Přírodovědecká fakulta
Faculty of Science

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

OPPONENT'S REVIEW ON BACHELOR/DIPLOMA* THESIS

Name of the student: **Stina Eßmann**

Thesis title: **Subcellular localization analysis of proteins non univocally located to the mitochondria of *Trypanosoma brucei***

Supervisor: **Ignacio Durante**

Referee: **Ondřej Gahura**
Referee`s affiliation: **Institute of Parasitology, Biology Centre CAS, České Budějovice**

	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	2.5
Accuracy in citing of the references (presence of uncited sources, uniform style of the references, use of correct journal titles and abbreviations)	0-3	2
Graphic layout of the text and of the figures/tables	0-3	1.5
Quality of the annotation	0-3	2
Language and stylistics, complying with the valid terminology	0-3	1.5
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		14.5
(2) PRACTICAL REQUIREMENTS		
Clarity and fulfillment of the aims	0-3	2
Ability to understand the results, their interpretation, and clarity of the results, discussion, and conclusions	0-3	1.5
Discussion quality – interpretation of the results and their discussion with the literature (absence of discussion with the literature is not acceptable)	0-3	1.5
Logic in the course of the experimental work	0-3	2.5

* Choose one

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

Completeness of the description of the used techniques	0-3	2
Experimental difficulty of the thesis, independence in experimental work	0-3	1.5
Quality of experimental data presentation	0-3	1.5
The use of up-to-date techniques	0-3	2.5
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		16
POINTS IN TOTAL (MAX/AWARDED)	**48**	**30.5**[2]

Comments of the reviewer on the student and the thesis:

The thesis has been significantly improved compared to the previous version. Specifically, the theoretical part was extended, and the new sections made it much more comprehensible. The rationale of the project is now clear. Methods have been also improved, yet there are still obvious imperfections, such as missing concentration of reagents (PCR products, SDS-PAGE solutions and other occasions). Results have been modified only partially. The order of individual steps is now better explained, but figures are still somewhat difficult to follow and for example expected sizes of DNA molecules are stated as a range for different reactions, which is rather useless. I appreciate that the experiments performed by the supervisor are explicitly mentioned.

I still miss a discussion (or intro) section on the putative functions of the proteins of interest - all of them are annotated, which implies that they should have an expected subcellular localization (for example based on studies on different organism).

The language in Introduction is now very good and easy to follow, Results, Discussion and Conclusion are sometimes difficult to follow.

Throughout the text there are mistakes and inconsistency in capitalizations - for example common English (or anglicized) names of species (such as "trypanosomes"), compounds ("adenosine triphosphate") or general terms ("tripartite attachment complex") should not be capitalized.

Questions:

- The proteins you tagged have annotations with putative functions. Are proteins with these functions supposed to be mitochondrial?
- What did you change to improve output of the PCR reaction to amplify the tagging cassette for Tb927.8.6970 and all RNAi cassettes?
- How did you prepare the other DNA fragments for Gibson cloning of RNAi constructs (stuffer and backbone)? This part is not described at all.

Conclusion:

[2] Enter the number of points awarded.

In conclusion, I r e c o m m e n d the thesis for the defense, and I suggest the grade Good/Very good .[3]

In **České Budějovice** date **10.9.2021**

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