

Seznam publikací ústavu v roce 2015:

Laboratoř biomolekulárního rozpoznávání – Schneider, B.

1. **Biedermannova, L., Schneider, B.** Structure of the ordered hydration of amino acids in proteins: analysis of crystal structures. *Acta Cryst. D71*: 2192-2202 (2015).
2. **Charnavets, T.,** Nunvar, J., Necasova, I., Völker, J., Breslauer, K. J., **Schneider, B.** Conformational Diversity of Single-stranded DNA from Bacterial Repetitive Extragenic Palindromes: Implications for the DNA Recognition Elements of Transposases. *Biopolymers*, 103: 585-596 (2015).
3. Markéta Bockova, Tomas Springer, Iva Necasova, Nunvar, J., **Schneider, B.** & Jiri Homola: Monitoring RAYT activity by surface plasmon resonance biosensor. *Analytical and Bioanalytical Chemistry*, 407: 3985-3993 (2015)
4. Craveur, P., Joseph, A.P., Esque, J., Narwani, T.J., Noël, F., Shinada, N., Goguet, M., Leonard, S., Poulain, P., Bertrand, O., Faure, G., Rebehmed, J., Ghozlane, A., Swapna, L.S., Bhaskara, R.M., Barnoud, J., Téletchéa, S., Jallu, V., **Cerny, J., Schneider, B.,** Etchebest, C, Srinivasan, N., Gelly, J.C., de Brevern, A.G. Protein flexibility in the light of structural alphabets. *Frontiers in Molecular Biosciences 2*: (2015).
5. **Cerny, J., Biedermannova, L., Mikulecky, P., Zahradnik, J., Charnavets, T., Sebo P., Schneider, B.:** Redesigning protein cavities as a strategy for increasing affinity in protein-protein interaction. Interferon- γ receptor 1 as a model. *BioMed Research International 2015*: 716945 (bylo anotováno Ioni)
6. Novakova, Z., **Cerny, J.,** Choy, C.J., Nedrow, J., Choi, J.K., Lubkowski, J., Berkman C.E., Barinka, C.: Design of composite inhibitors targeting glutamate carboxypeptidase II: the importance of effector functionalities. *FEBS J. 2015 Epub 2015 Nov 5. PMID: 26460595.*
7. Osicka, R., Osickova, A., Hasan, S., Bumba, L., **Cerny, J.,** Sebo, P. Bordetella adenylate cyclase toxin is a unique ligand of the integrin complement receptor 3. *eLife 2015; 4:e10766.*
8. Kluckova, K.; Sticha, M.; **Cerny, J.;** Mracek, T.; Dong, L.; Drahota, Z.; Gottlieb, E.; Neuzil, J.; Rohlena, J. Ubiquinone-binding site mutagenesis reveals the role of mitochondrial complex II in cell death initiation. *Cell Death Disease 6, e1749, 2015.*

Laboratoř inženýrství vazebných proteinů - Petr Malý

1. **Mareckova, L., Petrokova, H.,** Osicka, R., **Kuchar, M., Maly, P.** Novel binders derived from an albumin binding domain scaffold targeting human prostate secretory protein 94 (PSP94). *Protein & Cell*, 6, 10, 774-779, 2015.
2. Maly, J., Stanek, O., Frolik, J., Maly, M., Ennen, F., Appelhans, D., Semeradtova, A., Wrobel, D., Stofik, M., Knapova, T., **Kuchar, M.,** Stastna, L., Cermak, J., Sebo, P.,

Maly, P. Biocompatible Size-Defined Dendrimer–Albumin Binding Protein Hybrid Materials as a Versatile Platform for Biomedical Applications. *Macromolecular Bioscience*, [ahead of print], 2015.

Laboratoř strukturní biologie – Cyril Bařinka

1. Youn, S., Kim, K. I., **Ptacek, J.**, Ok, K., Novakova, Z., Kim, Y., Koo, J., **Barinka, C.**, Byun, Y. Carborane-containing urea-based inhibitors of glutamate carboxypeptidase II: Synthesis and structural characterization. *Bioorg Med Chem Lett* 2015, 25, 5232-6.
2. Tykvart, J., **Barinka, C.**, Svoboda, M., Navratil, V., Soucek, R., Hubalek, M., Hradilek, M., Sacha, P., Lubkowski, J., Konvalinka, J. Structural and biochemical characterization of a novel aminopeptidase from human intestine. *J Biol Chem* 2015, 290, 11321-36.
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4. Ganguly, T., Dannoon, S., Hopkins, M. R., Murphy, S., Cahaya, H., Blecha J. E., Jivan, S., Drake, C. R., **Barinka, C.**, Jones, E. F., VanBrocklin, H. F., Berkman, C. E. A high-affinity [(18)F]-labeled phosphoramidate peptidomimetic PSMA-targeted inhibitor for PET imaging of prostate cancer. *Nucl Med Biol* 2015, 42, 780-7.

Laboratoř struktury a funkce biomolekul – Jan Dohnálek

1. **Skalova, T.**, Blaha, J., Harlos, K., **Duskova, J.**, **Koval, T.**, **Stransky, J.**, **Hasek, J.**, Vanek, O., **Dohnalek, J.** Four crystal structures of human LLT1, a ligand for human NKR-P1, in varied glycosylation and oligomerization state. *Acta Crystallographica D: Biological Crystallography* 71, 2015, 578-591.
2. **Stransky, J.**, **Koval, T.**, Podzimek, T., Tycova, A., Lipovova, P., Matousek, J., **Kolenko, P.**, **Fejfarova, K.**, **Duskova, J.**, **Skalova, T.**, **Hasek, J.**, **Dohnalek, J.** Phosphate binding in the active centre of tomato multifunctional nuclease TBN1 and analysis of superhelix formation by the enzyme. *Acta Crystallogr F Struct Biol Commun.* 71, 1408-1415, 2015.

Laboratoř molekulární terapie – Jiří Neužil

1. Tan, A.S., Baty, J.W., Dong, L.F., Bezawork-Geleta, A., Endaya B, Goodwin, J., **Bajzikova, M.**, Kovarova, J., Peterka, M., Yan, B., Alizadeh-Pesdar, E., Sobol, M., Fillimonenko, A., Stuart, S., Vondrusova, M., Kluckova, K., Sachaphibulkij, K., **Rohlena, J.**, Hozak, P., Truksa, J., Eccles, D., Haupt, L., Griffiths, L., **Neuzil, J.***, Berridge, M.V. Mitochondrial genome acquisition restores respiratory function and tumorigenic potential in cancer cells without mitochondrial DNA. *Cell Metabolism* 21, 81-94, 2015.

2. Tomasetti, M., Santarelli, L., Alleva, R., Borghi, B., Dong, L.F., **Neuzil, J.** Redox-active and redox-silent compounds: Synergistic partners in cancer therapeutics. *Curr Med Chem* 22, 552-568, 2015.
3. **Kluckova, K.**, Dong, L.F., **Bajzikova, M.**, **Rohlena, J.**, **Neuzil, J.** Evaluation of respiration of mitochondria in cancer cells exposed to mitochondria-targeted agents. *Methods Mol Biol* 1265, 181-194, 2015.
4. **Vondrusova, M.**, Bezawork-Geleta, A., Sachaphibulkij, K, Truksa, J, **Neuzil, J.** The effect of mitochondrially targeted anti-cancer agents on mitochondrial (super)complexes. *Methods Mol Biol* 1265, 195-208, 2015.
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6. Truksa, J., Dong, L.F., **Rohlena, J.**, Stursa, J., Vondrusova, M, Goodwin, J, Nguyen M, **Kluckova, K.**, **Rychtarcikova, Z.**, **Lettlova, S.**, Spacilova, J., Stapelberg, M., Zoratti, M., **Neuzil, J.** Mitochondrially targeted vitamin E succinate modulates expression of mitochondrial DNA transcripts and mitochondrial biogenesis. *Antiox Redox Signal* 22, 883-900, 2015.
7. Alizadeh, E., Smits, M., Stapelberg, M., **Bajzikova, M.**, Yan, B., Stursa, J., **Kovarova, J.**, Bezawork-Geleta, A., Sobol, M., Tomasetti, M., **Zobalova, R.**, Hozak, P., Dong, L.F., **Neuzil, J.** Characterization of mesothelioma-initiating cells and their susceptibility to anti-cancer agents. *PLoS One* 10, e0119549, 2015.
8. Yan, B., Stantic, M., **Zobalova, R.**, Bezawork-Galetta, A., Stapelberg, M., Stursa, J., **Prokopova, K.**, Dong, L.F., **Neuzil, J.** A mitochondrially targeted vitamin E analogue effectively kills ErbB2-positive breast cancer-initiating cells via apoptosis induction. *BMC Cancer* 15, 401, 2015.
9. Berridge, M.V., Dong, L.F., **Neuzil, J.** Mitochondrial DNA in tumor initiation, progression and metastasis: Role of horizontal mtDNA transfer. *Cancer Res* 75, 3203-3208, 2015.
10. Khera, A., Dong, L.F., Holland, O., Vanderlelie, J., Pasdar, E.A., **Neuzil, J.**, Perkins, A.V. Selenium supplementation induces mitochondrial biogenesis in trophoblasts. *Placenta* 36, 863-869, 2015.
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Laborator genové exprese – Mikael Kubista

1. Andersson, D., Akrap, N., **Svec, D.**, Godfrey, T. E., **Kubista, M.**, Landberg, G., Stahlberg, A. Properties of targeted preamplification in DNA and cDNA quantification. *Expert Review of Molecular Diagnostics*, 15(8): 1085-1100, 2015.
2. Bjorkman, J., **Svec, D.**, Lott, E., **Kubista, M.**, Sjoback, R. Differential amplicons (Δ Amp) - a new molecular method to assess RNA integrity. *Biomolecular Detection and Quantification*, [ahead of print], 2015.
3. Conrad, S., Azizi, H., Hatami, M., **Kubista, M.**, Bonin, M., Hennenlotter, J., Slevert, K.-D., Skutella, T. Expression of Genes Related to Germ Cell Lineage and Pluripotency in Single Cells and Colonies of Human Adult Germ Stem Cells. *Stem Cells International*, 2016: 8582526, 2015.
4. Dzamba, D., Honsa, P., Valny, M., Kriska, J., **Valihrach, L.**, **Novosadova, V.**, **Kubista, M.**, Anderova, M. Quantitative Analysis of Glutamate Receptors in Glial Cells from the Cortex of GFAP/EGFP Mice Following Ischemic Injury: Focus on NMDA Receptors. *Cellular and Molecular Neurobiology*, 35(8): 1187-1202, 2015.
5. Hensler, M., Vancurova, I., Becht, E., Palata, O., Strnad, P., Tesarova, P., Cabinakova, M., **Svec, D.**, **Kubista, M.**, Bartunkova, J., Spisek, R., Sojka, L. Gene expression profiling of circulating tumor cells and peripheral blood mononuclear cells from breast cancer patients. *Oncolmmunology*, [ahead of print], 2015.
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8. **Kubista, M.** Addressing biological heterogeneity with single cell profiling. *European Pharmaceutical Review*, 20(3), In-depth focus: PCR, 2015.
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10. **Sidova, M.**, **Tomankova, S.**, **Abaffy, P.**, **Kubista, M.**, **Sindelka, R.** Effects of post-mortem and physical degradation on RNA integrity and quality. *Biomolecular Detection and Quantification*, 5, 3-9, 2015.
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Laborator reprodukční biologie – Katerina Hortová

1. **Margaryan, H., Dorosh, A., Capkova, J., Manaskova-Postlerova, P.,** Philimonenko, A., Hozak, P., **Peknicova, J.** Characterization and possible function of glyceraldehyde-3-phosphate dehydrogenase-spermatogenic protein GAPDHS in mammalian sperm. *Reprod Biol Endocrinol*. Mar 8,13-15, 2015.
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Laborator molekulární patogenetiky – Gabriela Pavlínková

1. **Bohuslavova, R, Skvorova, L, Cerychova, R, Pavlinkova, G.** Gene expression profiling of changes induced by maternal diabetes in the embryonic heart. *Reproductive Toxicology* 2015 Nov,57:147-56, 2015.
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Laborator nádorové rezistence – Jaroslav Truksa

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