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Toulouse, December 4th 2013.

Report for the ESC first contact initiative grant.

Dear Council Members,

I would like first to thanks the European Society of Cardiology for awarding me the first contact initiative in September 2013. This grant gave me the opportunity to visit the Pr. Anne Eichmann's laboratory at Yale School of Medicine (Yale Cardiovascular Research Center, New Haven, CT, USA), in September and October 2013, for a period of two weeks.

My PhD studies at INSERM were based on the new role of ephrin-B1 protein in the stabilization of the adult cardiomyocyte morphology and it potential involvement in the transient to heart failure. My work leads my to published an article as first author in Circulation research in 2012. During my PhD, I developed and introduced in my laboratory several imaging techniques applied to heart tissue and isolated adult cardiomyocytes (Confocal microscopy, Transmission electron microscopy, Scanning electron microscopy, Atomic force microscopy). I obtained my PhD degree in October

2013, and I wanted to continue my research career by a postdoctoral position to improve my skill in the imaging field.

At Yale Cardiovascular Research Center, Anne Eichmann's laboratory has access to broad in-vivo and in-vitro imaging techniques.

Vertebrate blood vessels form stereotyped, hierarchical branched networks. Specialized endothelial cells called tip cells located at the extremities of growing capillary sprouts mediate their directional outgrowth. Following behind tip cells, other endothelial cells termed stalk cells form the capillary lumen and proliferate. Specific gene expression profiles in tip and stalk cells allow them to acquire their characteristic morphological features. Tip cells also show similarities to axonal growth cones and express receptors for axon guidance cues. Research in Anne Eichmann's lab is aimed at understanding the function of tip cell-specific signaling molecules, with the goal to manipulate guided vascular patterning.

The aim of my visit was to establish a first contact with her group and to realize an interview to obtain a postdoctoral position in her team. During my stay, I had the opportunity to familiarize myself with the environment at Yale and meet with future colleagues and other faculty. My visit allowed me to present work done during my PhD in the Department, and to assist at their weekly joint lab meetings held between the labs of Profs. Simons, Schwartz, Sessa, Hirschi, Bender, and Eichmann. Furthermore, I used these two weeks to discuss possible postdoctoral projects in the area of molecular mechanisms of angiogenesis and lymphangiogenesis in Eichmann's lab. These discussions allowed me to define objectives of my postdoctoral research and facilitated writing of my research proposal to obtain independent funding. At the end of my stay, Pr. Eichmann proposed me a postocdoral position in her lab at Yale University from January 2014 that I accepted.

To conclude, I would like to thank once again the European Society of Cardiology for its support for this enriching experience.

Best regards,

Gael GENET