



M2 Training in Medicinal Chemistry

Synthesis of new bioactive molecules against glioblastoma

Laboratory : Institut de Chimie de Nice, Université Côte d'Azur

Team : Molécules Bioactives

Contact : Dr. Maria Duca

Position : 6 months

Deadline for application : 30/09/2017

Starting date : January 2018

Glioblastoma (GBM) are the most common form of primary brain tumors. These tumors, afflicting patients of all ages, are highly vascularized, infiltrating and resistant to current therapies. It is clearly established that GBM develop and progress from glioma stem-like cells (GSCs), which self-renew and differentiate. One of the most striking features of GBM heterogeneity resides in the coexistence of tumor territories functionally divergent, either enriched in proliferating, aggressive and therapy-resistant GSCs, or in non-mitotic, indolent cells, negative for stemness markers. It is therefore likely that GBM progress from mitotic undifferentiated tumor territories rich in GSCs. Accordingly, GSCs have the capacity to generate a tumor similar to the tumor of origin when grafted in mouse brains, while GSC committed toward a differentiated and non-mitotic state failed to do so. Based on these evidences, our main goal is to succeed in turning GSCs into more differentiated indolent cells. This novel therapeutic approach will contrast with the conventional treatments based on a cytotoxic activity.

In the context of a collaboration between the Institute of Chemistry of Nice and the Institute of Biology, we identified various compounds able to induce GSCs differentiation. The aim of this M2 training will be to synthesize new analogs of these compounds in order to improve our knowledge about structure-activity relationships. This training will be financially supported by SATT-SudEst and strict confidentiality will be required.

Profile: Applicants should have strong skills in organic chemistry and a real interest for the chemical-biology field with knowledge about biochemistry and biophysics.

Application: Please send your cover letter and CV to maria.duca@unice.fr