

PhD position at IGBMC-Strasbourg-France

In vivo study of dynamin in myopathies and as a therapeutic target

Congenital myopathies are severe genetic diseases without therapeutic solutions to date. Our team study proteins regulating the intracellular organization of skeletal muscle and that are mutated in congenital myopathies.

The aim of the **PhD project** is to decipher the muscle role of the GTPase dynamin 2, a key protein in membrane trafficking and cytoskeleton regulation, and its involvement in these myopathies. In addition, we have recently discovered that dynamin 2 is a therapeutic target for a very severe congenital myopathy called myotubular myopathy and aim to develop the targeting of dynamin 2 in murine models as pre-clinical investigations. This project involves multidisciplinary approaches with cell biology and imaging, genome editing, gene transfer using viral vectors and mammalian models to characterize the importance of membrane trafficking in muscle and the mechanisms leading to myopathies. All tools, models and expertise required for this project are already available in our team. The pre-clinical part is linked to a patent and collaborations with the pharmaceutical industry.

A **3 year salary is available** through funding by the Myotubular Trust patients association.

Candidate profile: holding a Master degree in biology, with previous training in a research lab and interest in human disease and cell biology. The ability to acquire independence and be highly motivated to learn and to work in a team is essential. Previous expertise in pathophysiology and/or cell biology will be an asset. French speaking is not a requirement.

The IGBMC institute is one of the main European centers in medical research and offers a unique environment with 50 research teams, state-of-the-art platforms and 45 different nationalities. **Strasbourg** is a cosmopolitan city near Germany and 2 hours from Paris by train.

References

-Cowling et al. Reducing dynamin 2 expression rescues X-linked centronuclear myopathy. *J Clin Invest.* 2014 Mar 3;124(3):1350-63.

-Praefcke and **McMahon**. The **dynamin** superfamily: universal membrane tubulation and fission molecules? *Nat Rev Mol Cell Biol.* 2004 Feb;5(2):133-47.

Applications: Candidates are invited to apply by sending a curriculum vitae, a cover letter, and contact details for two referees to:

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