

UMESCIA

B. Scheffler, DKTK Translational Neurooncology

Characterization of hematopoietic and mesenchymal progenitors in brain tumors

We have identified unconventional populations of hematopoietic stem and progenitor cells in glioblastoma that are associated with unfavorable patient outcomes. We aim to characterize and dissect the interactions of these cells within the tumor microenvironment and to understand how they mechanistically underpin tumor progression and resistance to therapy.

To advance the goals of this project, we will engage a distinguished Medical Scientist to synergize with local Clinician Scientists and to generate added value for career programs at the interface of natural sciences and medicine.

[Our group](#) is part of the University Duisburg Essen Center of Medical Biotechnology. As an extramural Division of the German Cancer Research Center (DKFZ) in Heidelberg, we are set up as part of the German Cancer Consortium (DKTK) at the University Hospital, West German Cancer Center (WTZ) in Essen. The lab employs clinician scientists, medical scientists, students pursuing medical or biomedical degree programs, technicians and administrative staff. We conduct basic research in such a way that clinical applications for cancer therapy can be translated to patients as soon as possible. Most of our wetlab protocols apply stem cell biology tools and patient-derived cancer cells (n>300 available in the lab). We primarily study oncogenic mechanisms related to human brain tumors and metastasized CNS disease; however, our translational approach enables validation of discoveries in any type of cancer. The research is interdisciplinary and is carried out in close collaboration with all clinical units providing neuro-oncology services at the University Medicine Essen and with many national and international collaborators from academia and industry.

We encourage distinguished Medical Scientist to apply in the context of the UMESCIA program (research areas 1 – **Understanding biological therapies**; 2 – **Converting biomechanisms into potential biomarkers**, and 3 – **Biomarker validation and clinical testing**) to further strengthen our current studies focusing on immune-oncology and neurooncology. Preference will be given to applicants with previous experience in one or more of the following disciplines/areas of research: cancer biology, immunology, systems biology, translational research with previous demonstrated collaborative project with clinicians, neurooncology, bioinformatics data analysis and statistics (e. g. R), RNA-Seq data analysis, including single cell RNA-Seq, advanced cell culture techniques including derivation of primary cell cultures from human tissue specimen and co-culture assays.

The successful candidate should hold a PhD in life sciences, biomedicine, biology or similar, should possess a solid research background (preferably on a postdoctoral level) in molecular and cellular biology.

Scientific expertise within the group: patient-derived cell- and tissue-models; molecular/cell biology incl. CRISPR; NGS incl. scRNA-Seq; patient-derived xenografts; machine learning/deep learning; drug discovery; early clinical trials.