

P010 Structural and functional properties of mouse proNGF
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The unprocessed pro-form of the nerve growth factor (NGF), proNGF, has been suggested to have additional functions distinct from its role as a promoter of protein folding, *i.e.* apoptosis and/or neurotrophic activity.

Aiming to gain insights into the specific molecular interactions that mediate proNGF biological activity and into the structural determinants stabilizing its pro-region, recombinant mouse proNGF (rm-proNGF) was expressed in *E. coli*, refolded *in vitro* and characterized by physicochemical methods.

X-ray solution scattering measurements (SAXS) revealed that rm-proNGF is dimeric in solution and appears to be anisometric when compared with the compact structure of the NGF dimer. Two structural models, a globular crab-like and an elongated rod-like shape, equally fit to the experimental data prompting to an **intrinsically structural disorder pro-region of NGF**. The obtained models allowed the interpretation of TrkA receptor binding and activation assays in 3T3 cell cultures shedding new light on the key role of proNGF in neuronal survival and neurodegeneration.