

Preparing a pre-metastatic niche in the bone marrow through the remote control of translation by tumour-derived non-coding RNAs

Key words: *Breast cancer, bone metastasis, stem cell, microRNA, snoRNA, translational control, ribosome*

Two junior post-doctoral positions are open to work on an innovative joint research program between LyOS and CRCL in Lyon, France. The program aims to investigate the translational control mediated by tumour-derived non-coding RNAs on the nesting of disseminated tumour cells in the bone marrow. The successful applicants will study the functions of tumour-derived microRNAs/snoRNAs that are specifically associated with breast cancer bone metastasis and examine the role of their translationally regulated mRNA targets involved in preparing the pre-metastatic niche. Overall, the objective of this program is to decipher the remotely controlled translational landscape that mediates bone metastasis formation in breast cancer.

Person specification for applicants

Applicants should provide evidence in their applications that they meet the following criteria (see below).

Qualifications and requisite experience

- Hold a PhD or MD/PhD in a Biomedical Science Subject (or equivalent experience)
- Experience in Cancer Biology
- Experience in Noncoding RNAs and/or Translation
- Experience in Molecular and/or Cellular Biology Techniques (including cell transduction and transfection, RT-qPCR, dual luciferase reporter assay, western blotting, flow cytometry, cell adhesion and cell migration/invasion assays, tumour spheroid assay, polysome profiling...)

Communication skills and personal effectiveness

- Effective communication skills, both written and verbal (experience of delivering presentations)
- Ability to analyse and solve problems with an appreciation of long-term implications
- Ability to work independently and effectively from the supervisors
- Ability to work in strong collaboration with the team and a second post-doctoral researcher

Desirable skills

- Experience in conducting experiments using Mouse Metastasis Models
- Experience in using computational programs for *in silico* analysis (RNA-seq data)

Lab/Location: The two labs (LyOS and CRCL) are 10 minutes walking distance from each other in Lyon, France (<https://en.lyon-france.com/>)

Working language: French or English depending on the recruitment

Working commitment / Gross Salary: Full-time position; 18 months / ≈30,000€ per annum (renewable once)

Contacts: Applicants should send a cover letter and a CV with two referees' contacts to P. Clézardin and/or V. Marcel

- **LyOS unit** (www.lyos.fr): Professor Philippe Clézardin; philippe.clezardin@inserm.fr; p.clezardin@sheffield.ac.uk;
- **CRCL unit, JJ Diaz's lab** (www.crcl.fr, twitter @crcl): Virginie Marcel; virginie.marcel@lyon.unicancer.fr

Closing date: September 30, 2020 / **Starting date:** between November 31, 2020 and February 22, 2021