LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

MAX VON PETTENKOFER-INSTITUT

LEHRSTUHL VIROLOGIE

10.11.2023

Open Master Thesis position

We have an open position for a Master's thesis in the VIIRAL lab. The general focus of the lab is on innate immunity against retroviruses and lentiviral Vpx-based treatment improvements against acute myeloid leukemia (AML). We recently identified SAMHD1, a restriction factor against HIV *(Baldauf et al., Nature Medicine 2012, doi: 10.1038/nm.2964; Baldauf et al., PNAS 2017, doi: 10.1073/pnas.1613635114)*, as a novel biomarker for poor cytarabine (Ara-C) response in AML patients *(see Figure 1; Schneider, Oellerich, Baldauf et al., Nature Medicine 2017, doi: 10.1038/nm.4255; Nair et al., Leukemia 2021, doi: 10.1038/s41375-020-01069-1; Rothenburger et al., J Exp Clin Cancer Res. 2021, doi: 10.1186/s13046 -021-02093-4)*. We have also successfully purified functional recombinant Vpx from mammalian cells *(Nair et al., Anal Biochem. 2023, doi: 10.1016/j.ab.2023.115153)*.

Based on our recent publications, we aim to generate and characterize novel Vpx delivery tools to enhance cytarabine response in AML cells. This project will include cloning, cell line generation with the Sleeping Beauty transposase, protein purification, HiBit quantifications, cell culture experiments, immunofluorescence analyses, flow cytometry, and cytotoxicity assays.

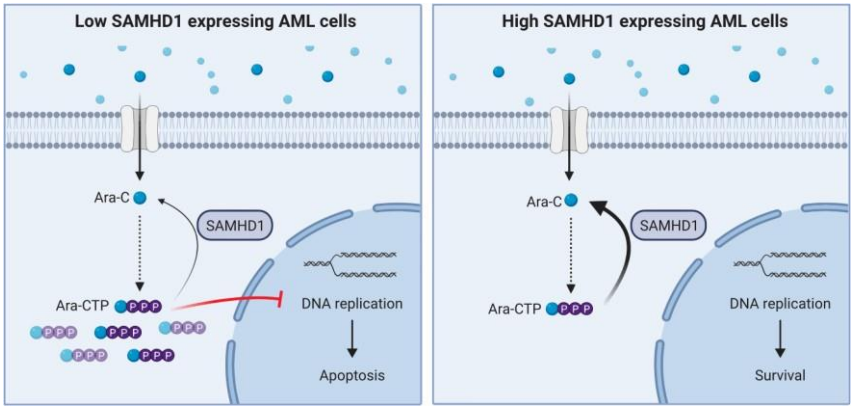

Figure 1: Influence of SAMHD1 on Ara-C cytotoxicity in AML cells. Based on Schneider, Oellerich, Baldauf *et al.*, Nature Medicine 2017.

The Master thesis can also be combined with a Virology practical course. Interested candidates should send a letter of motivation including CV to baldauf@mvp.lmu.de.