

## **Report**

### **Project MX-1162:** Analysis of isoforms of phospholipase C using SAXS

We analyzed protein constructs derived from one of phosphoinositide-specific phospholipase C (PLC) enzymes, PLC $\gamma$ 1. As all other PLC enzymes, PLC $\gamma$ 1 has a conserved core architecture containing an N-terminal PH domain followed by a series of EF hands, a catalytic TIM barrel and a C-terminal C2 domain. This common core unit is further elaborated by the insertion of a highly structured region (PLC $\gamma$ -specific array,  $\gamma$ SA) between the two halves of the catalytic TIM-barrel. The  $\gamma$ SA comprises a split PH (spPH) domain flanking two tandem SH2 domains and a SH3 domain. We analyzed wt PLC $\gamma$ 1 and  $\gamma$ SA from human PLC $\gamma$ 1, without or with SUMO-tag, high affinity complex of  $\gamma$ SA with FGF-receptor and  $\gamma$ SA construct lacking the SH3 domain. Comparison of the data obtained indicates the positions of the added tag and SH3 domain. However, we need further experimental support. In particular, we need to repeat the experiments on the complex of  $\gamma$ SA with FGF-receptor and wt PLC $\gamma$ 1.