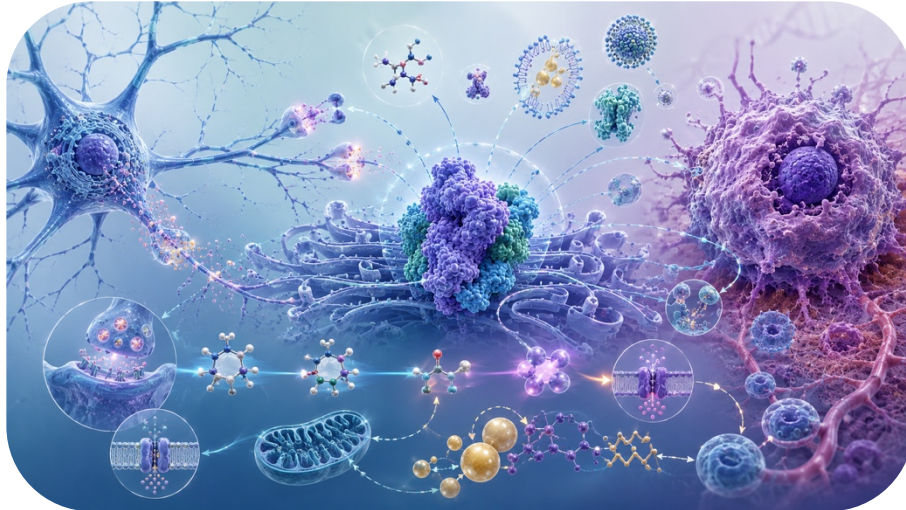


## **PREDOCTORAL POSITION IN BIOCHEMISTRY, METABOLISM AND CELL BIOLOGY**



**Project title:** “Functional and mechanistic study of CPT1C in neuronal and glioblastoma models: metabolic regulation, Warburg phenotype and protein interaction networks.”

**Project description:** The Neurolipid Group ([www.uic.es/neurolipid-group](http://www.uic.es/neurolipid-group)) at Universitat Internacional de Catalunya (UIC Barcelona) is looking for a highly motivated predoctoral student to join a research project focused on the cellular and metabolic functions of Carnitine Palmitoyltransferase 1C (CPT1C).

CPT1C is an atypical member of the CPT1 protein family. Unlike CPT1A and CPT1B, CPT1C does not display classical carnitine palmitoyltransferase enzymatic activity. Instead, CPT1C is mainly localized at the endoplasmic reticulum and is highly expressed in neurons, where it is thought to act as a metabolic sensor and regulator of cellular adaptation to nutritional and energetic stress. CPT1C has also been found to be overexpressed in several tumour types, including glioblastoma, suggesting that this protein may contribute to metabolic plasticity in both neuronal and cancer contexts.

The proposed PhD project will investigate the role of CPT1C from two complementary perspectives. First, the project will study the contribution of CPT1C to the regulation of glucose metabolism and the Warburg phenotype in glioblastoma cells. Second, the project will explore the role of CPT1C in the nervous system through the identification and validation of novel CPT1C-interacting proteins in a neuronal context.

The work will include the use of glioblastoma cell models, neuronal or brain-derived samples, CPT1C knockout and rescue strategies, protein interaction studies, metabolic assays and molecular biology techniques. Experimental approaches may include cell culture, CRISPR-based models, transient or stable transfection, RT-qPCR, Western blot, co-immunoprecipitation, proximity ligation assays, immunofluorescence/confocal microscopy, subcellular fractionation, glucose and lactate measurements, proliferation and viability assays, and methods related.

This project is especially suited for candidates interested in metabolism, protein-protein interactions, cancer cell biology, neuronal biology and molecular mechanisms of cellular adaptation to stress. The PhD student will be trained in a multidisciplinary environment combining biochemistry, molecular biology, cell biology, metabolism and neurobiology.

The PhD student will be supervised by researchers from the Neurolipid Group at UIC Barcelona. The candidate will be encouraged to participate in national and international conferences, present their work, collaborate with other research groups and attend specialized courses to complement their scientific training. The PhD student will also be required to contribute to teaching activities at UIC Barcelona, up to a maximum of 60 hours per academic year, in subjects related to Health Sciences degrees.

**Contract type:** PhD contract.

**Start date and duration:** September/October 2026; four years, full-time.

**Eligibility:** Candidates with a bachelor's or master's degree in Biochemistry, Biomedical Sciences, Biology, Pharmacy, Chemistry or related disciplines are encouraged to apply. A strong academic record, high motivation and interest in metabolism, neurobiology and cell biology will be highly valued. Previous research experience in cell culture, molecular biology, protein analysis, microscopy, metabolism, proteomics or bioenergetic assays will be considered an advantage.

**Applications:** Interested candidates should send a brief cover letter indicating their research interests, a CV and their academic record by e-mail to:

**Dr Miguel Baena (mbaena@uic.es)**

Department of Biomedical Sciences

Faculty of Medicine and Health Sciences

Universitat Internacional de Catalunya (UIC Barcelona)

C/ Josep Trueta s/n

08195 Sant Cugat del Vallès, Barcelona

Tel.: 935099299 (ext. 5224)