



MSc Thesis Position in Cancer Biology on ADP-ribosylation Signaling and Biology

Hottiger lab, Irchel Campus, University of Zurich

Our international team is looking for a motivated M.Sc. student to join the lab.

Description: A growing arsenal of new drugs – so called immune checkpoint inhibitors – that unleash the body's immune system against tumors has captured the cancer treatment spotlight. Immunotherapy however works currently only in so called 'hot' tumors that are prone to recognition by the immune system, and thus more likely to provoke a strong immune response. In contrast, 'cold' tumors are cancers that, for various reasons, haven't been recognized or haven't provoked a strong response by the immune system. We recently identified that some human tumors express an ADP-ribosyltransferase (ARTC1) at their surface that ADP-ribosylate different proteins that were described to regulate the immune response at the cell membrane and could thus possibly interfere with the recognition of the immune system. Moreover, the same protein is also found as an active enzyme in serum strongly suggesting that ARTC1 can be released from the cell surface by a so far unknown protease. Also in the serum, ARTC1 modifies immune response regulators.

The aim of this master project is to identify the protease responsible for releasing ARTC1 from the cell surface and to investigate the potential regulatory function of this protease in human tumor cells. The project includes biochemical, molecular and cell biology readouts such as cloning, transfection of cells, immunofluorescence or immunoblotting.

Work environment: You will be part of a dynamic worldwide renowned international research group of about 12-14 people embedded in the interactive and supportive environment of our Department, the Department of Molecular Mechanisms of Disease. You will participate in weekly group meetings, one-on-one discussions, progress report seminars and literature sessions and benefit from a comprehensive scientific education in a vibrant research environment.

Qualifications: You should have a genuine interest in cell biology and molecular cancer research, a high level of motivation, and feel comfortable and self-confident when working in the lab. Prior experience with mammalian cell culture and standard molecular biology techniques is an advantage. Good communication skills and enthusiasm will allow you to interact with our team.

Applications: Interested candidates should contact us, or directly send their CV together with a short motivation letter to michael.hottiger@dmmd.uzh.ch.

Starting date: Negotiable.