

HDACs as regulators of T cell-mediated immunity in health and disease

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www.meduniwien.ac.at/HIT



Position for a PhD-Student available at the Medical University of Vienna (MedUniWIEN) Division of Rheumatology

Application deadline: August 23, 2019

Start date: September 2019

Duration: up to 4 years

The field: Immunology, Rheumatology, T-cell biology, Bioinformatics

The project: We are looking for highly motivated students to investigate “the role of HDAC-mediated epigenetic modifications in T-cells for the pathogenesis of Rheumatoid Arthritis (RA)”. The project aims to understand the role of HDACs for the development of arthritis in a T cell-dependent arthritis model, as well as in patients with RA. Chromatin profiling will determine enhancer signatures of T-cells from RA patients and in a T-cell dependent arthritis model. Experiments are designed to understand and explore the potential of HDAC inhibitors to reprogram a pathogenic signature.

The approach entails state-of-the-art technologies, including transcriptomic and epigenomic analysis (histone modifications such as methylation and acetylation), as well as advanced cell biology techniques, including the use of *in vivo* models. This will enable the integration of murine and human datasets, and provide a rationale for the use of new-generation HDAC inhibitors for the treatment of autoimmune diseases.

The research group: The project is under the supervision of Michael Bonelli at the Division of Rheumatology at the MedUniWien. The group is embedded in the FWF-funded SFB program (<https://www.meduniwien.ac.at/HIT>). Participation in this program offers unique opportunities for PhD students to collaborate with international experts in the field and to apply cutting-edge technologies, including transcriptomics, proteomics, and epigenomics, as well as advanced cell biology and immunology. The PhD student will be part of the N094 “Immunology” PhD Program of the MeduniWien, and benefit from high quality teaching and training including participation in regular seminars with leading speakers.

The candidate: Applicants should hold a master's degree in molecular biology, medicine, immunobiology or a related discipline and ideally have documented experience in molecular biology, mammalian cell culture methods and mouse models. Previous experience with immunological assays, primary cell cultures, flow cytometry and bioinformatics analysis are advantageous.

Application: Interested students should send their application (letter of motivation, curriculum vitae, high school diploma, a brief synopsis of your master thesis, at least 2 letters of recommendations) to:

Michael Bonelli (michael.bonelli@meduniwien.ac.at)