



**Biology Centre of the ASCR, v. v. i.**  
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Supervisor's evaluation of Lucie Hanzálková's bachelor's project: "Functional characterization of two paralogs that are novel RNA binding proteins influencing mitochondrial transcripts of *Trypanosoma brucei*"

Lucie Hanzálková joined the Laboratory of Molecular Biology of Protists in 2008 to start her bachelor's studies. I think the best way to illustrate her evolution from this time as a green student to promising young researcher is to recount the first and last times Lucy attended the RNA club, a regional conference that gathers RNA researchers from around the Czech Republic. At the first one in Prague in 2009, she was dozing off, drawing doodles in her abstract book and not showing much enthusiasm or engagement for the presentations done by promising young researchers. At the last RNA club last year, held in the very same venue, she was paying attention, taking notes and very much engaged. Lucy actually gave a strong talk there that was awarded a prize by two of the keynote speakers from abroad, the youngest participant to get such a prize.

Since Lucy started in the lab, she was in charge of trying to determine the function of two paralogous proteins in what we call the MRB1 complex. In her bachelor's thesis, she had generated cell lines that knockdown both proteins simultaneously and each individually. During Lucy's master's studies, she used this material to study the effect of these knockdowns on other MRB1 components as well as mitochondrial RNAs. This was a lot of work, since she had to do all assays for each of these three samples. Lucy's results showed an effect on massively edited mRNA species. She then established in the laboratory a UV crosslinking assay to show that these two proteins have the capacity to bind RNA, which is a key piece of data for future studies to determine the mechanism of these proteins action on edited mRNAs.

Much of this work was done during research stay at the State University of New York at Buffalo during the summer of 2010 at the laboratory of our collaborator professor Laurie Read. In fact, some of her work there was acknowledged by her co-authorship in a Nucleic Acids Research article that came out earlier this year. Lucy's performance in Buffalo was so impressive that she was offered a position there to continue her PhD studies, which she will start in the fall. It is no wonder why: in addition to her excellent spoken and written English, she is hard working and has the intellectual capacity to think critically about her work. Lucy



often raises interesting points and questions, and our conversations about science are really enjoyable.

She also has the capacity to perform in the lab during life's often turbulent moments. She survived the initial chaos of the MRB1 project when she entered the lab. She studied for the GRE exams to get into grad school in the US, which she took a week before getting married, while performing experiments for our resubmission bid to the Journal of Biological Chemistry.

Thus Lucy's accomplishments during her time are quite a lot, culminating the manuscript submitted to RNA that is presented in her Master's thesis. In many ways, this situation is due to good fortune. Good fortune for Lucy that the project started to gain momentum and the opportunity to go Buffalo. And it was certainly good fortune for the project, to have a capable person to steer it to the conclusion that is manifested in her presentation today.

Lucy thanks for your excellent work. I really enjoyed our collaboration a lot and look forward to meeting you at tryp conferences in the future. I wish you much success in realizing your potential as well as happiness in your life. I fully recommend her for her master's degree and would recommend her for the highest grade.

In České Budějovice, May 28<sup>th</sup>, 2012

Hassan Hashimi, Ph.D.