

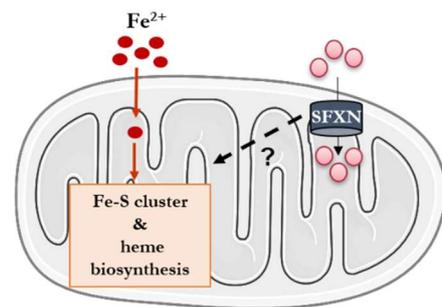
Post-doctoral position Investigating the role of Sideroflexins in iron metabolism

We are recruiting a postdoctoral fellow that will join us to work on the SiFeMi collaborative project in the Laboratory of Genetics and Biology of the Cell (UVSQ). The recruited post-doc will work under the supervision of Nathalie Le Floch-Leleu. This position is funded by an ANR grant for two years.

Starting date: the position will be available from January 2022

Research topic: The SiFeMi project aims at better understanding the functions of sideroflexins in iron metabolism and cell fate. The SiFeMi project involves four teams of experienced cell biologists, geneticists and biochemists.

The mitochondrion requires a wide variety of enzymes and transporters to ensure its essential functions within the cell. Among these, sideroflexins (SFXN) were recently discovered as metabolites carriers inserted in the inner mitochondrial membrane [1]. SFXN functions remain poorly characterized, despite their emerging importance in human disease [2]. Interestingly, recent studies suggest a role of the SFXN family in regulating iron homeostasis, but the precise mechanisms whereby SFXN regulate intracellular iron levels are far from being clear (see our review [3]). Our objectives are to better understand the role of SFXN in iron homeostasis, as well as their ability to regulate the pathways involved in the synthesis of heme and iron-sulfur clusters, two main co-factors of numerous enzymes. In the team, we are investigating SFXN functions in human cell lines and in *Drosophila*.



Mission: The recruited postdoc will construct drosophila models to investigate the relationships between sideroflexins and iron metabolism pathways. More specifically, the postdoc will generate tools to investigate if the downregulation of *SFXN* genes leads to defects in the heme biosynthesis pathway. Some tools, such as RNAi lines, are already available in the laboratory to start the project. CRISPR gene editing is planned to generate tissue specific SFXN mutant drosophila lines.

Location: The Sideroflexin, Mitochondria and Cell Fate research group is a part of the Laboratory of Genetics and Biology of the Cell (LGBC UR4589, UVSQ, Paris Saclay University) which is located in Montigny-le-Bretonneux (near to Versailles). Our laboratory offers excellent material conditions to develop the SiFeMi collaborative project. The LGBC lab is a research unit of the Université de Versailles Saint-Quentin-en-Yvelines (UVSQ) / Université Paris-Saclay in partnership with the École Pratique des Hautes Etudes (EPHE) / PSL Research University. The laboratory is equipped with standard biochemistry and molecular biology rooms and L2 safety level labs dedicated to cell culture and *Drosophila* experiments. It also offers an easy access to core facilities (imaging, cytometry and genomics).

Profile and skills required: We are seeking for a talented and enthusiastic postdoctoral fellow with a strong interest in cell biology and genetics. The candidate should show autonomy, be creative and able to work as part of a team. An experience with *Drosophila*, confocal imaging and image analysis would be highly appreciated. A previous research experience on iron metabolism or in cell culture is not mandatory but will be a plus.

Application: Please send a cover letter describing your previous experience and research interests, a CV and two reference contacts to Nathalie Le Floch-Leleu (nathalie.leleu@uvsq.fr). Deadline: 30 November 2021

1. Kory, N.; Wyant, G.A.; Prakash, G.; uit de Bos, J.; Bottanelli, F.; Pacold, M.E.; Chan, S.H.; Lewis, C.A.; Wang, T.; Keys, H.R.; et al. SFXN1 Is a Mitochondrial Serine Transporter Required for One-Carbon Metabolism. *Science* **2018**, *362*, eaat9528, doi:10.1126/science.aat9528.
2. Sofou, K.; Hedberg-Oldfors, C.; Kollberg, G.; Thomsen, C.; Wiksell, Å.; Oldfors, A.; Tulinius, M. Prenatal onset of mitochondrial disease is associated with sideroflexin 4 deficiency. *Mitochondrion* **2019**, *47*, 76–81, doi:10.1016/j.mito.2019.04.012.
3. Tifoun, N.; De las Heras, J.M.; Guillaume, A.; Bouleau, S.; Mignotte, B.; Le Floch, N. Insights into the Roles of the Sideroflexins/SLC56 Family in Iron Homeostasis and Iron-Sulfur Biogenesis. *Biomedicines* **2021**, *9*, 103, doi:10.3390/biomedicines9020103.