Structure of *Ralstonia Solanacearum* Fucose Binding Lectin at 0.94Å Resolution

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Ralstonia solanacearum is a soil-born bacterium belonging to the group of beta-proteobacteria. It is responsible for bacterial wilts in over 200 plants including potato, tomato and banana, and is capable of living for prolonged periods in soil, infecting hosts via the roots.

A 9.9 kDa fucose-binding lectin (RSL) has been found in *R. Solanacearum* extract. Ultra-high resolution diffraction data to 0.94Å data were collected from crystals of the recombinant RSL: α-methyl-fucose complex at ESRF, Grenoble. Superb phasing was obtained using the RSL:seleno-methyl fucoside complex, showing the crystals to contain three monomers, each of two 4-stranded β-sheets, with two sugar sites per monomer. The three monomers associate to form a 6-bladed β-propeller; the first time such an arrangement has been observed. ITC microcalorimetry and surface plasmon resonance studies are underway to define the fine specificity to fucosylated oligosaccharides present in plant cell walls, that may be the target for the lectin in soil.

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