1940 – 2010
Prírodovedecká fakulta UK

Katedry genetiky a biochémie
Prírodovedeckej fakulty Univerzity Komenského,
Ústav experimentálnej endokrinológie SAV
a občianske združenie *NATURA*
v spolupráci so
Slovenskou spoločnosťou pre biochémiu a molekulárnu biológiu

Vás pozývajú na 76. prednášku v rámci Kuželových seminárov:

Prof. Dr. Ivan Raška, DrSc.

Ústav buněčné biologie a patologie, 1. Lékařská fakulta,
Univerzita Karlova a Odd. buněčné biologie, Fyziologický ústav AVČR, Praha

Architektúra bunečného jádra a nemoc

ktorá sa uskutoční **1. decembra 2010** (streda) o **12:00**

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

NADÁCIA TATRA BANKY

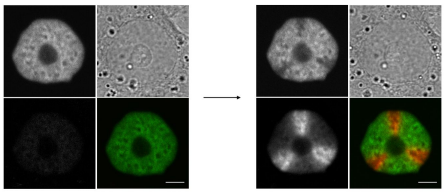
http://www.naturaoz.org/seminare.html
http://www.naturaoz.org/KuzeloveSeminare.html

Prof. Ivan Raška

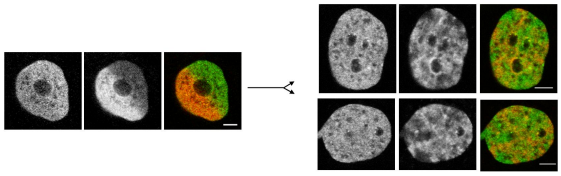
Prednosta Ústavu buněčné biologie a patolologie na 1. LF UK v Prahe vedúci spoločného pracoviska, Laboratoře génove exprese, ktoré združuje fakultný ústav a Oddelení buněčné biologie FgÚ AV ČR.

Anotácia prednášky:

Ranged among laminopathies, Hutchinson-Gilford progeria syndrome is a syndrome that involves premature aging, leading usually to death at the age between 10 to 14 years predominatly due to a myocardial infarction or a stroke. In the lecture I shall overview the importance of molecular cell biology investigations that led to the discovery of the basic mechanism standing behind this rare syndrome. The genetic basis in most cases is a mutation at the nucleotide position 1824 of the lamin A gene. At this position, cytosine is substituted for thymine so that a cryptic splice site within the precursor mRNA for lamin A is generated. This results in a production of abnormal lamin A, termed progerin, its presence in cells having a deleterious dominant effect. Depending on the cell type and tissue, progerin induces a pleiotropy of defects that vary in different tissues. The present endeavour how to challenge this terrible disease will be also mentioned.



(1) Fotokonverzia chromatínu vo forme krize v HepG2 bunkách exprimujúcich histón H4-Dendra.



(2) "Scattered" signál (pôvodne polovičky jadra v materkej bunke) v dcérskych bunkách po mitóze. [Cvackova *et al.*, JSB **165** (2009) 107-117]

Výber z posledných publikácií:

Raška I. (2003) Oldies but goldies: searching for Christmas trees within the nucleolar architecture. Trends Cell Biol. **13** (10): 517-525.

Vecerová J., Koberna K., Malínsky J., Soutoglou E., Sullivan T., Stewart C.L., Raška I., Misteli T. (2004) Formation of nuclear splicing factor compartments is independent of lamins A/C. Mol Biol Cell. **15** (11): 4904-4910.

Raška I., Shaw P.J., Cmarko D. (2006) Structure and function of the nucleolus in the spotlight. Curr Opin Cell Biol. **18** (3): 325-334.

Gruenbaum Y., Raška I., Herrmann H. (2006) The cell nucleus taking centre stage. Workshop on the functional organization of the cell nucleus. EMBO Rep. **7** (12): 1211-1215.

Raška I., Shaw P.J., Cmarko D. (2006) New insights into nucleolar architecture and activity. Int. Rev. Cytol. **255**: 177-235.

Kalmárová M., Smirnov E., Masata M., Koberna K., Ligasová A., Popov A., Raška I. (2007) Positioning of NORs and NOR-bearing chromosomes in relation to nucleoli. J. Struct. Biol. **160** (1): 49-56.

Galiová G., Bártová E., Raška I., Krejcí J., Kozubek S. (2008) Chromatin changes induced by lamin A/C deficiency and the histone deacetylase inhibitor trichostatin A. Eur. J. Cell Biol. **87** (5): 291-303.

Fidlerová H., Kalinová J., Blechová M., Velek J., Raška I. (2009) A new epigenetic marker: the replication-coupled, cell cycle-dependent, dual modification of the histone H4 tail. J. Struct. Biol. **167** (1): 76-82.

Zeitz M.J., Marella N.V., Malyavantham K.S., Goetze S., Bode J., Raška I., Berezney R. (2009) Organization of the amplified type I interferon gene cluster and associated chromosome regions in the interphase nucleus of human osteosarcoma cells. Chromosome Res. **17** (3): 305-319.

Bártová E., Horáková A.H., Uhlírová R., Raška I., Galiová G., Orlova D., Kozubek S. (2010) Structure and epigenetics of nucleoli in comparison with non-nucleolar compartments. J. Histochem. Cytochem. **58** (5): 391-403.