



MIKROBIOLOGICKÝ ÚSTAV

Akademie věd České republiky, v. v. i.

in Prague, 26.1. 2024

Supervisor`s report on diploma thesis by **Bc. Monica Jandova** „*Effect of gluten-free diet on immune parameters in Parkinson's disease*“

This diploma thesis by has been worked out by Bc. Monica Jandova in the Laboratory of Cellular and Molecular Immunology, IMIC, CAS, Prague, as part of a project investigating a possible beneficial role of the gluten-free diet (GFD) in Parkinson`s disease (PD), using the most frequently used animal model of PD - the MPTP-induced mouse model of PD.

This project represents a new topic of interest within the lab using a mouse model that, to our knowledge, has not yet been established in the Czech Republic. The MPTP mouse model involves several read-out methods to monitor possibly subtle environmental influences in PD such as those by the GFD. From these methods, her diploma thesis include histology, immunohistochemistry, behavioral testing, and monitoring of possible changes in proportions of immune cells subsets that may be influenced by the GFD and thus serve as potential immune biomarkers in PD, that is so far with no cure.

Bc. Monica Jandova has quickly adapted to the new methods she had to learn in the lab and that she presents in her diploma thesis. She has carried out the animal experiments with great precision, worked often quite independently, participated in the development of some of the methods (e.g. the evaluations of the behavioral test) and also easily and critically worked with the relevant literature. I especially highly appreciate, that during the course of her diploma thesis, she has been proposing also new ideas or modifications to the experiments, thus really helping us to get the project a float.

Her work on the MPTP model has been also influenced by some outer factors that cause some delays. Besides the fact that the chronic MPTP mouse model is a long-term, and demanding by requirements to handle the MPTP toxicity, including within the animal facilities, her project was also influenced by the closure of the animal facility at the IMIC (during 2023) and several times postponed start of a new animal house within the institute, that has become operational only very recently. Despite this, Monica has managed to get her first promising results from some of the read-out methods used in the MPTP model that I believe will lead to a valuable publication, when extended with sufficient number of animals and repetition of experiments.

In conclusion, I can state that Bc. Monica Jandova has mastered several methods, helped us a great deal to developed the MPTP model, critically worked with the literature, has been also very proactive

in improving the methods, and contributing with her own ideas how to develop this project. Among the diploma thesis from my lab, I regard the theoretical and practical aspects of her scientific work above average, and thus can definitely recommend her thesis for the opposition proceedings and for the awarding the Master's degree title.



David Funda, M.D., Ph.D.

Laboratory of Cellular and Molecular Immunology,

IMIC AS CR, v.v.i.