

Klinik für Kinder-Onkologie, -Hämatologie und Klinische Immunologie, UKD  
Postfach 101007, 40001 Düsseldorf

## Masterarbeit zu vergeben/M. Sc. Position available on:

### “Investigating the mechanisms of brain cancer adaptation to nutrient stress”

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

**The focus of our group is to elucidate how tumors adapt to nutrient stress.** During the course of tumor development, tumor cells encounter conditions of nutrient stress, characterized by reduced nutrients level, which primarily restrict tumor progression. However, some tumor cells are able to adapt such stress conditions; this leads to the acquisition of more aggressive traits. It is therefore critical to identify the mechanisms supporting tumor adaptation to nutrient stress, as exemplified by our previous work “The eEF2 kinase confers resistance to nutrient deprivation by blocking translation elongation” published in Cell. Such research has the potential to uncover novel therapeutic targets to specifically inhibit tumor development without affecting normal tissues.

**The aim of the project is to identify and characterize novel candidate proteins supporting adaptation of tumors to nutrient stress in brain cancer.** The mechanisms allowing these candidate proteins to facilitate brain tumor survival under such a stress will be determined using various molecular tools already established in the laboratory. The function and relevance of these candidate proteins will be further characterized using the appropriate brain cancer cell models already available in our laboratory. We offer a wide range of molecular and cellular biology techniques (cell culture, Western blot, immunofluorescence, siRNA, shRNA and CRISPR, soft agar assays, ultra-low attachment assays, cell death assays, FACS, RNA isolation and qPCR, etc.).

The qualified candidate will work at the Department of Pediatric Oncology, Hematology and Clinical Immunology (Head: Prof. A. Borkhardt) under the supervision of Dr. rer. nat. Gabriel Leprivier who trained for 9 years in a world-renowned laboratory following his PhD graduation.

Bibliography: Leprivier et al., Cell, 2013; Ng, Leprivier et al., Cell Death and Diff 2012.

### Questions, applications (including CV) should be sent to:

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