Kateřina Sulková

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Education

2022–present **Heidelberg University** and **German Cancer Research Center (DKFZ)**
I'm pursuing my master's in programme Molecular Biosciences, with a major in Cancer Biology.

2019–2022 **University of Chemistry and Technology (VŠCHT)**
I got my bachelor's degree with honors in Biochemistry and Biotechnology. In my bachelor thesis I created a panel of the sensitivity of commonly used cancer cell lines in my lab to 13 commercial chemotherapeutics with different mechanisms of action.

2021–2022 **Charles University (UK)**
I studied Computer Science for two semesters (bachelor's programme). Although I decided to prioritize my studies in Heidelberg, I learned the basics of coding and problem-solving in this programme, which I am using in my studies and research.

Work experience

2019–present **Experimental Magnetic Resonance at the Institute for Clinical and Experimental Medicine (IKEM)**
Working in a group consisting not only of people with background in biology and biochemistry, but also both physicists and physicians, taught me a lot about communicating my science. Besides the routine cytotoxicity testing of novel MRI contrast agents and long-term MR measurement of tumor development in various in vivo models of collaborating groups, the main content of my work was introducing in vitro models for preclinical MR.

Recent research projects

2021–2022 **Reactive oxygen species visualization using NMR**
– developing cell culture model of hypoxia in emerging tumors or inflammation
– anti-inflammatory activity tests *in vitro*
– MR spectroscopy *in vitro* and *in vivo*
⋆ ongoing, first results presented at the 'European Molecular Imaging Meeting 2022' and 'Czech-Austrian Workshop on Magnetic Resonance Imaging and Spectroscopy 2022'

2021 **Langerhans islets labeling with new MR contrast agent**
– islets labeling and gelatine phantom preparation
– MRI measirememts *in vitro* (phantom solutions), *ex vivo* (isolated pancreatic islets), *in vivo* (mouse)
⋆ results published in ACS Applied Materials & Interfaces [link]

2020–2021 **Tumor volumetry measurements**
– comparison of tumor-volume-measuring methods (MRI, calipers)
– volume measurements to determinate efficiency of anticancer agent
– transfection of cell line (transposon system)
⋆ results in revision