



STATEMENT OF THE BACHELOR/~~DIPLOMA~~^{*} THESIS SUPERVISOR

Name of the student: Fabian Moser
Study program: Joint Biological Chemistry
Department/Institute: Department of Molecular Biology & Genetics, Faculty of Science.
Thesis title: *Cloning useful recombinant cDNA/ mRNA constructs to study cell cycle and Hippo-signalling in preimplantation mouse embryos.*
Supervisor: doc. Alexander W. Bruce, Ph.D.
Supervisor's affiliation: Faculty of Science, University of South Bohemia

	Point scale ¹	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	2
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
Logic in the plan of the experimental work	0-3	3
Experimental difficulty of the thesis, independence in experimental work	0-3	2
Contribution of the thesis to the knowledge in the field and the possibility to publish the results (after eventual supplementary experiments)	0-3	1
Practical requirements – points in total		13
POINTS IN TOTAL (MAX/AWARDED)	27	22

Overall classification: 3-excellent

Eventual additional comments of the supervisor on the student and the thesis:

* Choose one

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

It was my pleasure to have Fabian working in my laboratory. He was/ is well liked by myself and other members of the research group. During his time in the laboratory Fabian proved to be a diligent and careful worker and generally met our collective expectations of what is required of a Bachelors' level research student. However, this is tempered by the fact he did not take my advise and write up his thesis straight away (i.e. in the summer after completing his experimental work). This had the unfortunate consequence of Fabian submitting his first draft to me in the subsequent summer of 2019, with an unfeasibly short deadline to meet regarding his preferred date of defence. This coupled with my own busy schedule at this time caused some problems, however, I am pleased to report we worked past these (with the help of prof. Grubhoffer) to reach the compromise that he defends today. In my experience, this is a reoccurring problem with research students on the Joint Biological Chemistry programme.

Without wishing to pre-empt the contents of Fabian's thesis and defence presentation, I set him to work on cloning/molecular biology related tasks that would generate recombinant DNA/RNA constructs that would be of general use in our laboratory (studying the derivation of cell fate and blastocyst formation during preimplantation mouse embryo development). In this regard, Fabian demonstrated a good laboratory technique and was able (with minimal assistance) to troubleshoot any problems he encountered – he successfully completed his main project aim of sub-cloning a tubulin-EGFP tagged fusion gene into our preferred *in vitro* transcription (IVT) plasmid vector and was able to derive recombinant IVT mRNA for microinjection into single cells of the pre-implantation mouse embryo (although sadly we were not able to confirm successful expression of the recombinant protein). He was also able to use IVT to derive other useful mRNAs for early mouse embryo microinjection and completed a rudimentary analysis of the effect of trying to abrogate endogenous Hippo-signalling in the mouse embryo, using one of these constructs; which involved image analysis of confocal derived micrographs of microinjected mouse blastocyst embryos.

Throughout Fabian's time in the laboratory, I was always confident that he fully understood both the theory and practice of what he was doing. I think he made a particularly good job of introducing the preimplantation mouse embryo development period (in the relevant context of the recombinant contrast he was deriving) in his written thesis (when I eventually got to see it).

Overall, I am well satisfied Fabian has received a solid foundation in experimental design, execution, interpretation and presentation and would be able to successfully draw on this training in her future career (I understand he has successfully enrolled to study Medicine in Linz, Austria – and I am very pleased about that). I have no hesitation in recommending his Bachelors project thesis is accepted as successfully defended.

Conclusion:

In conclusion, I,

Alexander W. Bruce

~~recommend / do not recommend*~~

In: České Budějovice

Date: 17th December 2019



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