

Project for Master Thesis

“Engineering of a coagulation protein for functional and structural characterization.”

The group of protein engineering in the department of discovery research of Baxter works in the field of blood coagulation and is involved in the development of new therapies for the treatment of disorders of the blood coagulation system. The aim of the master project is to generate recombinant proteins for the development of enzymatic assays, crystallization trials and NMR spectroscopy studies. Experience in a wide spectrum of methods will be acquired during the project including molecular biology, protein engineering, protein expression and purification, analytical tools such as SDS-PAGE and HPLC, and enzymatic assays. The recombinant proteins shall be expressed in *E. coli* and purified from inclusion bodies. Refolding of the proteins will be followed by purification using chromatographic techniques and subsequent analysis of the purified proteins. New enzymatic assays shall be established with the protein constructs and the influence of hit compounds on the assay shall be studied. Moreover, the recombinant proteins shall be crystallized in complex with selected hit compounds and in addition the interaction between the protein constructs and the compounds examined by NMR spectroscopy.