

Predocctoral position at the Protein Engineering Research Group (Universitat de Girona)

The Protein Engineering Group is looking for a PhD student to apply for a Joan Oró (FI2024) predoctoral grant in order to develop his/her PhD thesis project on the characterization of the molecular determinants of the antitumor action of a truncated apoptin.

Apoptin is a viral protein encoded in the Chicken Anemia Virus genome that has been shown to elicit highly specific antitumor activity when transfected into tumor cells. We have previously reported that apoptin is an intrinsically disordered protein (IDP). The IDP nature endows it with the ability to adapt its conformation to fit the structured proteins to which it interacts. Taking advantage of this plasticity, we want to characterize by NMR the conformation adopted by this truncated form when interacts with cell proteins that are described as critical for its antitumor action. We will also investigate the effect of replacing those residues critical for the interaction on the cytotoxicity of the resulting variants.

Apoptin is very prone to aggregate and cannot be used directly as a drug (it is delivered through transfection into the affected cells). We have constructed a truncated variant of apoptin that is soluble and maintains its biological actions when exogenously added. We want to investigate the cytotoxicity of this truncated protein on 3D cultures of tumor cells as well as on cancer stem cells and on cell migration and invasion of tumor cells.

Some of these studies will be performed in collaboration with other research groups from Barcelona and United Kingdom. Therefore, the PhD student will be able to carry out part of his/her research plan in these other research groups.

Detailed information of the group can be found at:
<https://www.udg.edu/ca/grupsrecerca/enginyeria-de-proteines>

Who can apply: graduates in Biotechnology, Biology, Biochemistry, Biomedicine, or related fields with a score above 8.

Valuables: Experience according to the profile, particularly in: cell cultures, cellular and molecular biology techniques, protein purification, chromatography, NMR spectroscopy analyses.

How to apply: Interested candidates must send their application before **October 5th 2023** to the following email address: antoni.benito@udg.edu.