



## SUPERVISOR'S STATEMENT ON BACHELOR THESIS

**Name of the student:** Sebastian Tschernuth  
**Study program:** Biological Chemistry  
**Department/Institute:** Department of Molecular Biology and Genetics  
**Thesis title:** The role of juvenile hormone during immune response in *Drosophila melanogaster*.

**Supervisor:** Tomáš Doležal  
**Supervisor's affiliation:** Faculty of Science, University of South Bohemia

	Point scale <sup>1</sup>	Points
<b>(1) FORMAL REQUIREMENTS</b>		
Formal and graphical quality of the thesis	0-3	2
Ability to work with literature	0-3	3
Language and stylistics	0-3	2
<b>Formal requirements – points in total</b>		<b>7</b>
<b>(2) PRACTICAL REQUIREMENTS</b>		
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	3
Experimental difficulty of the thesis, independence in experimental work	0-3	3
Contribution of the thesis to the knowledge in the field and the possibility to publish the results (after eventual supplementary experiments)	0-3	2
<b>Practical requirements – points in total</b>		<b>13</b>
<b>POINTS IN TOTAL (MAX/AWARDED)</b>	<b>24</b>	<b>20</b>

<sup>1</sup> Mark as: 0-unsatisfactory, 1-satisfactory, 2-average, 3-excellent.

**Comments of the supervisor on the student and the thesis:**

Sebastian has shown great motivation for science and for studying molecular biology and genetics in the laboratory. From the beginning he understood well the relatively difficult topic of the so-called selfish or privileged immunity, so I offered him a new and challenging project. Finding the juvenile hormone receptor took more than 25 years to co-supervisor Mark Jindra, and although we still don't understand the role of juvenile hormone in insects, I was very excited about its potential role in inducing insulin resistance during the immune response. Although the role of insulin resistance itself was not even characterized during the insect immune response, I hoped Sebastian could simply test whether a lack of juvenile hormone signaling would affect the immune response, thus obtaining the first promising preliminary data. Sebastian got to understand *Drosophila*'s genetics very well, which was the first important predisposition for his work. However, many genetic crosses turned out to be more complicated than we thought, wasting thus Sebastian's precious time. Eventually he obtained a cross with the desired phenotype (destruction of a juvenile hormone producing organ), but he had only the last two weeks to complete the desired experiments. He has obtained some promising results that are not achieved with a sufficient number of replicas and therefore Sebastian cannot draw many conclusions from them. This is a pity, because he would certainly deserve much more for his efforts. Yet he tried to put together reasonable thesis, trying to focus on a subject of his study, which I greatly appreciate. The work is not perfect, which is quite complicated when writing is interrupted by the intensive 3rd year of study in Linz, but Sebastian prepared a good piece of the very scattered and unfinished results.

Sebastian is a great student and a great person, with a genuine motivation for biological sciences, I just wish I would come up with a better project for him in the beginning, he would certainly deserve that. In spite of these difficulties, he still seems to be excited about the work he has done in our laboratory. Although his thesis might not seem very strong, I would evaluate his work in the laboratory very high.


**Conclusion:**

In conclusion, I

**r e c o m m e n d**

**the thesis for the defense.**

In Malovice, 27.1.2020



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signature