

Master's thesis at the Department of Neurology

Aim: Characterization of interactions between skin cells from patients with neurofibromatosis

Background: Neurofibromatosis (NF) 1 and NF2 are genetic disorders caused by mutations in the *NF1* gene encoding for neurofibromin and in the *NF2* gene encoding for merlin, respectively. Mutations in these tumor suppressor genes lead to the formation of multiple tumors originating from the Schwann cells of peripheral nerves. Besides Schwann cells, neurofibromin and merlin are expressed in other cell types including keratinocytes. A previous study showed altered calcium-mediated signaling between keratinocytes from NF1 patients. We already generated cultures of keratinocytes from NF patients and healthy controls. Now, we aim at characterizing these keratinocytes with the main focus on cell-cell interactions and communication.

Tasks:

- Cultivation of keratinocytes derived from NF patients and healthy controls
- Investigation of selected target gene expression via qRT-PCR
- Immunocytochemistry of relevant target proteins
- Calcium imaging

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

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

Start and duration: From now on for nine months.

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

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