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

Vás pozývajú na 98. prednášku v rámci Kuželových seminárov:

Lumír Krejčí

Department of Biology and National Centre for Biomolecular Research
Masaryk University & International Clinical Research Center
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Homologous recombination: Regulation and therapeutic targeting

ktorá sa uskutoční **5. decembra 2014** (piatok) o **14:00**

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

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Lumír Krejčí

Education/Training:
B.Sc.: Masaryk University, Brno, Czech Republic, 1993, Biochemistry
M.Sc.: Masaryk University, Brno, Czech Republic, 1995, Biochemistry
Ph.D.: Masaryk University, Brno, Czech Republic Ph.D., Molecular & Cell Biology
2000-2001: Research Scientist, Masaryk University, Brno, Czech Republic
2001-2003: UTHSCSA, Texas, USA, Postdoctoral fellow, Biochemistry/Molecular Biology
2003-2004: Yale University, New Haven, USA, Postdoctoral fellow, Biochemistry/Molecular Biology

Professional Experience:
1995-1997: Graduate Fellow, Department of Molecular Biology, Aarhus University, Denmark
1997-2000: Graduate Fellow, Danish Institute of Agricultural Science, Denmark
2000-2001: Research Scientist, Masaryk University, Brno, Czech Republic
2001-2003: Postdoctoral Fellow, Department of Molecular Medicine, Institute of Biotechnology, University of Texas Health Science Center, San Antonio, USA
2003-2004: Postdoctoral Associate, Department of Molecular Biophysics and Biochemistry, Yale University, New Haven, USA
2004-2005: Associate Research Scientist, Department of Molecular Biophysics and Biochemistry, Yale University, New Haven, USA
2005-present: Associate Professor, National Centre for Biomolecular Research & International Clinical Research Center, St. Anne's University Hospital, Masaryk University, Brno, Czech Republic

The lecture will focus on regulation of HR process involved in repair of DSB on the level of Rad51 filament formation and its utilization as well as targeting key components of HR and DDR pathway for potential therapeutic use.

Recent publications:

Sarangi, P., Altmannova, V., Holland, C., Bartosova, Z., Hao, F., Anrather, D., Ammerer, G., Lee, S.E., Krejci, L., Zhao, X. (2014). A Versatile Scaffold Contributes to Damage Survival via Sumoylation and Nuclease Interactions. Cell Rep. 9(1):143-152.

Burkovics, P., Sebesta, M., Balogh, D., Haracska, L., Krejci, L. (2013). Strand invasion by HLTF as a mechanism for template switch in fork rescue. Nucleic Acids Res. 42(3): 1711-1720.

Vigasova, D., Sarangi, P., Kolesar, P., Vlasáková, D., Slezakova, Z., Altmannova, V., Nikulenkov, F., Anrather, D., Gith, R., Zhao, X., Chovanec, M., Krejci, L. (2013). Lif1 SUMOylation and its role in non-homologous end-joining. Nucleic Acids Res. 41(10): 5341-5353.

Burkovics, P., Sebesta, M., Sisakova, A., Plault, N., Szukacsov, V., Robert, T., Pinter, L., Marini, V., Kolesar, P., Haracska, L., Gangloff, S., Krejci, L. (2013). Srs2 mediates PCNA-SUMO-dependent inhibition of DNA repair synthesis. EMBO J. 32(5): 742-755.

Altmannova, V., Eckert-Boulet, N., Arneric, M., Kolesar, P., Chaloupkova, R., Damborsky, J., Sung, P., Zhao, X., Lisby, M., Krejci, L. (2010). Rad52 SUMOylation affects the efficiency of the DNA repair. Nucleic Acids Res. 38(14): 4708-4721.

Krejci, L., Van Komen, S., Li, Y., Villemain, J., Reddy, M. S., Klein, H., Ellenberger, T., Sung, P. (2003) DNA helicase Srs2 disrupts the Rad51 presynaptic filament. Nature 423: 305-9.

Prakash, R., Krejci, L., Van Komen, S., Anke Schurer, K., Kramer, W., Sung, P. (2005) Saccharomyces cerevisiae MPH1 gene, required for homologous recombination-mediated mutation avoidance, encodes a 3' to 5' DNA helicase. J Biol Chem. 280(9): 7854-7860.