

STRUCTURAL CHARACTERIZATION OF THE SIDEROPHORE PRODUCED BY
Herbaspirillum seropedicae Z67

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Herbaspirillum seropedicae is a diazotrophic endophyte of the β -subclass of Proteobacteria. *H. seropedicae* strain Z67 (1) is capable of systemically colonizing the interior of rice plants (2). Reduction of N_2 to ammonia is catalysed by nitrogenase, an enzymatic complex containing about 38 atoms of iron per enzymatic complex (3). Our aim is to determine the importance of *H. seropedicae* iron uptake systems mediated by siderophores in its interaction with rice plants. Siderophores are low molecular weight compounds with high affinity for iron (4). In low iron media, siderophores are produced and secreted by bacteria, being the Fe^{+3} -siderophore complex recognized by specific outer membrane receptors. We previously demonstrated that, in *H. seropedicae* Z67, systems for siderophores internalization are essential for an effective nitrogen fixation when bacteria are under low iron conditions (5). We purified the siderophore from supernatant cultures by HPLC and the structure was studied by LC/MS-MS. Data obtained together with a bioinformatic prediction lead us to postulate a probable structure of the siderophore, being this structure similar to the siderophores ornibactins from the related genus *Burkholderia*.

Keywords: *Herbaspirillum*, siderophore, LC/MS.

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