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Supervisor statement for bachelor project of **Philipp Hebesberger** : Sirtuins as regulators of apoptosis-induced proliferation in the eye of Drosophila melanogaster.

The aim of the bachelor thesis was to investigate the role of sirtuins in our well established model of apoptosis-induced proliferation (AIP) in *Drosophila* tissues. The project was an extension of a model of signalling network of AIP in the wing disc that we published previously and it was based on preliminary data where we confirmed the similarity of the model also in the *Drosophila* eye discs. In both models, the complex signalling network is triggered by overactivation of the TOR kinase, a key molecule involved in the regulation of cell metabolism and growth.

Philipp joined our lab in the autumn of 2018 and the aim of his project was to disentangle the role of the five *Drosophila* sirtuin genes in the TOR mediated complex signalling events during AIP. He tested the genetic interactions of all available sirtuin RNAi lines in the *Drosophila* eye where AIP was triggered by downregulation of ND-49 gene that is a component of Complex I of the mitochondrial respiratory chain. Rather surprisingly he found that most of the RNAi lines were able to rescue the small eye phenotype caused by TOR overactivation. Originally, we planned to go deeper and use immunostaining to assess the activity of TOR and other signalling pathways involved in the phenotype but this turned out to be too ambitious.

Philipp was a very smart student that understood his project and who was genuinly interested in the topic in a wider context. However, it was due to his health conditions that prevented him to work in the lab in an intensive and continuos way. It took a few years to finish and write up the theses but this should not be considered negatively. Quite in the contrary, I know how hard it was for Philipp to gather the strength to return to the lab to continue the experiments and how hard it was to write up. We had other students in the lab who produced more data and then gave up to continue or who did not bother to write their theses at the end. Philipp was the oposite and that is what I appreciate the most, his endurance and his smile even in hard times. He learned to work with *Drosophila*, he performer many rounds of the colorimetry assay to measure the size of the *Drosophila* eye and he studied deeply the literature to understand the context of the project. His data would be a valuable contribution to the lab effort to understand the AIP model and the model of mitochondrial diseases that extend far beyond the *Drosophila* field.

It was a pleasure to have Philipp in the lab and I wish him all the best in his future life.