

FROM



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2019 OARSI Scholarship

TO

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Osteoarthritis (OA) is a disease characterised by progressive destruction of the articular cartilage. Wnt signals are deregulated during OA, causing an upregulation of the canonical pathway (dependent on β -catenin), which contributes to the loss of articular chondrocyte phenotype. Frizzled-related Protein (FRZB, also known as secreted frizzled related protein-3 (SFRP3)) is a physiological modulator of Wnt signaling. Gene polymorphisms in *FRZB* have been associated with OA (Loughlin et al, Proc Natl Acad Sci USA, 2004) and levels of *FRZB* rapidly decrease upon injury to the articular cartilage and in osteoarthritis (Dell'Accio et al, Arthritis Res Ther, 2006). We generated an innovative regulatory peptide (IRP) that we wish to use for a potential treatment for OA.

Thanks to the OARSI Scholarship, I went during two months in the Laboratory of Tissue Homeostasis and Disease led by Pr. Lories, in KU LEUVEN (Belgium). The aim of this mobility to Pr. Rik Lories' group was to evaluate the influence of the IRP in an *in vivo* model of β -catenin activation. To that goal, IRP was injected in the intra-articular cavity of *Frzb* knock-out (*Frzb*^{-/-}) mice, which were available in Pr. Lories' laboratory. Moreover, I also went in this laboratory to acquire the expertise to perform the destabilization of medial meniscus (DMM), a surgically-induced model of OA in mice.

This scholarship allowed me to improve my skills in animal experiments, and also in histological analysis. Indeed, in the animal experiments part, I was taught the intra-articular injections in mice and DMM surgery. Concerning the histological analysis, I learned to section knees embedded in paraffin, the Safranin-O and haematoxylin staining, and the OARSI score, to evaluate the degree of OA lesions. I also set up a new immunohistochemistry staining.

From a more personal plan, it was a pleasure to meet new people in the laboratory, as the team was really nice and welcoming. We shared some good moments together. Moreover, it has been very interesting to discover the cultural differences between Flanders and France, which are only separated by around 300 km. Traveling for a period of two months in an English-speaking working environment had also highly increased my practice of the English language.

To conclude, this scholarship allowed me to collaborate with a prestigious laboratory, and I would like to thank the Pr. Lories' team for their kindness and disponibilit, and of course the OARSI for financing this opportunity. I recommend to other PhD students to take the chance to apply for such mobility funding if they have the possibility.