



Ao. Univ.-Prof. Dipl. Ing. Dr. Pavel Uhrin

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Research interests

- (1) Determination of anti-inflammatory properties of plant- derived substances in *in vitro* and *in vivo* models
- (2) Identification of substances capable to counteract inflammation and senescence of endothelial cells, by utilizing endothelial cell cultures and live-cell imaging techniques
- (3) Analysis of the mechanism of development of lymphatic system and its role in metastatic spreading of cancer cells

Education:

1989: Ph.D. in Biochemistry at the Faculty of Chemistry, Department of Biochemistry, Bratislava

1985: Dipl. Ing. at the Faculty of Chemistry, Department of Physical and Analytical Chemistry, Bratislava, Czechoslovakia

Research experience:

1994 - present: Faculty member at the Institute of Vascular Biology and Thrombosis Research, Vienna and from 2000 a Group leader

2011: Habilitation at the Medical University of Vienna in Vascular Biology

2000: Habilitation at the Faculty of Natural Sciences, Constantine the Philosopher University, Nitra, Slovak Republic in Special Biology and Ecology

1990 – 1993: Post-doctoral assistant at the College of Medicine, University of Cincinnati, Department of Physiology and Biophysics, Cincinnati, OH, USA in the laboratory of Prof. Nelson D. Horseman

1985 – 1990: Researcher at the Research Institute of Animal Production, Nitra, Czechoslovakia

List of 10 Top publications (out of 60 from Pubmed)

1. Uhrin P, Wang D, Mocan A, Waltenberger B; Breuss J; Tewari D; Mihaly-Bison J; Huminiecki L, Starzyński L; Tzvetkov N; Horbańczuk J; Atanasov AG. Vascular smooth muscle cell proliferation as a therapeutic target. Part 2: natural products inhibiting proliferation. **Biotechnol Adv.** 36: 1586-1607, 2018. doi: 10.1016/j.biotechadv.2018.04.002.
2. Brown M, Assen FP, Leithner A, Abe J, Schachner H, Asfour G, Bago-Horvath Z, Stein JV, Uhrin P, Sixt M, Kerjaschki D. Lymph node blood vessels provide exit routes for metastatic tumor cell dissemination in mice. **Science.** 359: 1408-1411, 2018. doi: 10.1126/science.aal3662.
3. Khan SY, Ezzat MA, Oszwald A, Mayr M, Waltenberger B, Stuppner H, Lipovac M, Uhrin P and Breuss JM. Premature senescence of endothelial cells upon chronic exposure to TNF α can be prevented by N-acetyl cysteine and plumericin. **Sci Rep.** 2017 Jan 3;7:39501. doi: 10.1038/srep39501.
4. Heiss EH, Liu R, Waltenberger B, Khan S, Schachner D, Kollmann P, Zimmermann K, Cabaravdic M, Uhrin P, Stuppner H, Breuss JM, Atanasov AG, Dirsch VM. Plumericin inhibits proliferation of vascular smooth muscle cells by blocking STAT3 signaling via S-glutathionylation. **Sci Rep.** 9; 20771, 2016. doi: 10.1038/srep20771.
5. Atanasov AG, Waltenberger B, Pferschy-Wenzig EM, Linder T, Wawrosch C, Uhrin P, Temml V, Wang L, Schwaiger S, Heiss EH, Rollinger JM, Schuster D, Breuss JM, Bochkov V, Mihovilovic MD, Kopp B, Bauer R, Dirsch VM, Stuppner H. Discovery and resupply of pharmacologically active plant-derived natural products: **Biotechnol Adv.** 33: 1582-614, 2015. doi: 10.1016/j.biotechadv.2015.08.001.
6. Awad E, Khan SY, Sokolikova B, Brunner P, Olcaydu D, Wojta L, Breuss JM, Uhrin P. Cold induces reactive oxygen species production and activation of the NF-kappa B response in endothelial cells and inflammation in vivo. **J Thromb Haemost.** 11: 1716-26, 2013. doi: 10.1111/jth.12357.
7. Uhrin P, Perkmann T, Binder B, Schabbauer G. ISG12 is a critical modulator of innate immune responses in murine models of sepsis. **Immunobiology.** 218: 1207-16, 2013. doi: 10.1016/j.imbio.2013.04.009.
8. Papac-Milicevic N, Breuss JM, Zaujec J, Ryban L, Plyushch T, Wagner GA, Fenzl S, Dremsek P, Steiner M, Glass CK, Binder C, Uhrin P, Binder BR. The interferon stimulated gene 12 inactivates vasculoprotective functions of NR4A nuclear receptors. **Circ Res.** 110: 50-63, 2012. doi: 10.1161/CIRCRESAHA.111.258814.
9. Uhrin P, Zaujec J, Breuss JM, Olcaydu D, Chrenek P, Stockinger H, Fuertbauer E, Moser M, Haiko P, Faessler R, Alitalo K, Binder BR, Kerjaschki D. Novel function for blood platelets and podoplanin in developmental separation of blood and lymphatic circulation. **Blood** 115: 3997-4005, 2010. doi: 10.1182/blood-2009-04-216069.
10. Uhrin P, Dewerchin M, Hilpert M, Chrenek P, Schöfer C, Zechmeister-Machhart M, Krönke G, Vales A, Carmeliet P, Binder BR, Geiger M: Disruption of the protein C inhibitor gene results in impaired spermatogenesis and infertility. **J Clin Invest.** 106: 1531–1539, 2000. doi: 10.1172/JCI10768.

Number of citations according to Scopus:

2647 (status 02/2021)

Promotions, awards and activities:

2011: “Phoenix Pharmacy Award 2011” for the “Innovative-qualitative excellent scientific work in the in the field of Pharmaceutical Biology” for publication Schwaiberger et al. 2010 *Arterioscler. Thromb. Vasc. Biol.*

2011: Manuscript published in the journal *Blood*: “Novel function for blood platelets and podoplanin in developmental separation of blood and lymphatic circulation” presented as “Top story” at the Web-site by the Medical University of Vienna (January 24th), by the Austrian Press Agency (January 24th), by “Standard-online” (January 25th) and by “Standard” (February 7th 2011).

2011: “Researcher of the Month” at the Medical University of Vienna” (together with Dr. Zaujec)

2010: Fig. 5 showing the mechanism of developmental separation of the lymphatic from the blood system selected as Cover page of the journal *Blood* (Volume 115, Issue 19, May 13th 2010)

2007: Degree “Doctor of Science” granted by the Slovak Academy of Sciences

2004: Lower-Austria Price for the publication: Uhrin, P. et al. Disruption of the protein C inhibitor gene results in impaired spermatogenesis and infertility. *J. Clin. Invest.* 106: 1531 – 1539, 2000

1990: “Researcher of the year” at the Research Institute of Animal Production, Nitra, Czechoslovakia

Obtained competitive funds in the last five years:

1. Austrian Science Foundation (FWF) project Nr. P 31743 “Strategies for combating senescence in endothelial cells” (2019 – 2022) – PI of the project; cooperation with Ao.Univ.-Prof. Dr. Johannes Breuss
2. Austrian Science Foundation (FWF) project Nr. I 4397 “Therapeutic suppression of alveolar echinococcosis” (2020-2023) – national cooperation partner of the international project headed by Univ.-Prof. Dr. Johann Wojta
3. Austrian Science Foundation (FWF) project Nr. I 5215 “Metal complexes with dual anti-inflammatory activity” (2021-2024) – PI of the international project with involvement of Czech research partners Prof. Zdeněk Trávníček, Ph.D. and Assoc. Prof. PharmDr. Karel Šmejkal, Ph.D.