

**Project 5: Molecular structure-function analysis of the uropathogenic RTX toxin haemolysin A (HlyA) from *E. coli***

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**Summary:**

Haemolysin A is an uropathogenic toxin from *E. coli*, which is a member of the class of RTX toxins. Basically it is capable of lysing any human cell by a so far unknown molecular mechanism. Next to this lytic function, it has been reported that the toxin induces Ca<sup>2+</sup> spikes in the target cell at sub-lytic concentrations, which results in the secretion of immunogenic molecules such as interferons or interleukins. Both mechanisms next to the three-dimensional structure and the exact mechanism of host-pathogen interaction are not known on the molecular level. Thus, the mechanisms that result in cell lysis (lytic concentrations) or Ca<sup>2+</sup> effluxes (sub-lytic concentrations) will be addressed in this project.