



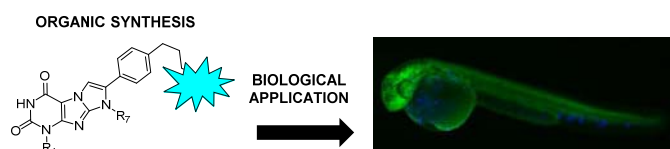
DEVELOPMENT OF FLUORESCENT PROBES FOR IN VIVO IMAGING

Master Thesis (Masterarbeit) or Internships (Praktikum) Open	
Subject Areas	Organic Chemistry, Fluorescence, Drug Design
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Bromodomains are classified as readers of epigenetic targets and are considered an emerging topic in the field of drug discovery due, in a large extent, to their involvement in the regulation of multiple genes. Up to date though, very little is known about the potential biological applicability of small organic molecules binding to these proteins.

In close collaboration with the group of Prof. Cafilisch (BIOC-UZH), relatively small organic molecules (called “hits”) able to bind to a certain bromodomain have been identified by computer-based methods. We have been able to further improve the potency of these compounds resulting into nanomolar binders.

This work aims to find a direct application for our bromodomain ligands by designing and synthesizing derivatives bearing fluorescent tags. The fluorescently labeled molecules could be directly applied in a biological setting to unravel the role of the bromodomain of interest.



The main focus of the project will be the design and chemical synthesis of the fluorescent small organic molecules, and the characterization of their fluorescent properties. Depending on time limits and interest of the student, the synthesized molecules could be biologically tested in zebrafish in collaboration with the group of Prof. Mosimann (Institute of Molecular Life Sciences, UZH).