



## STATEMENT OF THE BACHELOR/DIPLOMA\* THESIS REVIEWER

Name of the student: Mathias Guggenberger

Thesis title: Interactions of *Trypanosoma brucei* F0F1 ATP Synthase subunits - An application of yeast two hybrid.

Supervisor: Brian Panicucci  
Alena Zikova

Reviewer: Priscila Peña

Reviewer's affiliation: Institute of Parasitology. Biology Centre. CAS.

|   | 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                      | 3      |
| <b>Graphic layout of the text and of the figures/tables</b>   | 0-3                      | 3      |
| <b>Adequacy and clarity of the results and conclusions</b>  | 0-3                      | 3      |
| <b>Quality of the annotation</b>  | 0-3                      | 3      |
| <b>Language and stylistics, complying with the valid terminology</b>  | 0-3                      | 2      |
| <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>  |                          | 22     |
| <b>(2) PRACTICAL REQUIREMENTS</b>   |                          |        |
| <b>Clarity of the aims</b>  | 0-3                      | 3      |
| <b>Fulfillment of the aims</b>  | 0-3                      | 3      |
| <b>Discussion quality – interpretation of results and their discussion with the literature</b>  | 0-3                      | 3      |
| <b>Logic in the course of the experimental work</b>   | 0-3                      | 3      |
| <b>Completeness of the description of the used techniques</b>   | 0-3                      | 3      |

\* Choose one

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

|  |     |    |
|--|-----|----|
| Experimental difficulty of the thesis, independence in experimental work   | 0-3 | 3  |
| Quality of experimental data presentation  | 0-3 | 3  |
| 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 | 3  |
| Formal requirements – points in total  |     | 27 |

**POINTS IN TOTAL (MAX/AWARDED)**

51

49<sup>2</sup>

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

If the human ATP synthase is able to perform hydrolysis of ATP (even though this only takes place under stress conditions), is this not a trait that would make it similar to the TbATPase? What differentiates the TbATPase from the mammal ortholog to make it such a specific drug target for trypanosomiasis infections?

Do you believe elimination of the mitochondrial target sequence, though accurate according to the bioinformatic analysis, may have something to do with the lack of expected interactions?

In what way may the TbOSCP be capable of auto-induction in yeast? Are there any structural features in this subunit that may support your hypothesis?

How do you correlate your western blot results, by protein expression in each vector in yeast, with the final hybrid interactions?

Is there any known indication, structurally or sequence-wise that may further support the hypothesis of the delta subunit (ortholog of the prokaryotic epsilon) having lost its ability to inhibit ATP hydrolysis?

**Eventual mistakes, which the students should avoid in the future:**

The background is clearly explained, as well as the choice of techniques and descriptions of their principles. However, for the final draft, better revision of English spelling should be more carefully addressed. Also, the figures and tables should be indicated when explaining results all throughout the body of text. Overall, I am willing to overlook the factor of form, due to the fact that the content and logical sequence of the work performed, together with its analysis was of excellent quality.

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

**Conclusion:**

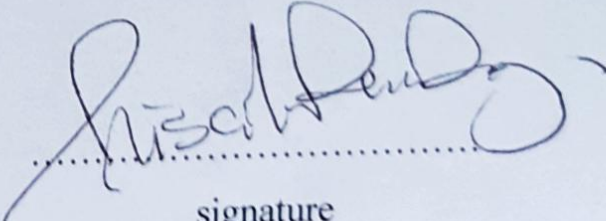
In conclusion, I Priscila Peña

<sup>2</sup> Enter the number of points awarded.

**recommen d / ~~do not recommen d~~\***

**the thesis for the defense and I suggest the grade 49 .<sup>3</sup>**

In Ceske Budejovice, 10.06.13



A handwritten signature in blue ink, written over a horizontal dotted line. The signature is cursive and appears to read 'Lizet Dudy'.

signature