 2,127.17 Mb of Illumina draft data and provided an average 220× coverage of the genome.

The high-quality draft genome of \emph{Frankia} sp. strain ACN1\textsuperscript{ag} was resolved to 108 contigs consisting of 7,505,639 bp with a G+C content of 72.35\%. The assembled \emph{Frankia} sp. strain ACN1\textsuperscript{ag} genome was annotated via the Integrated Microbial Genomes (IMG) platform developed by the Joint Genome Institute, Walnut Creek, CA, USA (26, 27), and resulted in 5,687 candidate protein-encoding genes, 45 tRNA genes, and 2 rRNA regions.

Nucleotide sequence accession numbers. This whole-genome shotgun project has been deposited at DDBJ/EMBL/GenBank under the accession number LJPA00000000. The version described in this paper is the first version, LJPA01000000.


