

Gramibactin is a bacterial siderophore with a diazeniumdiolate ligand system.

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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.

Involved units

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