

Study of the molecular mechanisms regulating the reemergence of pluripotency programs during cranial neural crest development

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RESEARCH PROJECT

Since their discovery, cranial neural crest cells (CNCC) have challenged the three-germ layer dogma. CNCC not only give rise to ectoderm derivatives such as neurons and glia, but also to cell types typically associated with the mesoderm such as bone and cartilage of the face. I recently showed CNCC naturally re-express pluripotency programs during their formation and demonstrated this re-activation is essential for CNCC differentiation potential expansion.

The overall goal of the project is to uncover transcriptional mechanisms regulating the reemergence of pluripotency programs and CNCC reprogramming during development. The study will combine single-cell multi-omics screens and functional *in vitro* assays to identify transcription factors and signaling pathways controlling these processes. Using established *in vitro* differentiation protocols, the postdoc will also determine the levels and timing of *Oct4* re-expression necessary for CNCC reprogramming.

We are seeking a curious, motivated, and inventive candidate for a postdoc position with two years funded by the ANR T-ERC. Candidates must have good knowledge of neural crest development and/or embryonic stem cell differentiation protocols. Experience in sequencing methods or data analysis is also welcomed.

LOCATION

The team « **Cell fate, plasticity and reprogramming** » is part of the « **Development, Reproduction et Cancer** » department of Institut Cochin, 22 rue Méchain – 75014 Paris, France.

Located in the center of Paris, Institut Cochin is one of the biggest French multidisciplinary biomedical research centers. It presents all the complementary technical support and state-of-the-art core facilities, conceptual expertise, and excellence essential for the completion of the project.

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CONTRAT/FINANCIAL SUPPORT

Type: CDD

Funding: ANR T-ERC

Début/Beginning: 05/2022

Durée du contrat/Length of contract: 2 years

Structure employeur/organization

INSERM

CNRS

UNIVERSITE

Applicants should send their CV, letter of motivation and name of 2 references.

Envoyez votre CV, lettre de motivation et deux contacts de recommandations à :

- Antoine Zalc
- Email : antoine.zalc@inserm.fr