



BIOLOGY CENTRE CAS

Institute of Parasitology

address: Branišovská 1160/31, 370 05 České Budějovice, Czech Republic

IBAN – CZ24 0800 0000 0000 0606 3942 | SWIFT CODE – GIBACZPX | VAT No.: CZ60077344

phone: +420 387 775 403 | fax: +420 385 310 388 | www.paru.cas.cz | e-mail: paru@paru.cas.cz

Supervisor's statement

MCs Thesis: "The role of queuosine tRNA modification in the virulence of *Leishmania mexicana*" by Bc. Michaela Boudová, University of South Bohemia, Faculty of Science, České Budějovice, 2018

For the first time I noticed Michaela working in Professor Lukes's lab on her bachelor thesis, which I had the opportunity to evaluate as her reviewer. In my opinion Michaela's Bachelor's thesis was of a high standard. Some parts of her thesis were later published in the journal of Molecular Biology and Biochemistry. After successful defense, Misa decided to change the lab, and soon after our first interview before the beginning of the summer 2017, she started working on a new topic as a member of my team.

The goal of Michaela's thesis was to study the role of queuosine tRNA modification and its effect on the virulence of *Leishmania mexicana*. Since we do not have enough time, I am not going to bother you with the description of her project to steal Míša's thunder. Anyway, in a moment she will present you with all the results she has obtained during her stay in my lab. Nevertheless, as you probably know, our lab is working mainly with *Trypanosoma brucei* and thus Michaela had to deal with a new model organism. This was really challenging when you consider the number of new methods of molecular biology and parasitology she had to establish in the laboratory. The range of methods she employed was really broad and most of the techniques have never been used by our lab before. This involves taking care of cell cultures of *L. mexicana*, preparation of gene knockouts by the CRISPER/Cas9 system, which was just recently established in our field and last but not least she performed experimental infections with isolated macrophages, and later also experimental infections of mice. With the help of available literature, Misa has mastered these advanced techniques very quickly, and she was able to use them to obtain a number of interesting and promising results. The only thing Michaela has to improve in her research career is to put more optimism in planning and conducting experiments. Nevertheless, Misa is very popular in our laboratory for her willingness to help anyone, for keeping the laboratory organized and sometimes she even brings us a cake.

At this point. I also would like to thank Sneha Kulkarni, she was very helpful during the entire project.

Based on the plethora of experimental methods used, which led to obtain interesting results, together with critical thinking, Michaela has most certainly acquired all the essential skills needed to continue her future career in Natural Sciences and I am really glad that Michaela has decided to continue working in my lab to finish some of the experiments.

In conclusion, I was really happy to have Michaela in my laboratory and in my opinion her thesis is of very high standard. My recommendation is therefore to grant Michaela Boudová the MSc degree.

In České Budějovice, 22.1.2019

RNDr. Zdeněk Paris, PhD.