Triple ERC Success at the German Cancer Research Center

Three researchers at the German Cancer Research Center (DKFZ) have each been awarded a Starting Grant from the European Research Council (ERC) this year. Daniel Kirschenbaum, Lena Kutscher, and Michael Scherer impressed the ERC with their innovative research approaches to fundamental questions in cancer medicine. With the funding, they plan to investigate why certain brain tumors occur more frequently in boys than in girls, how brain tumors suppress the immune system, and which epigenetic characteristics make cancer cells resistant to drugs.

Grants from the European Research Council (ERC) are considered a mark of distinction for scientists at all career stages. With its "Starting Grants," the ERC aims to pave the way for outstanding early-career researchers to pursue independent careers. The funding enables them to explore particularly innovative and high-risk research questions over a five-year period and to break new scientific ground.

Daniel Kirschenbaum: Observing the Immune Response Against Brain Tumors in Space and Time

In solid tumors such as glioblastoma, T cells often do not penetrate far enough into the tumor to effectively combat the disease. With "VideoTranscriptomics," Daniel Kirschenbaum aims to visualize when, where, and by what signals the immune cells are halted. To do this, he relies on single-cell analyses to detect even signals that are localized and temporary. He combines spatial gene expression analyses with a method he developed—which tracks changes in immune cells over time—and with a microscopy technique that tracks T cells in living tissue. The idea is to create a kind of molecular film of the immune response. The goal is to identify early, previously overlooked switching points where the blockade of T cells can be lifted and the efficacy of immunotherapies improved.

Following a postdoctoral fellowship at the Weizmann Institute of Science (Rehovot, Israel), neuropathologist **Daniel Kirschenbaum** has been leading the early-career research group "Immunodynamics and Cancer" at the DKFZ since early 2025.

Lena Kutscher: Why do boys develop certain brain tumors more frequently?

Boys are about twice as likely as girls to develop group 3 and 4 medulloblastomas. In the project "MB² – Male bias in medulloblastoma**"**, Lena Kutscher is investigating whether hormonal conditions during prenatal development are already a decisive factor in this. Preliminary data from her team suggest that androgens—the male sex hormones—increase the number of certain precursor cells in the cerebellum, from which these tumors can later develop. Using mouse models, human brain organoids, and patient-derived tumor models, Kutscher aims to clarify how hormones influence tumor formation and growth—and thereby uncover the biological causes of gender-specific cancer risks.

Molecular biologist **Lena Kutscher** moved from Rockefeller University to the DKFZ in 2018, where she has led the Emmy Noether Junior Research Group on the Developmental Origins of Pediatric Cancers at the Hopp Children's Tumor Center (KiTZ) in Heidelberg since 2025.

Michael Scherer: Why Do Some Cancer Cells Survive Treatment?

Why do some cancer cells respond to a drug, while others survive and later cause a relapse? With "EPI-SENSOR," Michael Scherer is investigating the hypothesis that it is not only mutations but also pre-existing epigenetic differences that determine sensitivity to therapy. Using acute myeloid leukemia (AML) as a model, he aims to simultaneously measure DNA methylation, mutations, cellular state, and even the amount of drug taken up by individual cells for the first time. In the long term, this research is expected to yield DNA methylation signatures and a diagnostic method that can predict which patients might benefit from a specific therapy.

After completing his postdoc at the Center for Genomic Regulation in Barcelona, **Michael Scherer** joined the DKFZ in 2024 to establish the Computational and Single-Cell Epigenomics research group.

Press release

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Further information

- German Cancer Research Center (DKFZ)
- European Research Council (ERC)