



Přirodovědecká fakulta
Faculty of Science

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

STATEMENT OF THE BACHELOR/DIPLOMA * THESIS REVIEWER

Name of the student: Christian Lukas Grechhamer

Thesis title: Comparison of TEM sample preparation methods for immunogold labeling

Supervisor: RNDr. Marie Vancová, Ph.D.

Co-Supervisor: Mgr. Jana Schrenková

Reviewer: RNDr. Veronika Urbanová, Ph.D.

Reviewer's affiliation

: Biology Centre, CAS, Institute of Parasitology

	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	2
Graphic layout of the text and of the figures/tables	0-3	3
Quality of the annotation	0-3	3
Language and stylistics, complying with the valid terminology	0-3	3
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		19
(2) PRACTICAL REQUIREMENTS		
Clarity and fulfillment of the aims	0-3	3
Ability to understand the results, their interpretation, and clarity of the results, discussion, and conclusions	0-3	3
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

* Choose one

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

Completeness of the description of the used techniques	0-3	3
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	2
Practical requirements – points in total		25

POINTS IN TOTAL (MAX/AWARDED)

48

(0-48)²

Comments of the reviewer on the student and the thesis:

The bachelor thesis of Christian Lukas Grechhamer describes different methods for TEM sample preparation for immunogold labeling. The thesis consists of 6 chapters (introduction, literature research, experimental part, results, discussion and references) and has a good quality of English with minimum of typing errors.

In the individual chapters the author explains and describes techniques of transmission electron microscopy. He exactly describes methods and materials which was used for sample preparation and for immunolabeling and explains evaluation of the procedures. In the experimental part and the discussion, he evaluates data and discusses the obtained results. It is obvious that the author obtained a nice piece of work.

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

Mistakes, which the students should avoid in the future:

- 1) References should be written at the end of the sentence before full stop.
- 2) Producer or company reference should be stated directly after the product or in the table of all used chemicals in the Methodology chapter; e. g. xxx (Sigma Aldrich). The citing of company or producers in the References chapter is incorrect.
- 3) Table 9 (page 32): in the first row (HPF/FS and Expected LD), there are some numerical mistakes in calculations.
- 4) Tables 10 and 11: there is no link on these tables in the thesis.
- 5) In the table 11, here are used another abbreviation than in the other tables (MW instead of MW-RT and LRW instead of PLT).
- 6) References 63 and 64 are not mentioned in the text.
- 7) Why the author polymerized samples in MW-RT method at 90°C? LR White resin polymerizes also at lower temperature (60°C). High temperature is not suitable for sample preparation for immunodetection.
- 8) Does the author think that using of secondary polyclonal antibody instead of protein A could cause the lower labeling densities in Hgb and Tfn samples?
- 9) Which method is the best for immunogold labeling according to your opinion and why?

² Enter the number of points awarded.

Conclusion:

In conclusion, I
recommend

the thesis for the defense and I suggest the grade ¹ ₃.

In České Budějovice date 8.6.2017

.....
Hubertová

signature

³ 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.