

Proposal Code MX- 1598

Proposal Title Structural Studies of an Protein-RNA Complex, Various Protein-Drug complexes, and Adhesins

Following results were achieved from data collected during mx 1598:

We have collected high resolution data sets for Transthyritin - commonly known as TTR – in complex with different inhibitors. One of our related manuscripts is under preparation, and will be shortly going to be published.

A data set to 1.6 Å on a Dps protein (DNA binding proteins from starved cells) from the cyanobacteria *Nostoc punctiforme* Npun_R5799 was collected. The structure was solved by molecular replacement and refined to Rwork/Rfree of 15.6/16.6%. The main function of this protein is to store metal ions that is used in the protection against oxidative stress. Since our structure represents the apo form we are now aiming after solving the structure of the protein in complex with Fe²⁺ and Zn²⁺ ions.

Eight data sets to a maximum resolution of 2.3-2.8 Å were collected on crystals of the serine protease HhoA from the cyanobacterium *Synechocystis* sp. PCC6803. Using molecular replacement the structure has been solved and final model building and refinement are currently underway. Upon completion of the structure it will be combined with substrate profiling data in order to let us better understand the substrate specificity of HhoA and the molecular mechanism of protease-substrate interactions.

We have collected seven 2.9 – 3.0 Å resolution data sets of a protein-RNA complex important for protein targeting. The structure was solved by molecular replacement, and a manuscript is in preparation.