

Basel, 14.02.2020

PROJECT PROPOSED FOR MASTER THESIS

Title: Development of a new class of radiopharmaceuticals for diagnosis and therapy of CXCR4-expressing malignancies

Project description: The pathological overexpression of the C-X-C motif chemokine receptor 4 (CXCR4) in more than 23 human cancers designate CXCR4 as a “wide spectrum” molecular target in oncology. Based on the recently identified endogenous antagonist of CXCR4, termed EPI-X4, we aim to develop radiopharmaceuticals for non-invasive molecular nuclear imaging (SPECT/PET/CT) and targeted radionuclide therapy of CXCR4-expressing malignancies. The project covers the full spectrum of pre-clinical radiopharmaceutical development, from the synthesis and *in vitro* evaluation to advanced molecular imaging and *in vivo* evaluation in CXCR4-expressing cancer cells and animal models.

The project is suitable for both, M.Sc. Pharmazie (5 months) and M.Sc. Drug Sciences (10 months).

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