

Post-doctoral position in immunology at the Institut Pasteur  
**Innate lymphoid cells differentiation in homeostatic conditions and pathological conditions.**

Unité de lymphopoïèse, Inserm U668, Institut Pasteur,  
25 rue du Docteur Roux 75015 Paris led by Pr. Ana Cumano  
Group: Innate lymphoid cell differentiation (led by Pr. Rachel Golub)

**Project**

We found that ROR $\gamma$ t expressing innate lymphoid cells (ILC) develop in the fetal liver but not in the bone marrow (BM). However, ROR $\gamma$ t<sup>+</sup> ILC could be obtained in the peripheral lymphoid organs from the differentiation of BM progenitors after activation of the Notch signaling pathway. Therefore, fetal and adult environments influence the differentiation of ROR $\gamma$ t<sup>+</sup> cells differently (Possot et al. 2011, *Nat Immunol*). We are analyzing the role of the Notch signaling pathway in the development and functional maturation of the different subsets of ILC, in fetal and adult life by the characterization of IL-7R $\alpha$ -Cre mouse line crossed to different mutant strains that allow conditional deletion or over-expression of different proteins involved in this pathway. We found an alteration of the ILC homeostasis and functions after Notch signaling disruption and revealed the implication of this pathway on ILC plasticity. Our goal is to analyze the differentiation, functions and plasticity of the various ILC subsets thanks to diverse mutant mouse lines in the context of inflammation (different type of infection and carcinoma models). Application of mouse results to human pathologies will also be evaluated.

The candidate will be integrated in a multidisciplinary and interactive environment with the use of different approaches (cellular biology, molecular biology, genetics, inflammation and pathophysiology, analyses of human libraries).

Candidates should have a PhD with a background in immunology. Preference will be given to candidates with proven expertise in some of the following techniques: FACS, cell culture, molecular biology, in vivo work with mice, handling of human samples. Interested candidates should contact [rgolub@pasteur.fr](mailto:rgolub@pasteur.fr) with a curriculum vitae, motivation letters as well as three contacts for reference letters. Applications will close on October 16<sup>th</sup>, 2015.

Duration: 2 years (possible extension)  
Starting date: December 2015/January 2016  
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