

When grown under iron-deficient conditions, many bacteria synthesize and release into the environment iron chelators termed siderophores. By solubilizing the ferric iron of insoluble complexes that form under aerobic conditions at physiological pH, siderophores make iron available for use by the cell. In the host it is expected that siderophores sequester iron from iron-containing molecules such as transferrin and lactoferrin, and subsequently deliver iron to the microbial cell. In general, the first step of entry of ferric siderophores into Gram negative bacteria is mediated by specific outer membrane receptors. The transport into the periplasm requires the cytoplasmic proton motive force and an energy transduction complex which includes the cytoplasmic membrane proteins TonB, ExbB and ExbD. *Pseudomonas aeruginosa* is an opportunistic human pathogen which infects injured, immunodeficient, or otherwise compromised patients. Under iron-limited conditions, the bacterium secretes a major siderophore: pyoverdine (Pvd). Pvd seems to play an important role in infection by competing with transferrin for iron in order to overcome the iron-withholding mechanism present in mammals. Due to the importance of *P. aeruginosa* in human infections, its growing resistance to antibiotics, we undertook the crystallographic studies of the FpvA receptor from *P. aeruginosa*. We over-expressed and purified FpvA (MM: 86245) from *P. aeruginosa* in its ligand-free (FpvA), siderophore-bound (FpvA-Pvd) and iron-siderophore-bound forms (FpvA-Fe-Pvd).

We crystallized these different forms of the receptor in presence of detergents in several crystallization conditions. A MAD data set at the Se *K* edge was previously collected at 3.6 Å resolution on the beamline BM30A and the structure solved by MR using this dataset (Cobessi *et al.*, 2004, and 2005 (accepted)).

In order to improve the data resolution, new experiments of x-ray diffraction were realized on the beamline BM14. However no crystal diffracted better than 3.6 Å resolution. No data were therefore collected.

New crystal forms of the complexes and new crystallization conditions were found. These crystals will be used in other x-ray diffraction experiments.