



Přírodovědecká
fakulta
Faculty
of Science

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

OPPONENT'S REVIEW ON BACHELOR THESIS

Name of the student: Aylin Paktan

Thesis title: The interaction of *Borrelia* outer surface proteins with tick salivary proteins

Supervisor: Ryan O. M. Rego, PhD

Referee: Sazzad Mahmood

Referee's affiliation: Postdoctoral researcher, Department of Parasitology, Faculty of Science,
University of South Bohemia

	Point scale ¹	Points
(1) FORMAL REQUIREMENTS		
Extent of the thesis (for bachelor theses min. 18 pages, for masters theses min. 25 pages), balanced length of the thesis parts (recommended length of the theoretical part is max. 1/3 of the total length), logical structure of the thesis	0-3	3
Quality of the theoretical part (review) (number and relevancy of the references, recency of the references)	0-3	3
Accuracy in citing of the references (presence of uncited sources, uniform style of the references, use of correct journal titles and abbreviations)	0-3	3
Graphic layout of the text and of the figures/tables	0-3	3
Quality of the annotation	0-3	2
Language and stylistics, complying with the valid terminology	0-3	2
Accuracy and completeness of figures/tables legends (clarity without reading the rest of the text, explanation of the symbols and labeling, indication of the units)	0-3	2
Formal requirements – points in total		18

(2) PRACTICAL REQUIREMENTS

Clarity and fulfillment of the aims	0-3	1
Ability to understand the results, their interpretation, and clarity of the results, discussion, and conclusions	0-3	2
Discussion quality – interpretation of the results and their discussion with the literature (absence of discussion with the literature is not acceptable)	0-3	2
Logic in the course of the experimental work	0-3	3
Completeness of the description of the used techniques	0-3	1

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

Experimental difficulty of the thesis, independence in experimental work	0-3	2
Quality of experimental data presentation	0-3	1
The use of up-to-date techniques	0-3	2
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		15
POINTS IN TOTAL (MAX/AWARDED)	48	33

Comments of the reviewer on the student and the thesis:

The overall structure of the thesis is quite good. Introduction is nicely explained. It is quite informative regarding to the thesis objectives. It indicates Aylin Paktan has understood the topic well.

But the sentence mentioned in hypothesis is incomplete, and it was difficult to understand what she was supposed to write there. In the chapter of Material and Methods and Results, she mentioned all the methodologies and results nicely. But sometimes there were gaps of information and some unintentional mistakes made it laborious to go through smoothly. And finally in the discussion, Aylin discussed nicely most of her results, but I think there were rooms to improve the interpretations of her results. Overall, I would appreciate the references she has used, these were relevant and accurately cited.

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

Mistakes, which the students should avoid in the future:

Suggestions:

She has to do more experiments for pursuing research with similar objectives. For example once some primers are not working, why not to try few more sets of primers while these are crucial requirements. And also, while using phylogenetic trees in order to prove a congruence between two genes, it would be necessary to choose the right sets of samples and appropriate model of trees.

Also, I would suggest her to read few times after finishing the writings. Because some unintentional mistakes have been seen in her thesis which could easily be resolved just by revising.

Questions:

1. What is the composition of *Borrelia* antibiotics used in the experiments?
2. For isolation of the plasmid DNA, why white *E. coli* colonies were chosen after the transformation?
3. What is degenerate primer? And why did you use this?
4. Salp15 primers couldn't amplify the correct sequences. Could you please explain the probable reason(s) behind it?
5. You have put a lot of effort to make phylogenetic trees of OspC and Salp15. But these trees don't show a clear pattern of congruence between these two genes. Do you have any new ideas to improve these trees in a more reasonable way which would help to us understand the compatibility between OspC and Salp15 from different species?

Mistakes to avoid:

1. Figure 2 wasn't very clear to read on the printed version.
2. Grammatical errors and incomplete sentences.
3. Gaps in the information for describing the rational and procedures of methodologies. Such gaps are crucial to understand a research properly.
4. Lack of proper interpretations of results

Conclusion:

In conclusion, I

r e c o m m e n d

the thesis for the defense and I suggest the grade 3 .²

In date **20/01/2022**

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signature

² You can suggest a grade, which can be modified during the defense based on the presentation. However, if the reviewer is not present at the defense, the grade will not be counted. Grades: excellent (1). Very good (2), Good (3), Unsatisfactory/failed (4).

