Katedry biochémie a genetiky PriF UK
a občianske združenie *NATURA*

Vás pozývajú na 96. prednášku v rámci Kuželových seminárov:

Vladimír Leksa

Laboratory of Molecular Immunology; Institute of Molecular Biology;
Slovak Academy of Science; Bratislava; Slovakia
&
Molecular Immunology Unit; Institute of Hygiene and Applied Immunology; Center for Pathophysiology, Infectiology & Immunology; Medical University of Vienna; Vienna; Austria

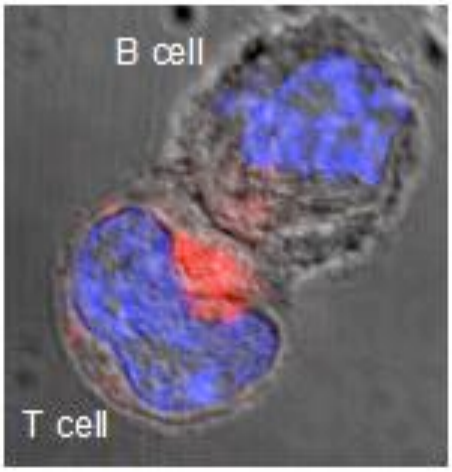
To the cell membrane and back again: The role of protein trafficking in adaptive and innate immunity

ktorá sa uskutoční **21. marca 2014** (piatok) o **14:00**

v miestnosti **CH1-222** Prírodovedeckej fakulty UK

http://www.naturaoz.org/seminare.html
http://www.naturaoz.org/NATURA.html

Vladimir Leksa graduated the study of biochemistry in 1995 in the Comenius University, Bratislava, Slovakia. His dissertation work, accomplished at the University of Vienna, was awarded the Thesis Prize 2002 of the Austrian Society for Allergology and Immunology. Since 2006, he has led the research group Cell migration in the Molecular Immunology Unit of the Institute of Hygiene and Applied Immunology (Center for Pathophysiology, Infectiology & Immunology; Medical University of Vienna). Since the beginning of 2014, he has partially moved his research from Vienna to Bratislava to build Laboratory of Molecular Immunology at the Institute of Molecular Biology in the Slovak Academy of Sciences, with the great deal of confidence that, first, the research of the new lab will foster collaboration between scientific communities in Slovakia and Austria, and second, that in this way more talented students from Slovakia will be motivated to choose medical and biological science for their future careers. He is author of the book titled *Vzdelani Pribuzni, príbehy našich vedcov (Perfekt, 2013)*: http://www.perfekt.sk/knihy-vzdelani-pribuzni and gave *Radio FM* the interview about science and other things as well:
http://fm.rtvs.sk/clanok/rubriky/z-vysielania-fm/ked-sa-veda-a-hudba-ovplyvnuju-biochemik-muzikant-v-rane-na-efemku?currentPage=1



Synopsis of the lecture: Our research interest is focused on molecular devices implicated in protein transport. In particular, our up-to-now data strongly indicate a regulatory function of the mannose 6-phosphate/insulin-like growth factor 2 receptor (CD222) in pericellular proteolysis, cell migration, signal transduction, and endocytosis. Our major goal is to decipher the function of this endosomal transporter specifically, and of protein trafficking in general, during immune responses and tumour-associated angiogenesis. Finally, we want to provide pharmacological tools to modulate these functions when dysregulated. The lecture will focus on the role of CD222 both in T cell signalling (adaptive immunity) and in phagocytosis by macrophages (innate immunity).

Selected publications:

Pfisterer K, Forster F, Paster W, Supper V, Ohradanova-Repic A, Eckerstorfer P, Zwirzitz A, Donner C, Boulegue C, Schiller HB, Acuto O, Stockinger H, Leksa V. *CD222 orchestrates the interaction of Lck with CD45 at the cell surface to maintain T cell activation. J Immunol.* (*under revision*).

Leksa V, Pfisterer K, Ondrovičová G, Binder B, Lakatosová S, Donner C, Schiller HB, Zwirzitz A, Mrvová K, Pevala V, Kutejová E, Stockinger H. (2012). *Dissecting Mannose 6-Phosphate-Insulin-like Growth Factor 2 Receptor Complexes That Control Activation and Uptake of Plasminogen in Cells*. *J Biol Chem*. 287(27):22450-62.

Leksa V, Loewe R, Binder B, Schiller HB, Eckerstorfer P, Forster F, Soler-Cardona A, Ondrovičová G, Kutejová E, Steinhuber E, Breuss J, Drach J, Petzelbauer P, Binder BR, Stockinger H. (2011). *Soluble M6P/IGF2R released by TACE controls angiogenesis via blocking plasminogen activation. Circ Res.* 108(6):676-685.

Muhammad A, Schiller HB, Forster F, Eckerstorfer P, Geyeregger R, Leksa V, Zlabinger GJ, Sibilia M, Sonnleitner A, Paster W, Stockinger H. (2009). *Sequential cooperation of CD2 and CD48 in the buildup of the early TCR signalosome. J Immunol.* 182(12):7672-7680.

Schiller HB, Szekeres A, Binder BR, Stockinger H, Leksa V. (2009). *Mannose 6-phosphate/insulin-like growth factor 2 receptor limits cell invasion by controlling alphaVbeta3 integrin expression and proteolytic processing of urokinase-type plasminogen activator receptor. Mol Biol Cell* 20(3):745-756.

Leksa V, Godár S, Schiller HB, Fuertbauer E, Muhammad A, Slezakova K, Hořejší V, Steinlein P, Weidle UH, Binder BR, Stockinger H. (2005). *TGF-beta-induced apoptosis in endothelial cells mediated by M6P/IGFII-R and mini-plasminogen. J Cell Sci.* 118(Pt 19):4577-86.

Leksa V, Godár S, Cebecauer M, Hilgert I, Breuss J, Weidle UH, Hořejší V, Binder BR, Stockinger H. (2002). *The N terminus of mannose 6-phosphate/insulin-like growth factor 2 receptor in regulation of fibrinolysis and cell migration*. *J. Biol. Chem*. 277(43): 40575-40582.