



Přírodovědecká
fakulta
Faculty
of Science

Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice

STATEMENT OF THE BACHELOR/DIPLOMA* THESIS SUPERVISOR

Name of the student: Simona Fišerová
Study program: Biological Chemistry, Bachelor level
Department/Institute: Dept. of Mol. Biol.
Thesis title:
Supervisor: David Doležel
Supervisor's affiliation: Dept. of Mol. Biol. & Biology Center CAS

Point scale¹ Points

(1) FORMAL REQUIREMENTS

Formal and graphical quality of the thesis	0-3	3
Ability to work with literature	0-3	3
Language and stylistics	0-3	3
Formal requirements – points in total		9

(2) PRACTICAL REQUIREMENTS

Fulfillment of the aims	0-3	3
Ability to understand the results, their interpretation, and clarity of the results, discussion, and conclusions	0-3	3
Discussion quality – interpretation of results and their discussion with the literature	0-3	2
Experimental difficulty of the thesis, independence in experimental work	0-3	1
Contribution of the thesis to the knowledge in the field and the possibility to publish the results (after eventual supplementary experiments)	0-3	2
Practical requirements – points in total		11

PROSTOR PRO VÝKRESY A TABULKY

* Choose one

¹ Mark as: 0-unsatisfactory, 1-satisfactory, 2-average, 3-excellent.

Comments of the supervisor on the student and the thesis:

Simona started to work in our lab nearly 2.5 years ago. This indicates that she did not leave ~~his~~ her decision to the last moment. Thematically, her project follows up our genetic evidence of interaction between and among several transcription factors. These factors include classical circadian proteins, but also recently identified receptor of Juvenile hormone Met and its partner Tai. The actual physical interaction is elusive, at the same time important for our further research and really interesting for this chronobiology field. There are no good antibodies for these proteins, and our insect model species is beautiful for its biology, but it is not user friendly model. Therefore we need to use different system, such as yeast, *Drosophila* cell lines, and perhaps even mammalian systems. Since some of the proteins in questions are quite long (around 1400 AA), some reliable and effective subcloning assay was needed. So Simona served as our experimental guinea pig to test if the Gateway cloning approach from Invitrogen is really student-proof.

The dream (and unrealistic) version of the project was following: Generate clones for two bHLH-PAS proteins and test localization of resulting recombinant proteins in *Drosophila* S2 cells. Given the relatively short amount of time (Simona has to spend half of the time in Linz), the optimal version simply is not possible.

Simona managed to subclone open reading frames (orf) of two proteins into different destination vectors. All these resulting plasmids were verified and are suitable for further experiments. So we learned that (i) the Gateway approach works, that (ii) the destination vectors obtained from colleagues are compatible with Gateway technology, that (iii) Simona is compatible with Gateway technology, too, and (iv) as a bonus we have obtained some constructs ready.

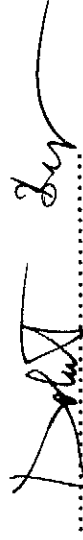
I would like to emphasize Simona's responsibility in writing her thesis. She started soon enough, so we could go through all details and experimental logic. Her writing was not perfect at the first time – which is not a problem. Importantly, by being responsible, she was able to improve a lot and therefore end up with decent bachelor thesis.

Last, but not least I would like to specifically thank Olina Bazalova for co-supervising Simona during all experiments, troubleshooting and time devoted to the project. I would like to wish Simona good luck in her future scientific, chemical and personal life.

Conclusion:

In conclusion, I r e c o m m e n d the thesis for awarding the title Bsc.

In **České Budějovice** date **2017-06-12**



signature