Post-doctoral positions available

Explore the potential impact of HLA-B*27 Spondyloarthritis associated-alleles on gut homeostasis

A 36-month postdoctoral position funded by the ANR is available in the laboratory of Pr Isabelle Guénal (Lab web site : Laboratory of Genetics and Biology of the Cell)

Location: UFR Simone Veil-Santé of the University of Versailles-Saint-Quentin-en-Yvelines, in Montigny le Bretonneux, France.

Research interests: Spondyloarthritis (SPA) is a group of chronic inflammatory disorders of the joint affecting primarily the axial skeleton but also peripheral limbs. The most important part of heritability comes from the HLA-B27 allele of the Major Histocompatibility Complex (MHC)[2]. Our laboratory produced *Drosophila* transgenic for HLA-B27 or control HLA-B7 alleles. Interestingly, *Drosophila* transgenic for SpA-associated alleles, but not for the SpA-non-associated allele, display striking phenotypes, that allowed us to show that HLA-B27 interferes with TGFβ/BMP signalling both in flies and patient cells. This interaction may explain several aspects of its pathogenicity in SpA (Grandon *et al*. 2019).
Inflammatory bowel disease (IBD) has strong links with SpA at several levels, including comorbidity. One important challenge regarding SpA is to explain the link between gut mucosal inflammation and arthritis and the role of HLA-B27 with regard to such question. Most interestingly, members of the TGFβ superfamily are important regulators of intestinal homeostasis in mammals and *Drosophila* by regulating the interplay between immune and intestinal cells. Additionally, expression of HLA-B*27 associated-allele in the hemocytes, which are analogous to vertebrate macrophages, is associated with decreased lifespan, that could hypothetically result from intestinal dyshomeostasis through BMP missignaling in hemocytes.
The person recruited will study the autonomous and non-autonomous effects of HLA-B27 expression both in hemocytes and in gut cells on intestine regeneration and immune cells behavior following infection using genetic and cell biology approaches in the *Drosophila* model.

Academic Profile: We are looking to recruit a highly motivated scientist with strong investigative skills. You should have a Ph.D. (or soon to be awarded Ph.D.) and experience in one or more of the following: *Drosophila* genetics, imaging, cell biology, immunology. Prior experience with *Drosophila* is an advantage but not a prerequisite.

Application Documents: Applications including a letter of motivation, a detailed CV including a publication list and contacts of up to three referees should be sent **as soon as possible and by March 25th 2020 the latest** to isabelle.guenal@uvsq.fr

Recent lab publication linked to the project:

B. Grandon, A. Rincheval-Arnold, N. Jah, J.M. Corsi, L. M. Araujo, S. Glatigny, E. Prévost, D. Roche, G. Chiocchia, I. Guénal*, S. Gaumer* and M. Breban*. HLA-B27 alters BMP/TGFβ signaling in *Drosophila*, revealing putative pathogenic mechanism for spondyloarthritis. **Ann. Rheum. Dis**. 78(12):1653-1662, 2019. PMID: 31563893