

April 26, 2022

To whom it may concern
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Re: Master thesis of Bc. Monika Švábová “The role of Q tRNA modification in codon biased translation in *Leishmania mexicana*”

The Master thesis of Bc. Monika Švábová is devoted to studies of queuosine in *Leishmania mexicana*. Before going into further details, I must admit that I find this work exemplary. This is how (in my opinion) any Mgr. dissertation should look like. The aims of the study are clearly spelled out, the importance of the topic, previous knowledge, methodology, results, and discussion are well presented. Of course, the text contains unavoidable “weird phrases” and typos (such as “different levels ...were supported in...” on page 15) but they do not distract from the flow. From the formal point of view, I noticed: i) unbalanced citation (some sections are poorly referenced, e.g. “RNA”), ii) in some cases species names were not properly italicized (section titles), and iii) the section on *L. mexicana* life cycle did not properly distinguish *Leishmania* spp. and *L. mexicana*.

I would like Monika Švábová to answer the following questions at her defense.

Q1. Please elaborate on the following statement (pg. 9): “Queuosine is ubiquitously present in nearly all domains of life (eubacteria, eukaryotes and archaea) with a few exceptions (e.g. *Saccharomyces cerevisiae* (VY: misspelled in the dissertation) or *Candida albicans*)”. How these species deal with lack of Q? Do they have something in common?

Q2. I noticed elevated levels of tRNAs in knock-outs presented in Figs. 9 and 10. Is this meaningful or just reflect an unequal loading?

Q3. Why only WT and KO are shown in Fig. 26?

Q4. What do you envision as the next step(s) in studies of Q in *L. mexicana*? What critical experiments are waiting to be performed?

In conclusion, in my opinion Bc. Monika Švábová has presented a truly fantastic work on the role of Q in *L. mexicana* biology and deserves to be awarded a Mgr. title, provided successful defense of her Dissertation.

Sincerely

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