



Post-doc offer at the Institute for Integrative Biology of the Cell (I2BC), CNRS/CEA/University Paris-Saclay

Title: Rational design of anti-cancer compounds acting on epigenetics

Context: Histone chaperones regulate the dynamics of histones within chromatin and the establishment of many epigenetic markers. Their dysfunction is associated with the development of multiple pathologies and in particular cancers¹. The histone chaperone ASF1 (Anti-silencing function 1) is involved in nucleosome assembly/disassembly and regulation of gene expression². Overexpression of ASF1 promotes tumour cell proliferation and is a powerful marker of poor prognosis in breast cancer³. It is also involved in cell ageing and is required for the cycling of certain pathogenic viruses. These properties make ASF1 a new therapeutic target and have motivated the design of inhibitors by F. Ochsenbein's team in collaboration with G Guichard's team (figure steps A-C)⁴⁻⁸.

Objectives: The main objective is to develop peptidomimetic inhibitors with improved pharmacological properties and molecular probes to explore the effect of ASF1 inhibition in cells to further explore its therapeutic potential (Figure step D). The techniques used during the thesis will include biochemistry, structural biology and cellular tests.

Laboratory: Institute for Integrative Biology of the Cell (I2BC), Life Science Institute Frederic Joliot (CEA). Team Molecular assemblies and genome integrity (<https://www.i2bc.paris-saclay.fr/molecular-assemblies-and-genome-integrity/>)

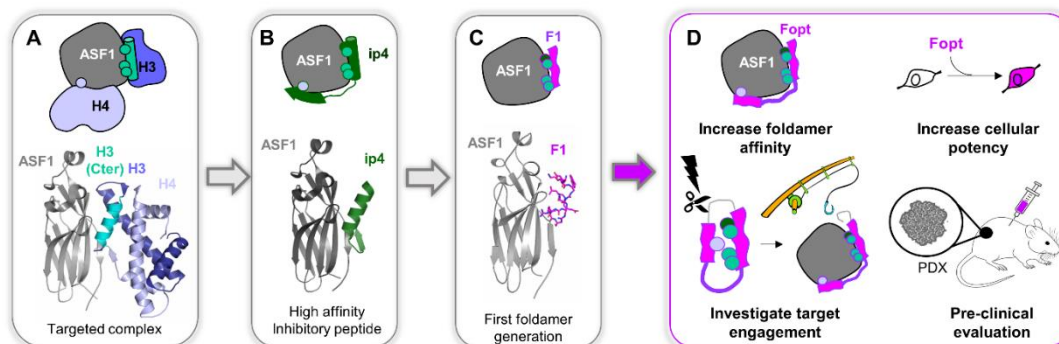
Supervisor: F. Ochsenbein. The post-doctoral researcher will benefit from the unique environment of the I2BC platforms (supported by the national programs FRISBI and Infranalytics), and several institutes of Ile de France (CEA, Pasteur, Curie).

Keywords : *Epigenetics, peptide-mimetics, protein-protein interaction inhibitors, structural biology, cancer, cellular biochemistry*

Candidate profile: Student holding a PhD interested by the development of drug development. Skills in structural biology (NMR or crystallography) and biochemistry, and knowledge in the field of cell biology and/or epigenetics will be a plus for the success of the project. Theoretical and practical training will be possible throughout the contract.

Application : send CV, motivation and recommendation letters to Françoise Ochsenbein : francoise.ochsenbein@cea.fr. Dead line: 15th of September 2023.

Funding : ANR Thera HCI (CNRS), 1-year renewable



References

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