

# STAT5 INHIBITORS

SPIN-OFF FELLOWSHIP – DRITTE EINREICHFRIST (MÄRZ 2019)

<b>Projektkurztitel:</b>	<b>STAT5 inhibitors</b>
<b>Projektlangtitel:</b>	<b>Targeting STAT5 oligomerization in leukemia</b>
<b>Antragstellende Organisation:</b>	<b>Veterinärmedizinische Universität Wien</b>
<b>Fellow(s):</b>	<b>Anna Orlova, PhD</b>
<b>Host:</b>	<b>Prof. Dr. DI Richard Moriggl</b>
<b>MentorIn:</b>	<b>Dr. Oliver Szolar, a:head bio AG, Wien</b>
<b>Projektstandort:</b>	<b>Wien</b>
<b>Laufzeit:</b>	<b>01.11.2019 – 30.04.2021</b>

## PROJEKTZIEL:

Cancer is a prevalent disease with high mortality. Progress in therapy has been made towards prolonged survival and life quality of the patients. However, due to the common resistance development and severe side effects, it is crucial to develop novel targeted anti-cancer therapies that are safer and more efficient. The most common reasons for severe side effects of cancer therapeutics is either that they are untargeted, such as chemotherapy, or that targeted therapy is not specific for cancerous cells but hits many healthy essential cell types. Previous work has shown that oligomerization of oncogenic STAT5 transcription factors occurs in leukemic cells but not in healthy cell types. Furthermore, genetic approaches validated the efficacy of blocking STAT5 oligomerization as a vulnerable node to normalize excessive oncogene transcription.

Our objective is to design novel therapeutics for the treatment of hematopoietic cancers with acute myeloid leukemia (AML) as primary indication. For the identification of efficacious small molecule inhibitors, we developed a unique phenotypic screening system. With this innovative system, we have recently identified three hits from different chemotypes that show direct interaction with STAT5 and revealed promising potency. With the support of the Spin-off Fellowship program, we aim at further biological validation of the therapeutic concept and the generation of highly resolved target/ligand 3D structure. This would eventually enable us to pursue a sound structure-based lead compound development program in the prospective spin-off company and generate a lean portfolio of composition of matter patents around the most promising compounds generated. Our final

product is a drug candidate and our client is the pharmaceutical industry, which progresses the candidate further into a marketed medicine. The ultimate beneficiary of our product is the patient suffering from leukemia or other types of cancer who is being provided with a safe and efficacious novel targeted therapy.

### VISION SPIN-OFF:

- The ultimate goal of the “STAT5 inhibitors” Spin Off is advancing the therapy options for cancer patients and providing a safe, personalized and efficacious novel targeted therapy.
- Our mission is to develop new classes of targeted anti-cancer inhibitors specifically targeting oncogene transcription in cancer cells.

Weitere [Information zum Spin-off Fellowship](#) finden Sie auf der FFG-Homepage.