PhD Position
in multi-omic pharmacodynamic biomarkers for autosomal-recessive ataxias at the Hertie Institute

The Hertie Institute for Clinical Brain Research (HIH), together with the Department of Neurology, forms the Center for Neurology at the University of Tübingen. It is dedicated to basic and translational research in neurological diseases. Together with the several other highly advanced neuroscience institutes, it is part of the Tübingen NeuroCampus (TNC), here working closely together also with the German Center for Neurodegenerative Diseases (DZNE). Scientists in the more than 100 active research groups of the TNC pursue theoretical, system-neuroscientific, molecular, and clinical research approaches in their entire breadth using a wide range of methods.

The research division „Translational Genomics of Neurodegenerative Diseases“ of Prof. Synofzik is currently looking for a

**PhD student, TVL E13, 65%, 3 years (extension possible)**

**About us**

The research division „Translational Genomics of Neurodegenerative Diseases“ of Prof. Synofzik focuses on genomics, pathophysiology and translational biomarker research in the field of neurodegenerative diseases, with a special focus on genetic ataxias, motor neuron diseases, and dementias. Prof. Synofzik coordinates several large trans-European consortia on translational neurodegeneration in rare movement disorders and serves as PI of several large-scale national and international longitudinal cohort studies. We offer excellent projects and training in neurodegeneration and molecular biology research. A wide range of molecular, protein biochemical and cell biological methods are applied in the lab (e.g. exome/genome sequencing, Sanger sequencing, qPCR, Western Blotting, ELISAs, and cutting-edge ultra-sensitive protein analysis including SIMOA and Luminex technology). Biomarkers are identified in cell culture models, human and murine blood and/or CSF, and validated in patient cohorts.

**The PhD Project**

You will identify and validate pharmacodynamic biomarkers in two autosomal-recessive ataxia disorders (ARSACS and COQ8A) using an integrated mouse/human cross-species cross-model pipeline. Fluids (CSF, blood) from mice models and tissue from cell models of ARSACS and COQ8A treated with novel disease-modifying drugs (the corresponding cell and animal work will be performed by collaboration partners and will not be part of this project) will be analyzed with unbiased transcriptomic and proteomic techniques to establish molecular treatment signatures and identify treatment response markers.

Biomarkers candidates will be validated in human fluids (CSF, blood) using targeted assays (qRT-PCR, MSD ELISA, and ultrasensitive Luminex and Simoa assays) to ensure direct relevance of findings for the human condition.

**Your background**

- Prior methodological experiences: For this project, you have already worked previously with unbiased omics methods (transcriptomics, liquid chromatography–mass spectrometry), and/or a broad range of molecular techniques (qRT-PCR, Western Blot, ELISA, ultrasensitive immunoassays).
- You are creative, highly motivated and you are able to work independently.
- Essential qualities include fluency in English and a strong team spirit.
- You have a Master’s degree in Biochemistry, Biology, Bioinformatics, Molecular Genetics, or related life sciences.

**We offer**

We offer a challenging interdisciplinary project that is integrated into major national and European research consortia at the interface of genomics and translational medicine, well-equipped laboratories with top-notch facilities, excellent supervision in a highly collaborative international environment and affiliation with the Graduate Training Center of Neuroscience. The position is available immediately. Salary will be determined according to the German collective wage agreement in public service (TVL 13, 65%). Appointment is full time and will be initially for three years with the possibility of renewal. We give priority to severely disabled applicants with essentially equal qualifications.

**Have we sparked your interest?**

If you are interested in this project please send your full application including a motivation letter, your CV, transcripts, your master’s thesis and/or publications to Mrs Selina Reich (Research Division Prof. Synofzik): selina.reich@uni-tuebingen.de

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**Deadline: 20.05.2021**