

Masterarbeit zu vergeben/M. Sc. Position available on:**“Characterizing the type of cell death triggered in cancer cells exposed to glucose deprivation”**

We are looking for a highly motivated and self-driven student of Biology, Biochemistry or related disciplines with laboratory experience and skills for teamwork.

The focus of our group is to elucidate how cancer cells respond to glucose starvation. While tumors are highly addicted to glucose, they are developing within glucose-limited conditions due to defective tumor vasculature and compromised blood supply. This creates a severe stress that primarily leads to cancer cell death, even though some rare cell clones will adapt and survive (as supported by our previous work “The eEF2 kinase confers resistance to nutrient deprivation by blocking translation elongation” published in *Cell*). Currently, it is not clear how cancer cells die under glucose deprivation. There is no consensus about the type of cell death induced by such a stress. Unexpectedly, our preliminary data indicate that apoptosis is not triggered under glucose starvation. By understanding how cancer cells die under glucose-limited conditions, we hope to uncover novel therapeutic targets to treat cancer.

The aim of the project is to define which type of cell death is induced by glucose deprivation in cancer cells. This will be investigated using various cancer cell models, including glioblastoma cell lines, already available in our laboratory. Various genetic and molecular tools, as well as cellular analyses, will be employed to characterize the type cell death. The mechanisms mediating such a cell death in response to glucose deprivation will be determined. This may lead to the characterization of novel factors mediating cancer cell death.

We offer a wide range of molecular and cellular biology techniques (cell culture, siRNA, shRNA and CRISPR, cell death assays, Western blot, immunofluorescence, soft agar assays, ultra-low attachment assays, FACS, RNA isolation and qRT-PCR, etc.).

The qualified candidate will work at the Institute of Neuropathology (Head: Prof. Reifenberger) under the supervision of Dr. Gabriel Leprivier who trained for 8 years in a world-renowned laboratory following his PhD graduation.

Bibliography: Völtzke K,..., Leprivier G, *Cell Death and Discovery*, 2022; Hauffe L,..., Leprivier G, *Cell Death and Discovery*, 2022; Lim JKM,..., Leprivier G*, Sorensen PH*, *PNAS*, 2019; Leprivier G et al., *Cell*, 2013.

Application (including CV and references) should be sent to:

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