

Poster Presentation

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Crystal structure of PhoU from Pseudomonas aeruginosa

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The PhoU protein in bacteria plays a role in maintaining phosphate homeostasis by regulating the Pho regulon. Recent studies showed that PhoU is essential for normal growth and is also involved in persister formation. PhoU is a potential target for overcoming drug tolerance of pathogenic bacteria. However, the exact mechanism of PhoU functions is still unknown. Here we have determined the crystal structure of PhoU from *Pseudomonas aeruginosa* at 2.28 Å resolution by Se SAD method. *P. aeruginosa* PhoU exists as a dimer in the crystals. A monomer of *P. aeruginosa* PhoU consists of six alpha-helices, which form two similar helical bundles. *P. aeruginosa* PhoU shares four conserved sequence motifs. Interestingly, *P. aeruginosa* PhoU has distinct features in some loops and the surface charge distribution. Two monomers of *P. aeruginosa* PhoU dimerize in a slightly different manner to those of other PhoU proteins. The present structure of PhoU from a bacterial pathogen may be useful for the antibacterial drug discovery.

Keywords: PhoU, *Pseudomonas aeruginosa*, Persister