

Towards better brain cancer treatment with novel cell-based models and fewer animal experiments

The number of animals used for development of novel cancer therapies has been increasing the last decade. This is also the case for brain cancer, where cancer cells are implanted directly into the brains of the animals. In cancer research it is of major importance that novel drugs are efficient on the tumor cells migrating into the brain as well as on cancer stem cells thought to be the origin of brain cancer. It is therefore important that novel cell-based models preserve in vivo-like tumor cell migration and cancer stem cells. The aim of the project is to investigate whether two novel cell-based models can replace animal experiments. In the first model human brain cancer cells are implanted into slices of mice brains. It is investigated how the cells migrate and how the presence of cancer stem cells is. In the second model it is investigated how the human brain cancer cells migrate on a surface in a culture medium preserving cancer stem cells. The results will be compared with results from earlier experiments, where human brain cancer cells have been implanted directly into the brains of the mice. human brain The first sets of results are promising and will be presented at the meeting. Besides the ethical problems with animal experiments, the results of the project may lead to cheaper and faster experiments with novel cancer drugs using novel cell-based models. The results of the project may therefore both improve animal welfare and cancer research.