



UNIVERSITY OF SOUTH BOHEMIA  
IN ČESKÉ BUDĚJOVICE

Faculty of Science



## STATEMENT OF THE BACHELOR THESIS REVIEWER

**Name of the student:** Helena Mondeková

**Thesis title:** Analysis of the Lipoprotein Domain from the Hemelipoglycoprotein of the Tick *Dermacentor marginatus*

**Supervisor:** Prof. RNDr. Libor Grubhoffer, Csc.

**Reviewer:** Mgr. Petra Skotnicová

**Reviewer` affiliation:** Faculty of Science, University of South Bohemia, Branišovská 31,  
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	Point scale <sup>1</sup>	Points
<b>(1) FORMAL REQUIREMENTS</b>		
<b>Extent of the thesis</b> (for bachelor theses min. 18 pages, for masters theses min. 25 pages), <b>balanced extents of the thesis divisions</b> (recommended extent of the theoretical part is max. 1/3 of the total extent), <b>logical structure of the thesis</b>	0-3	3
<b>quality of the theoretical part (review)</b> (number and relevancy of the references, recency of the references)	0-3	3
<b>Accuracy in citing of the references</b> (presence of uncited sources, uniform style of the references, use of correct journal titles and abbreviations)	0-3	0
<b>Graphic layout of the text and of the figures/tables</b>	0-3	2
<b>Adequacy and clarity of the results and conclusions</b>	0-3	2
<b>Quality of the annotation</b>	0-3	2
<b>Language and stylistics, complying with the valid terminology</b>	0-3	3
<b>Accuracy and completeness of figures/tables legends</b> (clarity even without reading the rest of the text, explanation of the symbols and labeling, indicating the units)	0-3	2
<b>Formal requirements – points in total</b>		17

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

## (2) PRACTICAL REQUIREMENTS

Clarity of the aims	0-3	2
Fulfillment of the aims	0-3	2
Discussion quality – interpretation of results and their discussion with the literature	0-3	3
Logic in the course of the experimental work	0-3	3
Completeness of the description of the used techniques	0-3	2
Experimental difficulty of the thesis, independence in experimental work	0-3	3
Quality of experimental data presentation	0-3	2
The use of up-to-date techniques	0-3	3
Contribution of the thesis to the knowledge in the field and possibility to publish the results (after eventual supplementary experiments)	0-3	1
Practical requirements – points in total		21
<b>POINTS IN TOTAL (MAX/AWARDED)</b>	<b>51</b>	<b>38</b>

### Suggestions and questions, to which the student has to answer during the defense:

- Were primers derived from DvCP protein sequence (ABD83654.1) or from known nucleotide sequence?
- For description of centrifugation would be better to use centrifugation force (g), rather than revolutions per minute (rpm – page 23). Why?
- What was the concentration of DNA used for PCR (Table 13-16, page 27)? Concentration of primers added to master mix should be mentioned as well.
- What is the combination buffer (Table 24, page 27)?
- What amount of the hemolymph, HLGP was loaded on gel (Fig. 5)?
- In discussion it is mentioned that the irregular occurrence of 68 kDa sized peptide chain detected by anti-HLGP antibody (B5, Fig. 6) may indicate wider variability of chains creating HLGP. But at page 35 is written that this protein band was not identified as tick-related by mass spectrometry. Could you explain it a little bit more?
- Was reaction mixture of PCR-1 (cloning of the DvCP sequence into pET-41 Ek/LIC Vector) somehow cleaned or directly used as a template for PCR-2? In case of negative control for PCR-2 I would rather use sample without DNA polymerase or/and sample without F2-R2 primers to exclude that the band of PCR-2 reaction is not remnant of diluted PCR-1 mixture, because both products seem to have similar size. Could you explain or speculate why did you not obtain PCR product after elution of the PCR-1 product from the agarose gel?
- How do you explain presence of plasmids of incorrect sizes after transformation with control plasmid?



**Eventual mistakes, which have to be corrected:**

- Citations mentioned in literature review, which are missing in the list of references: Campbell and Bowles (1994 – page 6), Hopla and Hopla (1994 – page 6), Sonenshine (2001 – page 8), Rego *et al.* (2005, 2006 – page 9).
- *Et al.* should be in italics in all cases and it is missing in the reference of Kovar (2000 – page 9), Donohue (2008 – page 14), Thompson (2007 – page 47)
- Repeatedly incorrect spelling of Gudderra.
- Incorrect form of references: Gregson J.D., 1958; Hadwen S., 1913 – (page 5), Kozuch a Nosek (page 6), Hubalek a Halouzka (page 6), Sappington *et al.* (page 47)
- Species and genus in latin should be in italics (table of contents, page 9).
- Spelling mistakes (immunoblotting – Table 2 and 3; page 19, 20).
- Missing information, what was used as negative and positive control in Fig. 16 (page 42).
- Citations listed in references, which were not found in the text: Angelov *et al.* (1996), Miyoshi *et al.* (2007), Sanger *et al.* (1977), Winter *et al.* (1996).

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

**Conclusion:**

The candidate mastered wide spectrum of methods. Although the extent of experimental work is above-average, the results are not always easily understandable e.g. better connection between results and methods would be required. More attention should have been developed to formal aspects of the thesis.

**In conclusion, I**

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

**the thesis for the defense and I suggest the grade 2 .**

In date 20.1.2013

*Gholivcova*  
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signature