

Gramibactin is a bacterial siderophore with a diazeniumdiolate ligand system.

Hermenau R, Ishida K, Gama S, Hoffmann B, Pfeifer-Leeg M, Plass W, Mohr JF, Wichard T, Saluz HP, Hertweck C (2018) Gramibactin is a bacterial siderophore with a diazeniumdiolate ligand system. *Nat Chem Biol* 14(9), 841-843.

[Details](#)



Abstract

Genome mining and chemical analyses revealed that rhizosphere bacteria (*Paraburkholderia graminis*) produce a new type of siderophore, gramibactin, a lipodepsipeptide that efficiently binds iron with a $\log\beta$ value of 27.6. Complexation-induced proton NMR chemical shifts show that the unusual N-nitrosohydroxylamine (diazeniumdiolate) moieties participate in metal binding. Gramibactin biosynthesis genes are conserved in numerous plant-associated bacteria associated with rice, wheat, and maize, which may utilize iron from the complex.

Beteiligte Forschungseinheiten

[Biomolekulare Chemie](#) [Christian Hertweck](#) [Mehr erfahren](#)

[Zell- und Molekularbiologie](#) [Mehr erfahren](#)

[Angewandte Systembiologie](#) [Marc Thilo Figge](#) [Mehr erfahren](#)

[Mikrobielle Biochemie und Physiologie](#) [Mehr erfahren](#)

Leibniz-HKI-Autor*innen



Ron Hermenau

[Details](#)



Christian Hertweck

[Details](#)



Bianca Hoffmann

[Details](#)



Keishi Ishida

[Details](#)



Michel Pfeifer-Leeg

[Details](#)



Hans Peter Saluz

[Details](#)

Identifier

doi: 10.1038/s41589-018-0101-9

PMID: 30061716