

Post-doctoral position in Bioinformatics at CRCT-toulouse (France) – immune targeting of myeloma

A postdoctoral position, with salary funded for two years is available in the team 13 “Oncogenomic and immunology of myeloma” of the Cancer research Centre of Toulouse (team 13, CRCT) directed by Dr. Martinet and Pr Avet-Loiseau. The candidate will help defining the immune landscape associated with myeloma pathogenesis through bioinformatics analysis of large data sets generated through RNAseq, single cell RNAseq, ATAC seq and flow cytometry.

Profile

We seek a highly motivated scientist that hold a Ph.D with a strong background in RNA seq, single cell RNA seq, ATAC seq analysis and knowledge in immunology. Good track record, communication and organizational skills are expected.

Offer

The position is for 2 years, available immediately. The application should contain a motivation letter, CV and contact details of 2 referees.

The Host Institute

The newly created Cancer Research Centre of Toulouse (CRCT) gathers 250 scientists from 3 public research institutions (Inserm UMR1037, Université Paul Sabatier-Toulouse III and CNRS ERL5294) that have joined their efforts to launch innovative researches against cancer. The CRCT is equipped with the most recent technological tools and platforms including fully automated animal facility, flow cytometry platform, imaging platform and Next generation sequencing platform, 10X genomics platform (see www.CRCT-insERM.fr).

City

Toulouse is located in Southwestern France close to the Pyrenees Mountains and Spain with flight and train connections to French and European cities. With more than 100,000 students and praised quality of life, it is ranked as one of the best place to live and study in France.

Project :

Although myeloma development and outcome rely on genomic alterations, recent evidences highlight the influence of the immune microenvironment in the pathogenesis of this disease. In addition, given the promising clinical responses obtained by mAbs targeting immune pathways, interest in investigating immune functions in cancer is growing exponentially. Our team has already performed some innovative research in this area (JCI 2015, Cancer cell 2018, Blood 2018) and we now aim to use complementary set of experimental approaches involving both human samples and relevant mouse models to: 1. Identify immune parameters predicting myeloma relapse and outcome 2. Identify mediators driving myeloma associated immune defects. 3. Develop and test new immunotherapeutic strategies against MM. Our research team

is highly connected with the routine Unit for Genomics in Myeloma (UGM) of the IUCT-oncopole that centralizes up to 2,500 samples per year from the different French medical centers through the IFM (Intergroupe Francophone du Myélome) network. All these annotated resources are stored for research purpose in our laboratory, with the opportunity to analyze immune parameters on large cohorts of homogeneously treated patients.

Relevant publications:

1. Camille Guillerey, Heidi Harjunpää, Nadège Carrié, Sahar Kassem, Marianne Weulersse, Tricia Teo, Kim Miles, Sophie Krumeich, Kimberley Stannard, Yuan Yu, Simone A. Minnie, Geoffrey R. Hill, William C. Dougall, Hervé Avet-Loiseau, Michele W.L. Teng, Kyohei Nakamura, **Ludovic Martinet***, Mark J Smyth*, TIGIT immune checkpoint blockade restores CD8+ T cell immunity against multiple myeloma, **Blood**, 2018.* Equal senior author.
2. Kyohei Nakamura, Sahar Kassem, Alice Cleynen, Marie-Lorraine Chrétien, Camille Guillerey, Eva Maria Putz, Tobias Bald, Irmgard Förster, Slavica Vuckovic, Geoffrey R. Hill, Seth L. Masters, Marta Chesi, P. Leif Bergsagel, Hervé Avet-Loiseau, **Ludovic Martinet***, Mark J. Smyth*. Dysregulated IL-18 is a key driver of immunosuppression and a possible therapeutic target in the multiple myeloma microenvironment. **Cancer Cell**. 2018. * Equal authorship.
3. Camille Guillerey, Lucas Ferrari de Andrade, Christopher Chan, Slavica Vuckovic, David S. Ritchie, Leif Bergsagel, Marco Colonna, Daniel M. Andrews, Geoff R. Hill, Mark J. Smyth and **Ludovic Martinet**. NK and CD8+ T cells mediated immune-surveillance and therapy against Multiple Myeloma depends on DNAM-1. **Journal of clinical investigation**, 2015.
4. **Ludovic Martinet**, Lucas Ferrari De Andrade, Camille Guillerey, Jason S. Lee, Jing Liu, Fernando Souza-Fonseca-Guimaraes, Dana S. Hutchinson, Tatiana B. Kolesnik, Sandra E. Nicholson, Nicholas D. Huntington & Mark J. Smyth, DNAM-1 expression governs an alternative program of NK cell maturation. **Cell Reports**, 2015.
5. **Ludovic Martinet** and Mark J. Smyth. Balancing NK cell activation through receptors binding nectin and nectin-like proteins. **Nature Reviews Immunology**, 2015 March 6.
6. Chan CJ*, **Martinet L***, Gilfillan S, Souza-Fonseca-Guimaraes F, Chow MT, Town L, *et al.* The receptors CD96 and CD226 oppose each other in the regulation of natural killer cell functions. **Nature immunology** 2014 Mar 23.* Equal authorship.
- 7.

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