

Master Thesis

Preclinical modeling of patient-derived acute myeloid leukemia (AML) using *in vivo* bioluminescence imaging

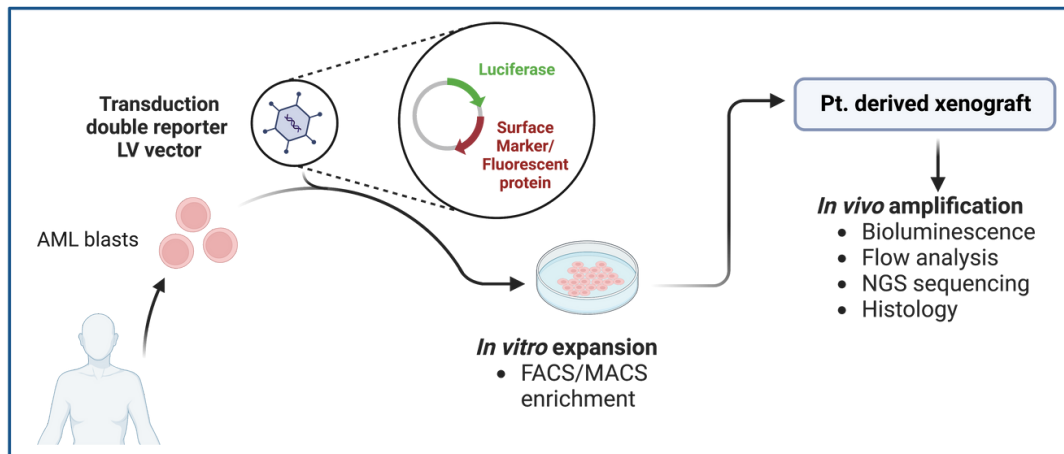
Experimental Hematology Laboratory, Department of Medical Oncology and Hematology (Prof. Markus G. Manz)

Background and Project Objective

Our research is focused on hematopoietic and immune system development, homeostasis, and function, as well as on hemato-lymphoid disease. We aim to develop practical new strategies for clinical intervention in states of malignancy and transplantation of hematopoietic cells.

We conduct studies, testing the efficacy of T-cell engaging and activating bispecific antibodies as well as CAR T cells in Acute Myeloid Leukemia (AML). In this context we developed preclinical *in vivo* xenogeneic model systems using cell lines as well as primary, patient-derived AML cells [Ellegast, J. M. *et al.* (2016), *Blood*; Myburgh, R. *et al.* (2020), *Leukemia*].

In order to track *in vivo* over time not only AML cell lines but also patient-derived AML cells, we propose to genetically engineer the latter with double-reporter lentiviral vectors.



Methods and Techniques

Candidates will work under the direct supervision and with the support of a postdoctoral scientist.

Responsibilities will include cell culture, lentiviral transduction of cells, flow cytometry, and assisting with studies in mice.

Team and Contact

Interested candidates should contact

✉ Markus Manz, MD (markus.manz@usz.ch)

✉ Laura Volta, PhD (laura.volta@usz.ch)

Starting upon agreement. Duration 6-12 months.