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## POST-DOCTORAL FELLOWSHIP (12 MONTHS)

UMR5247 Institut des Biomolécules Max Mousseron (IBMM) – Montpellier, France

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### **SYNTHESIS OF AFFINITY PROBES TO DECIPHER THE MODE OF ACTION OF ANS RECEPTOR ANTAGONIST**

**Context and objective of the project** – In the context of liver cancer, despite existing treatment most patients remain at high risk due to resistance development to tyrosine kinase inhibitors (TKIs). It was discovered an indole-ethanamine compound, targeting ANS receptors, has synergistic activity with TKIs in hepatocellular carcinoma (HCC). In order to better understand the implication and the mode of action of this compound, the aim of the project is to **design and synthesise affinity chemical probes based on the indole-ethanamine compound** to explore its cellular targets in HCC cell line. This project will be carried out in collaboration with pharmacologists (Romain Parent's group, INSERM) and expert in proteomics (Yohann Couté's group, CEA).

In the context of this project, the post-doctoral fellow will be in charge of the design and the synthesis relevant chemical probes from existing ligands. Interestingly, besides classical affinity-based probes, we also plan to synthesised post-clickable affinity probes. These chemical tools will then used by the collaborators of the project to **visualise the protein of interest by fluorescence labelling** and to **identify primary and secondary targets of the ligands using proteomic approaches**.

**Research team** – At the IBMM, our research group focuses on innovative strategies to identify new chemical compounds of therapeutic interest. We apply diverse innovative strategies to identify new relevant active compounds for therapeutic purposes and new chemical tools to decipher mechanism of action of specific therapeutic targets. For this project is based on our experience in chemical probes design and synthesis to either label the target of interest in cell or identify interaction proteins, as we for example to identify new HSP90 inhibitors.<sup>1</sup>

**Funding** – This project is funded by Aviesan-ITMO Cancer in the context of a PCSI grant. This 12-month fellowship (ca. 37 k€ gross, *i.e.* 30 k€ net, income/year) is to as soon as possible from 1<sup>st</sup> September 2024.

**Candidate** – The candidate must have a PhD at the interface of chemistry and biology. He/she must have demonstrated knowledge and skills in organic synthesis and ideally in the field of affinity probes synthesis. He/she must have ability to carry out cutting-edge multidisciplinary research project and be proactive for his/her project. He/she must be a team player with excellent communication skills. Fluent English is required French would be beneficial but is not essential.

To apply, send a CV including 2 to 3 references (email and phone number) and a cover letter to Dr Marie Lopez ([marie.lopez@cnrs.fr](mailto:marie.lopez@cnrs.fr)).

<sup>1</sup> Pechalrieu *et al.* **2020**, *ACSChemBiol*, 952