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<td>Lafi, Feras Fawzi; AL Bladi, Maha Lafi Saleh; Salem, Nida M.; Al-Banna, Luma; Alam, Intikhab; Bajic, Vladimir B.; Hirt, Heribert; Saad, Maged</td>
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<td>Eprint version</td>
<td>Publisher’s Version/PDF</td>
</tr>
<tr>
<td>DOI</td>
<td>10.1128/genomea.01437-16</td>
</tr>
<tr>
<td>Publisher</td>
<td>American Society for Microbiology</td>
</tr>
<tr>
<td>Journal</td>
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Draft Genome Sequence of the Plant Growth–Promoting *Pseudomonas punonensis* Strain D1-6 Isolated from the Desert Plant *Erodium hirtum* in Jordan

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**ABSTRACT** *Pseudomonas punonensis* strain D1-6 was isolated from roots of the desert plant *Erodium hirtum*, near the Dead Sea in Jordan. The genome of strain D1-6 reveals several key plant growth–promoting and herbicide-resistance genes, indicating a possible specialized role for this endophyte.

Herbicides are chemical compounds that are used in agriculture to fight off weeds and invading species of other noncrop plants. Recent discoveries have indicated that herbicides might be generated from microbial sources such as plant endophytes to protect plants from invasive and parasitic plant species (1, 2). Some of these endophytes produce antiherbicide properties that can counteract the function of commercial herbicides. Many of the species belong to the *Pseudomonas* genus (3, 4). In this study, we isolated *P. punonensis* strain D1-6 from surface-sterilized roots of the desert plant *Erodium hirtum* near the Dead Sea (31° 40.077 N; 35° 34.538 E) in Jordan. Based on 16S rRNA gene analysis, strain D1-6 was closely related to *P. punonensis* (NR_109583) with 99% identity (5) and related to *P. fulva* (NR_074659) isolated from rice paddies. Genomic DNA of strain D1-6 was extracted using Qiagen’s DNeasy blood and tissue kit following the manufacturer’s protocol. The DNA library was constructed as described previously and then sequenced using paired-end reads by Illumina MiSeq (6).

**Received** 2 November 2016  **Accepted** 8 November 2016  **Published** 12 January 2017


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plant resistance to salinity, heat, and dehydration (14). *P. punonensis* strain D1-6 encodes for phosphinothricin acetyltransferase genes (EC: 2.3.1.183) that are responsible for herbicide resistance (15). The genome of *P. punonensis* strain D1-6 also encodes for many enzymes that have been identified as targets for the development of herbicide-resistant plants, e.g., quinate/shikimate dehydrogenase (EC: 1.1.1.282) (16), 4-hydroxyphenylpyruvate dioxygenase (EC: 1.13.11.27) (17). The finding of phosphinothricin (PPT) and other herbicide-resistance genes in *P. punonensis* strain D1-6 may indicate a possible role for this endophyte for providing the plant host with herbicide resistance.

**Accession number(s).** The genome of *Pseudomonas punonensis* D1-6 was deposited at DDBJ/EMBL/GenBank under the accession number LWHA00000000. The version described in this paper is the first version, LWHA01000000.

**ACKNOWLEDGMENTS**

Genome sequencing was performed at the biological core laboratories of the King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia. We are grateful for the use of the Dragon and Snap Dragon computer clusters at the Computational Bioscience Research Center (CBRC) at KAUST.

This work was supported by a base fund research grant to H.H. from King Abdullah University of Science and Technology (KAUST). The computational aspect of this work was supported by KAUST Office of Sponsored Research (OSR) under awards URF/1/1976-02 and FCS/1/2448-01 to V.B.B.

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