**Post-doctoral position in Medicinal Chemistry**

**Title:** Treating cancer as an infectious disease with antibiotics

**Keywords:** aminoglycosides, RNA ligands, cancer stem cells,

**Supervisor:** Dr. Maria Duca, PhD, CNRS Research Scientist (http://www.unice.fr/icn/mb/maria-duca)

**Duration:** 24 months **Deadline for Application:** November 30th

**Post-doc starts:** January 2018 **Funding Program:** INCa PLBio

**Host Institution:** Université Côte d'Azur – Institut de Chimie de Nice

**Project:** Compelling evidence suggests that cancer stem cells (CSC) are the roots of current shortcomings in advanced and metastatic colorectal cancer treatment. CSC represents a minor subpopulation of tumor cells endowed with self-renewal and multi-lineage differentiation capacity which can escape from both conventional and targeted therapies (cetuximab, avastin), disseminate and seed metastasis. For that reason, Targeting CSC has become a major goal to design new therapeutic routes that may prevent tumor relapse and metastasis.
Most drugs possess off-target effects that might provide substantial benefit for cancer treatment. Drug repositioning now became a powerful alternative strategy to deliver cheaper and faster drug development. Amongst potential candidates, antibiotics are of particular interest. We focused our attention on aminoglycosides. Our recent work suggests that some aminoglycosides interfere with stem-like properties -such as self-renewal- inherent to CSC phenotype. This project aims to determine whether aminoglycosides can be used as adjuvants during the course of classic chemotherapy to target CSC and prevent disease recurrence and metastatic process. The main objective is to design aminoglycoside derivatives, with improved efficiency and reduced toxicity. The project is performed in collaboration with Dr. Alexandre David at the Institut de Génomique Fonctionnelle in Montpellier.

**Profile:** Candidates should have a strong background in the synthesis and characterization of biomolecules (preferably nucleic acids and their conjugates) and be highly motivated and interested in working on multidisciplinary projects. Knowledge and skills in molecular recognition and biophysical organic chemistry will be appreciated.

**To apply:** Please email your CV (with the contact details of, at least, two referees) and a short cover letter describing your research interests and career goal(s), in FR or EN, at maria.duca@unice.fr

**Salary:** Standard salary for postdoctoral positions at the institution (~2k€/month net salary)

**Localisation:** Institut de Chimie de Nice (ICN), Faculté des Sciences, 28 avenue Valrose, 06100 Nice, FRANCE