Master's thesis at the Department of Neurology

Aim: Analysis of Bortezomib-induced transient receptor potential ankyrin 1 (TRPA1) channel sensitization

Background: Bortezomib is a first-line treatment in patients with multiple myeloma. One of the most common side-effects is Bortezomib-induced peripheral neuropathy with pain as a main symptom affecting over 50% of treated patients. Recent rodent studies provide evidence for TRPA1 channel sensitization by Bortezomib. Combining different methodological approaches, we aim at investigating the impact of Bortezomib on TRPA1 in a fully human *in vitro* model using sensory neurons differentiated from human induced pluripotent stem cells (hiPSC).

Tasks:

- Differentiation of sensory neurons from hiPSC
- Investigation of TRPA1 gene expression upon Bortezomib incubation via qRT-PCR
- Immunocytochemistry of TRPA1
- Calcium flux assays
- Data analysis

Techniques: Cell culture, qRT-PCR, immunocytochemistry, calcium assay

Requirements: We are looking for a student (m/f/d) of Life Sciences or related Faculty, who is motivated to engage himself/herself in this exciting project and to become part of our enthusiastic research team!

Start and duration: Start is possible from November on for nine months.

Team of supervisors: Prof. Dr. Nurcan Üçeyler, Dr. Julia Grüner (gruener_j@ukw.de). Please contact Dr. Julia Grüner if you have questions about the project.

Contact: Application documents (CV and motivation letter) to Prof. Dr. N. Üçeyler: ueceyler_n@ukw.de