

Title: **Characterization of c-Src self-association by fluorescence**

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Protein c-Src is a non-receptor tyrosine-kinase that takes part in many signaling pathways when anchored to the plasmatic membrane in human cells. Deregulation of c-Src is known to promote invasion, division and survival of cells, and thus to play an important role in cancer development and metastasis.

As a non-receptor tyrosine-kinase, it is believed to remain monomeric when anchored to lipidic membranes. However, the BioNMR Group led by Dr. Miquel Pons has reported the presence of a small population of dimeric forms of c-Src in lipidic bilayers and has demonstrated that these structures are persistent due to their slow dissociation processes.

The N-terminal region of c-Src is the one responsible for most of the membrane-protein interactions, but surprisingly, despite its importance, it is far less studied than the globular domains. This work's focus was to characterize the membrane (2D) diffusion properties of c-Src dimers using Fluorescence Correlation Spectroscopy (FCS) of constructs containing this region.

Results obtained have confirmed the presence of two different type of species in samples containing constructs that mimic the N-terminal region of c-Src. These two species found show different diffusive processes, what matches with a coexistence between c-Src monomers and dimers.

Keywords: c-Src, cancer, plasmatic membrane, dimers, diffusion, FCS