

Postdoctoral position available in Institut Curie, Paris France in the team of Raphael Rodriguez, at Institut Curie, Paris.

Starting date: 2018

Duration: 1 year + 2 years renewal upon success

Title of the research program: **Targeting STING with small molecules in innate immunity**

Scientific background for the project: The presence of DNA in the cytosol of cells is a universal process of innate immune defense against microbes, cancer, infections and is also implicated in aging and auto-immunities. STING is a receptor for nature small cyclic di-nucleotides (c-di-GMP, c-di-AMP, cGAMP and related compounds) that plays a crucial role in these processes. Interestingly, STING is controlled by two parallel checkpoints, the binding to di-nucleotides and the translocation of the protein from the ER to a Golgi-related compartment. The goal of the project is to elucidate how activation of STING is regulated by these checkpoints using small molecules.

Specific objectives of the research program: The applicant will develop small molecule probes derived from STING agonists to visualize the endogenous localization and properties of STING in cells. The candidate will work in close collaboration with talented teams of cell biologists led by Franck Perez and immunologists led by Nicolas Manel. The application will greatly benefit from relevant immunological and cellular biological assays that are already established in the partner labs. The team of Raphaël Rodriguez has established expertise in chemical labelling of biologically-active small molecules in cells that will be at the core of this research.

Environment: The candidate will have full access to cutting-edge chemistry equipment, including UPLC-MS, 500 MHz NMR, preparative HPLC, and cell biology facilities. The applicant will benefit from highly collaborative environments and state-of-the-art technological platforms. Institut Curie is located in the center of Paris in a culturally and scientifically rich environment.

Applicant profile: The applicant must have a Ph.D. in synthetic organic chemistry. Prior experience in nucleoside/nucleic acid as well as click chemistry would be appreciated. Strong interest in cellular biology, excellent communication skills and team spirit are essential.

Contact: Please send applications by e-mail to raphael.rodriguez@curie.fr and nicolas.manel@curie.fr, including i) a curriculum vitae with a brief summary of professional experience, education, key qualifications, awards, and the name of 2 referees with their contact information, ii) a complete list of publications, and iii) a motivation letter.

References:

- Click chemistry enables preclinical evaluation of targeted epigenetic therapies. Tyler...[Rodriguez](#), Grandi, Dawson. **Science** 2017.
- Intrinsic antiproliferative activity of the innate sensor STING in T lymphocytes. Cerboni...[Manel](#). **J Exp Med** 2017.
- Salinomycin kills cancer stem cells by sequestering iron in lysosomes. Mai...[Rodriguez](#) **Nature Chem** 2017.
- Synthesis of marmycin A and investigation into its cellular activity. Cañeque...[Rodriguez](#) **Nature Chem** 2015.
- Chemical inhibition of NAT10 corrects defects of laminopathic cells. Larrieu...[Rodriguez](#), Jackson **Science** 2014.