Supervisor's evaluation of PhD student

Mgr. Adéla Chlastáková

Supervisor: RNDr. Jindřich Chmelař, Ph.D.

Adéla started her work in my research group already as a pregradual student. She was interested in immunology work; therefore, she started to establish *in vivo* models of inflammation in mice. She successfully established thioglycollate induced peritonitis and carrageenan induced paw edema models. During her PhD studies, she has been using these models to test anti-inflammatory effects of tick salivary proteins. In addition to serpins that were in the center of her interest, she was testing cystatins in collaboration with the research group of Michail Kotsyfakis. The analyses of *in vivo* experiments were done by immunodetection methods, such as flow cytometry (FACS) and ELISA. Adéla prepared several antibody panels for FACS to evaluate leukocytic populations in the peritoneum and measured cytokine levels in peritoneal lavage by ELISA. In addition to in vivo models, Adéla worked with mouse cells, isolated either from spleen or from bone marrow. She was using cell cultures, either cell lines or primary cells, in order to find mechanisms of anti-inflammatory properties of tick salivary proteins. These experiments were evaluated either by immunodetection or by qPCR. Overall, Adéla mastered many immunological techniques and two *in vivo* models of inflammation. In the lab, Adéla is very precise and non-compromising, always trying to get clear and statistically solid results, even though this means additional replication of an experiment. She is also strong in the statistics, which is always beneficial for the team. In addition to her lab skills, Adéla proved to be an independent researcher, who is able to work very efficiently with available literature and bring new insights and explanations of observed effects. The discussions of Adéla's manuscripts are the best evidence of her writing and scientific qualities. For her research stay abroad, Adéla visited the lab of Dr. Lucas Tirloni in NIH/NIAID (Hamilton, Montana, U.S.A.), where she spent three months. During this period, she started a joint project with Lucas dedicated to the evaluation and comparison of serpins from different tick species. I hope that this collaboration will continue in the future, as Adéla arranged her postdoctoral stay in this collaborating lab.

During her Ph.D. studies Adéla published one first author paper, while the second is about to be submitted before the defense. Both papers deal with the salivary serpins from *Ixodes ricinus* with different activities. In addition to her project, Adéla participated in other projects and co-authored another 4 papers, including one review on serpins, where she contributed significantly to the final shape of the review.

Character-wise, Adéla is hardworking and non-compromising, when it comes to scientific rigor. She likes to work alone, but is very good and valuable member of the team, to which she always brings new ideas and perspectives. She is tough opponent in discussions due to her deep knowledge of immunology. She is not afraid to express her disagreement, which is very valuable in the science, but is willing to agree with reasonable arguments. She does not need to win at all costs, she values the truth and therefore I believe, she will be excellent scientist.

I fully recommend Adéla for PhD and I wish her good luck in her future career.

In České Budějovice, 6.9.2022

RNDr. Jindřich Chmelař, Ph.D.

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