



Two year post-doctoral position available

Title: Design, synthesis and biological evaluation of near-infrared fluorogenic probes for *the in vivo* background-free imaging of G-protein coupled receptors

Laboratory for Therapeutic Innovation, LabEx MEDALIS, Illkirch, University of Strasbourg

Summary: Fluorogenic and chromogenic probes, which turn on their fluorescence after binding to a target, have attracted considerable attention as new tools for molecular sensing in biology. As they are non-fluorescent in their free form, they can drastically decrease the background fluorescence and thus improve the signal-to-background ratio in fluorescence detection and imaging. Particularly interesting are the solvatochromic probes, which decode changes in their molecular surrounding into change in their emission color. However, these probes show several crucial drawbacks such as their excitation in the blue region and their limited brightness due to the small extinction coefficients of their push-pull chromophores.

Therefore, in the Turn-ON project, we propose a multidisciplinary research program (organic chemistry, biophysics, biology) which aims at developing the first fluorogenic probes for *in vivo* GPCR imaging.

Program: The Postdoctoral Associate will develop novel fluorogenic probes for GPCR imaging both in living cells and *in vivo*. More specifically, he/she will design and synthesize novel fluorogenic dyes which will be grafted on GPCR ligands (small ligands or peptides). Then, he/she will perform the characterization of the fluorescence properties of the probes (fluorogenic character, quantum yields, brightness and photostability) and the evaluation in cell by confocal microscopy. The *in vivo* evaluation will be done in collaboration.

Scientific context: The project will be carried out within the Integrative Chemical Biology and Pharmacognosy team (Laboratory of Therapeutic Innovation, UMR 7200, (<http://medchem.unistra.fr>)). The team focuses on developing chemical tools and generic methods aiming at deciphering life mechanisms and accelerating the discovery of GPCR probes and drug candidates. It is part of the LabEx MEDALIS for drug discovery and the LabEx EURIDOL, which study pain and novel innovative treatments.

Financial support: Idex University of Strasbourg

Starting date: November 2019 for two years.

Profile of the candidate: We are looking for a candidate with a PhD in chemistry and a strong experience in organic synthesis. An experience in fluorescence spectroscopy and microscopy technics would be a plus. He/she is expected to be creative, motivated and able to work independently, but also to interact well with the team members. Please provide a CV, a cover letter and contact details of at least 2 referees.

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