



Habilitation Thesis Reviewer's Report

Masaryk University	
Faculty	Faculty of Science
Procedure field	Genomics and Proteomics
Applicant	RNDr. Jan Hošek, Ph.D.
Applicant's home unit, institution	Faculty of Pharmacy of the University of Veterinary and Pharmaceutical Sciences Brno
Habilitation thesis	Regulation of the expression and activity of proteins involved in the inflammatory response by natural flavonoids
Reviewer	prof. Ing. Milan Nagy, CSc.
Reviewer's home unit, institution	Dept. of Pharmacognosy and Botany, Faculty of Pharmacy, Comenius University in Bratislava

Submitted habilitation thesis deals with an actual field of an interdisciplinary research covering proteomics, pharmacognosy, analytical chemistry, pharmacology, human (patho)biochemistry etc. This broad knowledge scope requires a creative interconnection of more as a basic knowledge and skills in above mentioned scientific areas to be successful in natural drug R&D. This habilitation thesis is organized as a commented aggregate of 15 original papers mostly in reputed scientific journals and 2 book chapters, respectively. RNDr. Hošek, Ph.D. is the first author of four ones of them. All publications describe results related to the isolation, structural identification or bioactivity testing of flavonoids, most of them as prenylated derivatives. Presented results confirm candidate's ability to perform modern types of experiments, to evaluate their results and to formulate unequivocal conclusions. One can highly appreciate precisely written text supporting attached papers.

Reviewer's questions for the habilitation thesis defence

1. As candidate correctly mentioned flavonoids are metabolized, and the metabolites may also contribute to the overall (anti-inflammatory) effect. What are the typical metabolites and which their biological activities are confirmed *in vitro* and/or *in vivo* ?

-
2. Which therapeutic strategies for inflammatory diseases aimed at blocking NF- κ B activity are known ? Please, indicate related registered molecules (drugs) for these strategies, too.
 3. Recent evidence demonstrates epigenetic regulation of the NF- κ B pathway. Is there any knowledge on flavonoids with this regulative activity ?

Conclusion

The habilitation thesis entitled "Regulation of the expression and activity of proteins involved in the inflammatory response by natural flavonoids" by RNDr. Jan Hošek, Ph.D. *fulfils* requirements expected of a habilitation thesis in the field of Genomics and Proteomics.

In Bratislava on January 13, 2019