

## Seznam publikací ústavu v roce 2012:

### Laboratoř inženýrství vazebných proteinů

1. Ahmad, J. N. - Li, J. - **Biedermannová, L.** - **Kuchař, M.** - Šípová, H. - Semerádtová, A. - **Černý, J.** - **Petroková, H.** - **Mikulecký, P.** - Polínek, J. - Staněk, O. - **Vondrášek, J.** - Homola, J. - Malý, J. - Osička, R. - **Šebo, P.** - **Malý, P.**: Novel high-affinity binders of human interferon gamma derived from albumin-binding domain of protein G. *Proteins: structure, function and bioinformatics* 2012, 80 (3), 774-789.
2. Šípová, H. - Ševců, V. - **Kuchař, M.** - Ahmad, J. N. - **Mikulecký, P.** - Osička, R. - **Malý, P.** - Homola, J.: Surface plasmon resonance biosensor based on engineered proteins for direct detection of interferon-gamma in diluted blood plasma. *Sensors and Actuators B*, 2012, 174: 306-311.
3. Bíbová, I. - Linhartová, I. - Staněk, O. - **Rusňáková, V.** - **Kubista, M.** - Suchánek, M. - Vašáková, M. - **Šebo, P.**: Detection of immune cell response to M. tuberculosis-specific antigens by quantitative polymerase chain reaction. *Diagnostic Microbiology and Infectious Disease*, 2012, 72 (1) 68-78.

### Laboratoř bimolekulárního rozpoznávání

### Laboratoř strukturní biologie

1. Tykvart, J. - Sacha, P. - **Barinka, C.** - Knedlik, T. - Starkova, J. - Lubkowski, J. - Konvalinka, J.: Efficient and versatile one-step affinity purification of in vivo biotinylated proteins: expression, characterization and structure analysis of recombinant human glutamate carboxypeptidase II. *Protein Expr Purif* 2012, 82:106-115.
2. **Pavlicek, J.** - **Ptacek, J.** - **Barinka, C.**: Glutamate carboxypeptidase II: an overview of structural studies and their importance for structure-based drug design and deciphering the reaction mechanism of the enzyme. *Curr Med Chem* 2012, 19:1300-1309.
3. **Barinka, C.** - Rojas, C. - Slusher, B. - Pomper, M.: Glutamate carboxypeptidase II in diagnosis and treatment of neurologic disorders and prostate cancer. *Curr Med Chem* 2012, 19:856-870.
4. Alquicer, G. - Sedlak, D. - Byun, Y. - **Pavlicek, J.** - Stathis, M. - Rojas, C. - Slusher, B. - Pomper, M. G. - Bartunek, P. - **Barinka, C.**: Development of a High-Throughput Fluorescence Polarization Assay to Identify Novel Ligands of Glutamate Carboxypeptidase II. *J Biomol Screen* 2012, 17(8):1030 – 1040.

5. Hlouchova, K. - **Barinka, C.** - Konvalinka, J.: Glutamate carboxypeptidase II as a therapeutic target. RCS Drug Discoveries Series No. 18, 64 – 95. *Edited by D. Dunn, Royal Society of Chemistry 2012.*

### Laboratoř reprodukční biologie

1. Yi, Y- J. - Zimmerman, S. W. - Manandhar, G. - Odhiambo, J. F. - Kennedy C. - **Jonáková, V.** - **Maňásková** - **Postlerová P.** - Sutovsky, M. - Park, C.S. - Sutovsky, P. Ubiquitin-activating enzyme (UBA1) is required for sperm capacitation, acrosomal exocytosis and sperm-egg coat penetration during porcine fertilization. *International J. of Andrology* 35 (2012), 196-210.
2. Sebkova, N. - Cerna, M. - **Ded, L.** - **Peknicova, J.** - Dvorakova-Hortova, K.: The slower the better: how sperm capacitation and acrosome reaction is modified in the presence of estrogens. *Reproduction* 143, 3, (2012) 297-307.
3. **Zatecka, E.** - **Ded L.** - **Elzeinova F.** - **Kubatova, A.** - **Dorosh, A.** - **Margaryan, H., Dostalova, P.** - **Peknicova, J.**:\_Effect of tetrabrombisphenol A on induction of apoptosis in the testes and changes in expression of selected testicular genes in CD1 mice. *Reprod Toxicol* (2013), v tisku <http://dx.doi.org/10.1016/j.reprotox.2012.05.095>
4. Babcova, K. - Ulcova-Gallova, Z. - Bibkova, K. - Micanova, Z. - **Peknicova J.**: Semen and serum inhibin B, and sperm quality in infertile men. *Andrologia*. 21, (2012), 3-12.
5. **Capková, J.** - Hrnčir, T., **Kubatova, A.** - Tlaskalova-Hogenova, H.: Lipopolysaccharide treatment suppresses spontaneously developing ankylosing enthesopathy in B10.BR male mice: The potential role of interleukin-10. *BMC Musculoskeletal Disorders*, 13, (2012), 110-118.
6. **Elzeinova, F.** - **Peknicova, J.** - **Ded, L.** - **Kubatova, A.** - **Margaryan, H., Dorosh, A.** - Makovicky, P. - Rajmon, R.: Adverse effect of tetracycline and doxycycline on testicular tissue and sperm parameters in CD1 outbred mice. *Experimental Toxicol Pathol* (2013), v tisku, DOI: 10.1016/j.etp.2013.01.004

### Laboratoř imunopatologie a imunoterapie

1. Alonso-Perez, E. - Suarez-Gestal, M. - Calaza, M. - Ordi-Ros, J. - Balada, E. - Bijl, M. - Papasteriades, C. - Carreira, P. - Skopouli, F. N. - Witte, T. - Endreffy, E. - Marchini, M. - Migliaresi, S. - Sebastiani, G. D. - Santos M. J. - Suarez, A. - J. Blanco, F. J. - Barizzone, N. - Pullmann, R. - **Ruzickova, S.** - Lauwerys, B. R. - Gomez-Reino, J. J. - Gonzalez, A, the European Consortium of SLE DNA Collections and European

Consortium of SLE DNA Collections: Further evidence of subphenotype association with systemic lupus erythematosus susceptibility loci: a European cases only study. *PLoS One. Roč. 7, 9 (2012). e45356.*

2. Alonso-Perez, E. - Suarez-Gestal, M. - Calaza, M. - Sebastiani, G.D. - Pullmann, R. - Papasteriades, C. - Kovacs, A. - Skopouli, F. N. - Bijl, M. - Suarez, A. - Marchini, M. - Migliaresi, S. - Carreira, P. - Ordi-Ros, J. - Witte, T. - **Ruzickova, S.** - Santos, M. J. - Barizzone, N. - Blanco, F.J. - Lauwerys, B. R. - Gomez-Reino, J. J. - Gonzalez, A. and for the European Consortium of SLE DNA Collections: Bias in effect size of systemic lupus erythematosus susceptibility loci across Europe: a case control study. *Arthritis Research and Therapy. 14, 2 (2012), R94.*

### **Laboratoř molekulární terapie**

1. Dong, L. F. - Grant, G. - Massa, H. - **Zobalova, R.** - Akporiaye, E. - **Neuzil, J.:** alpha-Tocopheryloxyacetic acid is superior to alpha-tocopheryl succinate in suppressing HER2-high breast carcinomas due to its higher stability. *International Journal of Cancer. 131, 5 (2012), 1052-1058.*
2. Midwinter, R. G. - Maghzal, G. J. - Dennis, J. M. - Wu, B. J. - Cai, H. - Kapralov, A. A. - Belikova, N. A. - Tyurina, Y. Y. - Dong, L. F. - Khachigian, L. - **Neuzil, J.** - Kagan, V. E. - Stocker, R.: Succinobucol induces apoptosis in vascular smooth muscle cells. *Free Radical Biology and Medicine. 52, 5 (2012), 871-879.*
3. **Neuzil, J.** - **Rohlena, J.** - Dong, L. F.: K-Ras and mitochondria: Dangerous liaisons. *Cell Research. 22, 2 (2012), 285-287.*
4. Rodriguez - Enriquez, S. - Hernandez -Esquivel, L. - Marin -Hernandez, A. - Dong, L. F. - Akporiaye, E. T. - **Neuzil, J.** - Ralph, S. J. - Moreno - Sanchez, R.: Molecular mechanism for the selective impairment of cancer mitochondrial function by a mitochondrially targeted vitamin E analogue. *Biochimica et Biophysica Acta-Bioenergetics. 1817, 9 (2012), 1597-1607.*
5. Tomasetti, M. - Nocchi, L. - **Neuzil, J.** - Goodwin, J. - Nguyen, M. - Dong, L. - Manzella, N. - Staffolani, S. - Milanese, C. - Garrone, B. - Alleva, R. - Borghi, B. - Santarelli, L. - Guerrieri, R.: Alpha-tocopheryl succinate inhibits autophagic survival of prostate cancer cells induced by vitamin k3 and ascorbate to trigger cell death. *PLoS One. 7, 12 (2012), e52263.*
6. Tomasetti, M. - Staffolani, S. - Nocchi, L. - **Neuzil, J.** - Strafella, E. - Manzella, N. - Mariotti, L. - Bracci, M. - Matteo, V. A. - Amati, M. - Santarelli, L.: Clinical

significance of circulating miR-126 quantification in malignant mesothelioma patients. *Clinical Biochemistry*. 45, 7-8 (2012), 575-581.

7. **Neuzil, J.** - Dong, L. F. - **Rohlena, J.**: Mitocans, mitochondrial targeted anti-cancer drugs: Focus on mitochondrial complexes. *Mitochondrial Signaling in Health and Disease*. Boca Raton: CRC Press, 2012 – (Orrenius, S.; Packer, L; Cadenas, E.) 55-92.

### Laboratoř genové exprese

1. Bar, T. - **Kubista, M.** - **Tichopad, A.**: Validation of kinetics similarity in qPCR. *Nucleic Acids Res.* 40, 4 (2012), 1395-406.
2. Slyskova, J. - **Korenkova, V.** - Collins, A. R. - Prochazka, P. - Vodickova, L. - Svec, J. - Lipska, L. - Levy, M. - Schneiderova, M. - Liska, V. - Holubec, L. - Kumar, R. - Soucek, P. - Naccarati, A. - Vodicka, P.: Functional, genetic and epigenetic aspects of base and nucleotide excision repair in colorectal carcinomas. *Clin Cancer Res.* 18, 21 (2012), 5878 – 5887.
3. Laurell, H. - Iacovoni, J. S. - Abot, A. - Svec, D. - Maoret, J. J. - Arnal, J. F. - **Kubista, M.**: Correction of RT-qPCR data for genomic DNA-derived signals with ValidPrime. *Nucleic Acids Res.* 40, 7 (2012), 1-10.
4. **Kubista, M.** - **Rusnakova, V.** - Svec, D. - Sjögren, B. - Tichopad, A.: Chapter 4 "Genex: Data Analysis Software" in *Quantitative Real-time PCR in Applied Microbiology*. Editor: Martin Fillion, ISBN: 978-1-908230-01-0. Publisher: Caister Academic Press (2012)
5. Butenko, O. - Dzamba, D. - Benesova, J. - Honsa, P. - Benfenati, V. - **Rusnakova, V.** - Ferroni, S. - Anderova, M.: The Increased Activity of TRPV4 Channel in the Astrocytes of the Adult Rat Hippocampus after Cerebral Hypoxia/Ischemia. *PLoS One.* 7, 6 (2012), 1-13.
6. Benesova, J. - **Rusnakova, V.** - Honsa, P. - Pivonkova, H. - Dzamba, D. - **Kubista, M.** - Anderova, M.: Distinct Expression/Function of Potassium and Chloride Channels Contributes to the Diverse Volume Regulation in Cortical Astrocytes of GFAP/EGFP Mice. *PLoS ONE.* 7, 1 (2012), 1-13.
7. **Kubista, M.**: I See the Light! And I See It Again and Again! *Clinical Chemistry.* 58, . 11, (2012), 1505 – 1506.
8. Guertler, P. - Brandl, Ch. - Meyer, H. H. D. - **Tichopad, A.** :Feeding genetically modified maize(MON810) to dairy cows: comparison of gene expression pattern of markers for apoptosis, inflammation and cell cycle. *Journal of Consumer Protection and Food Safety.* 7, (2012), 195-202.
9. Sorg, D. - Danowski, K. - **Korenkova, V.** - **Rusnakova, V.** - Küffner, R. - Zimmer, R. - Meyer, H. H. D. - Kliem, H.: Microfluidic highthroughput RTqPCR measurements of

the immune response of primary bovine mammary epithelial cells cultured from milk to mastitis pathogens. *Animal. Dec*, (2012), 1-7.

10. Brevik, A. - Lindeman, B. - **Rusnakova, V.** - Olsen, A. K. - Brunborg, G. - Duale, N.: Paternal benzo[a]pyrene exposure affects gene expression in the early developing mouse embryo. *Toxicol Sci.* 129, 1, (2012), 157 – 165.
11. Günther, K. - Malentacchi, F. - Verderio, P. - Pizzamiglio, S. - Ciniselli, Ch. M. - **Tichopad, A.** - **Kubista, M.** - Wyrich, R. - Pazzagli, M. - Gelmini, S.: Implementation of a proficiency testing for the assessment of the preanalytical phase of blood samples used for RNA based analysis. *Clinica Chimica Acta.* 413, (2012), 779–786.
12. Stimpfel, M. - Skutella, T. - **Kubista, M.** - Malicev, E. - Conrad, S. - Virant-Klun, I.: Potential Stemness of Frozen-Thawed Testicular Biopsies without Spermin Infertile Men Included into the In Vitro Fertilization Programme. *Journal of Biomedicine and Biotechnology.* 2012, (2012), doi:10.1155/2012/291038
13. Stahlberg, A. - **Rusnakova, V.** - Forootan, A. - Anderova, M. - **Kubista, M.**:RT-qPCR work-flow for single-cell data analysis. *Methods.* (2012), v tisku.
14. Pazzagli, M. - Malentacchi, F. - Simi, L. - Orlando, C. - Wyrich, R. - Gunther, K. - Hartmann, C. C. - Verderio, P. - Pizzamiglio, S. - Ciniselli, C. M. - **Tichopad, A.** - **Kubista, M.** - Gelmini, S.:SPIDIA-RNA: First external quality assessment for the pre-analytical phase of blood samples used for RNA based analyses. *Methods.* (2012), v tisku.
15. **Kubista, M.** - **Tichopad, A.**:Setting the bar. *European Pharmaceutical Review.* 17, 5, (2012), 53-56.

**Laboratoř molekulární patogenetiky**