



## BIOLOGY CENTRE ASCR

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RE: Advisor's Evaluation of Sabine Kaltennrunner's Master's thesis project

I have had the extreme pleasure of being Sabine's advisor since she decided to join prof. Lukeš's laboratory for her bachelor's thesis project in the fall of 2011. As I wrote in the evaluation of her bachelor's thesis project, Sabine is an extremely motivated and intelligent person. She also has a very pleasant personality and a willingness to help colleagues, qualities that make her an excellent collaborator. She is also a very hard worker, devoting much time and energy to her laboratory projects notwithstanding the demanding academic curriculum of the cross-border Biological Chemistry program with Johannes Kepler University in Linz.

Her master's project may have been prolonged a bit from the inevitable mental and physical taxation that comes with such a demanding program. Furthermore, her initial master's project, investigating the lack of the effect of tetracycline on mitochondrial translation was side-tracked by the existence of older but still valid papers dealing with this topic, albeit indirectly. This project however did lead to a small PLoS Pathogens Pearl article summarizing the current state of knowledge about this antibiotic's effect on mitochondrial physiology, with Sabine contributing a figure showing the remarkable insensitivity of *Trypanosoma brucei* to the drug via the Alamar Blue assay.

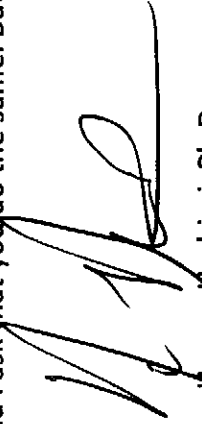
However, Sabine understood that one experiment a Master's thesis does not make, and picked up the mantle of studying the function of a hitherto unstudied protein we named TbPH1, which is unique to kinetoplastids. Since we knew virtually nothing about this protein besides that it did not belong to the MICOS mitochondrial cristae complex (the initial hypothesis) but did exhibit an intriguing sub-cellular localization within *T. brucei*. Her task was to find out where TbPH1 resides and what it could possibly be doing. While the Master's thesis does not really answer these questions, it does set a nice foundation for a PhD project. I remember vividly the day that Sabine said to me she had a change of heart about leaving the lab, deciding to stay for her PhD when she saw the exciting results of a microtubule sieving assay that she established in our lab. I think it says a lot about Sabine that she saw the beauty of the result as well as the potential for using this method to answer the aforementioned questions about TbPH1. This method led to her discovery that it interacts with a kinetoplastid-specific kinesin.

I was more or less satisfied with her performance on the project. As the thesis shows, Sabine really did put a lot of work into this project, which was a fact that was appreciated by both of her thesis reviewers. Importantly, many of the experiments were her idea, such as the digitonin titration assay at initial steps of the project where we did not know where TbPH1 was localized.

However, there was one aspect of her behavior during her Master's thesis project that I was not too happy with and mention here as some advice toward her PhD study. In my opinion, there were

too many mental lapses in which her project or our collaboration suffered what I can charitably describe as absentmindedness and a lack of common sense on her part. For example, when she returned to the lab in January after an emotionally strenuous period to finish writing her thesis, continue the project, take her exams and present her work at the Kinteoplastid meeting in the USA, she neglected to plan her time in a way to achieve all of these goals in a timely and relaxed manner. She could have seen the deadline for most of these tasks were to occur at the same time from the beginning. Instead, procrastination resulted in her having to achieve all these goals at once in a very short time period. She managed, and I give her credit for that. However, the quality of the thesis did suffer because of this and it could have been avoided with better planning.

However, I say this because I think that if she addresses this weakness, she will be able to achieve her very great potential during her PhD study. I certainly do not want this comment to undermine her thesis and urge the commission to give her a high grade to recognize the hard work, both intellectual as well as hands-on, that is presented in the thesis. I am very happy Sabine you decided to continue your PhD study with me in the lab: I will do my best to make this project work, and I ask that you do the same. But I have faith that you will hold up your end of this bargain.



doc. Massan Hashimi, Ph.D.

20 May, 2017 in České Budějovice