

Trends in Natural Product Research – PSE Young Scientists' Meeting
Budapest, June 19th-21th, 2019

SL-25

doi: 10.14232/tnpr.2019.sl25

Biological active compounds from *Morus alba* root bark

Marie Pokorná^{1,*}, Alice Sychrová¹, Sherif T. S. Hassan¹, Petra Vysloužilová¹, Alexandra Helclová¹, Hana Michnová², Klaudia Harbutová¹, Karel Šmejkal¹, Alois Čížek² and Jan Hošek³

¹ Department of Natural Drugs, Faculty of Pharmacy, University of Veterinary and Pharmaceutical Sciences Brno, CZ-612 42 Brno, Czech Republic

² Department of Infectious Diseases and Microbiology, Faculty of Veterinary Medicine, University of Veterinary and Pharmaceutical Sciences, CZ-612 42 Brno, Czech Republic

³ Department of Molecular Biology and Pharmaceutical Biotechnology, Faculty of Pharmacy, University of Veterinary and Pharmaceutical Sciences Brno, CZ-612 42 Brno, Czech Republic

*E-mail: m.pokorna.xma@seznam.cz

In vitro biological screening of 26 mulberry constituents identified promising candidate drugs for further biological research. Antiviral, antibacterial, anti-inflammatory, and antiplasmodial activities were evaluated. Five prenylated compounds, together with a phenolic ester, proved to possess inhibitory activity against the replication of HSV-1 or HSV-2 with IC₅₀ (EC₅₀) values of 0.64–1.93 µg/mL. Molecular docking studies for HSV were performed for active compounds. Several compounds exhibited significant growth inhibition of all bacterial strains tested with MICs values 1–16 µg/mL. Furthermore, one compound was found to inhibit COX-2 with a greater activity than positive control indomethacin.

Acknowledgement

The financial support of IGA VFU no. 310/2016/FaF project is gratefully acknowledged.