# Post-doctoral position on the immune targeting of myeloma at CRCT-toulouse (France)

A postdoctoral position, with salary funded for two years will be available in January 2017 in the myeloma immune targeting group of the Cancer research center of Toulouse (team 13, CRCT) managed by a young PI, Dr. Ludovic Martinet (Inserm CR1). The candidate will investigate the role of cytotoxic lymphocytes in multiple myeloma immunosurveillance and therapy using a complementary set of experimental approaches involving both human samples and relevant mouse models.

**Profile**
We seek highly motivated scientists that hold a Ph.D in immunology with strong background in cellular immunology and experience of mouse models. Good track record, technical and organizational skills are expected.

**Offer**
The position is for 2 years, available immediately, with the possibility of one year extension. The application should contain a motivation letter, CV and contact details of two referees.

**The Host Institute**
The Cancer Research Center 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 (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 :**
The manipulation of endogenous immune response against cancer represents a promising approach to potentiate actual drugs and induce long lasting remissions. We recently contributed to show the importance of a new family of stress sensing receptors that include CD226 (DNAM-1), CD96 and TIGIT in regulating immune response mediated by NK and $CD8^+$ cytotoxic lymphocytes (*Martinet et al, Nature immunology 2014, Cell reports 2015, Martinet et al, nature reviews immunology, 2015*). Their common ligands, the nectin family proteins CD112 and CD155, are regulated by cellular stress and are often expressed at the surface of malignant cells. We recently obtained strong evidence demonstrating that CD226 activating receptor

limits spontaneous multiple myeloma (MM) development and is required for anti-myeloma chemotherapy optimal efficacy (*Guillerey et al, Journal of clinical investigation 2015*). **A better understanding of the role of CD226 and its negative regulators CD96 and TIGIT in CD8$^+$ T cells response against myeloma and the translation of these findings in MM patients is the focus of this project funded by the French "institut national du cancer" (Inca PL-Bio2016) for 36 months.**

## Relevant publications:


1. Camille Guillerey, Lucas Ferrari de Andrade, Chritopher 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**.
2. **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**.
3. **Ludovic Martinet** and Mark J. Smyth. Balancing NK cell activation through receptors binding nectin and nectin-like proteins. *Nature Reviews Immunology*, 2015 March 6.
4. 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**. IF: 26.2.
5. **Martinet L**, Filleron T, Le Guellec S, Rochaix P, Garrido I, Girard JP. High endothelial venule blood vessels for tumor-infiltrating lymphocytes are associated with lymphotoxin beta-producing dendritic cells in human breast cancer. *Journal of immunology* 2013, **191**(4)**:** 2001-2008. IF: 5.5.
6. Chan CJ, Smyth MJ, **Martinet L**. Molecular mechanisms of natural killer cell activation in response to cellular stress. *Cell death and differentiation* 2013. IF: 8.4.
7. **Martinet L**, Garrido I, Filleron T, Le Guellec S, Bellard E, Fournie JJ*, et al.* Human solid tumors contain high endothelial venules: association with T- and B-lymphocyte infiltration and favorable prognosis in breast cancer. *Cancer research* 2011, **71**(17)**:** 5678-5687. IF: 8.7.



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