Title: **Autoproteolysis of the Unique domain of Src family proteins**

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Src is a non-receptor tyrosine kinase which participates in many cell signalling pathways and its overactivation and overexpression are related to various types of human cancer. Its structure consists, from the N-terminus to the C-terminus, of a myristoyl group connected to the SH4 domain, a Unique domain, the SH3 domain, the SH2 domain, the SH1 domain and a regulatory segment. A domain is a section of the tertiary structure of a protein that has a defined function.

The BioNMR Group lead by Dr. Miquel Pons at the University of Barcelona has discovered that the intrinsically disordered region of the c-Src protein, called Unique domain, is a regulatory element: for example, changing one amino acid can decrease the invasive capacity of a type of colon cancer cells by 50%.

The proteolysis of the Src Unique domain after stroke converts this protein from neuroprotective to neurotoxic. This proteolysis is catalysed by the calpain protease. Protease-independent spontaneous proteolysis of the Unique domain in the same position has been observed in previous attempts to study the glycosylation of Src. It was hypothesized that this observation was related to environmental conditions that influence the interactions between the SH4 domain and the SH3 domain that cause conformational changes in the Unique domain.

In this work we optimized conditions to study glycosylation avoiding degradation and studied the interaction of $USH3^{Src}$ with the glycolysis enzyme OGT.

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