

X-Ray crystallography of antimicrobial peptides as Lectin complexes

S. Baeriswyl¹, R. Visini¹, A. Stocker¹, T. Darbre^{1*}, J. L. Reymond^{1*}

¹University of Bern

We recently reported that the X-ray crystal structure of difficult to crystallize molecules such as peptide dendrimers and non-natural oligonucleotides can be readily obtained by co-crystallization of fucosylated derivatives with the microbial lectin LecB.^[1, 2] Here we used this approach to study the structure of short antimicrobial peptides (AMPs) known to adopt a helical conformation by circular dichroism, but whose structures have never been obtained directly. We successfully obtained X-ray structures of five such AMPs, revealing unexpected aspects of their conformations and intermolecular associations.

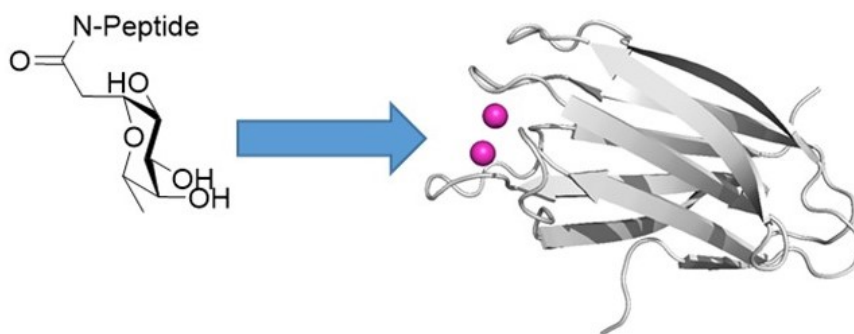


Figure 1: LecB-cFucoside co-crystallization principle

[1] Gaëlle Michaud, Ricardo Visini, Myriam Bergmann, Gianluca Salerno, Rosa Bosco, Emilie Gillon, Barbara Richichi, Cristina Nativi, Anne Imberty, Achim Stocker, Tamis Darbre and Jean-Louis Reymond, *Chemical Science*, **2016**, 7, 166-182

[2] Pascal Roethlisberger, Alena Istrate, M. J. Marcaida Lopez, Ricardo Visini, Achim Stocker, Jean-Louis Reymond and Christian Leumann, *Chemical Communications*, **2016**, 52, 4749-4752