

Post-doctoral position in proteomics and vascular biology

Remodeling of the vascular microenvironment impacts composition and biophysical parameters of the ECM, and thus modulates angiogenesis and vascular permeability. We have demonstrated the functional involvement of ECM-associated growth factors, including angiopoietin-like 4 and thrombospondin-1, and of enzymes responsible for post-translational modifications (PTM) in the ECM, including transglutaminase 2 and lysyl oxidase like 2 (LOXL2).

This project aims at extending our knowledge of the actors involved in microenvironment remodeling in angiogenesis. We will perform a nanoLC MS/MS bottom-up proteomics analysis of the matrisome of endothelial cells in hypoxia, using samples prepared by direct digestion of the raw ECM. We will also search for new substrates of lysyl oxidases. Fingerprinting experiments by MALDI TOF MS and nanoLC MS/MS will allow identification of modified peptides generated by human recombinant LOXL2, and will serve as a basis for the differential analysis of the ECM generated by LOXL2-depleted endothelial cells. This project associates the expertise of Stéphane Germain's team (CIRB at Collège de France) in investigation of the vascular microenvironment, and of Joelle Vinh's team (SMBP at ESPCI), in state of the art proteomics. The results generated will provide new original information concerning remodeling of the vascular ECM and impact of LOXL2 in the context of angiogenesis.

We are seeking a highly motivated young scientist with a solid background in proteomics and cell culture. The applicant must have specific abilities to perform a collaborative project in order to develop this joint project between our research groups at CIRB and ESPCI. Funding for 18 month salary (~2000€/month depending on previous experience) is provided. Please send your application with a CV, a cover letter outlining your motivation and expertise, a short summary of your past research and the names of at least two references.

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