Laboratory of Tumor Biology

Offer

- Nucleic acid isolation from various cell types, frozen tissues and FFPE tissue samples
- Quality control of nucleic acids
- Analysis of relative gene expression and comparison of expression profiles of your samples
- Preparation of gene expression microarry experiments
- Detection of single-nucleotide polymorphisms and mutations
- Fluorescence microscopy of cell cultures and tissue samples
- Statistical analysis of results
- Biological and functional interpretation of your results
- Consultation of experimental design and selection of appropriate methodology for given project
- Layout of project including time and cost estimation

Expertise

- Main goal of the Laboratory of Tumour Biology is to study novel prognostic and predictive markers with the capacity to improve treatment of oncology patients.
- We use colorectal cancer as a tumour model, because it is one of the most common malignant diseases worldwide as well as in the Czech republic.
- Within individual projects we measure expression levels of selected genes during tumour development, assess markers of cancer stem cells in the tumour samples or detect and characterize circulating tumour cells in the peripheral blood, including whole genome analysis of individual cells.

Members

- Pavel Pitule, Ph.D., M.Sc. – Research Group Leader
- Pavel Ostašov, Ph.D., M.Sc.
- Dipl.-Biol. Jana-Alleta Thiele
- Eva Královcová
- Petr Hošek, M.Sc.
- Assoc. Prof. Martin Pešta, Ph.D., M.Sc.
- Ludmila Vodičková, M.D., Ph.D.
- Pavel Vodička, M.D., Ph.D.
- Jiří Polívka, M.Sc.
- Dr. James Hicks

Selected Publications

- Pitule P, Vycital O, Bruha J, Novak P, Hosek P, Treska V, Hlavata I, Soucek P, Kralickova M, Liska V.: *Differential expression and prognostic role of selected genes in colorectal cancer patients.* Anticancer Res. 2013 Nov; 33 (11): 4855–65
- Pitule P, Cedikova M, Daum O, Vojtisek J, Vycital O, Hosek P, Treska V, Hes O, Kralickova M, Liska V.: *Immunohistochemical detection of cancer stem cell related markers CD44 and CD133 in metastatic colorectal cancer patients.* Biomed Res Int. 2014; 2014: 432139
- Pitule P., Cedikova M., Treska V., Kralickova M., Liska V.: *Assessing colorectal cancer heterogeneity: one step closer to tailored medicine.* Journal of Applied Biomedicine. 2013 11 (3): 115–129
- Liska V, Vycital O, Daum O, Novak P, Treska V, Bruha J, Pitule P, Holubec L.: *Infiltration of colorectal carcinoma by S100+ dendritic cells and CD57+ lymphocytes as independent prognostic factors after radical surgical treatment.* Anticancer Res. 2012 May; 32 (5): 2129–32
- Hlavata I, Mohelnikova-Duchonova B, Vaclavikova R, Liska V, Pitule P, Novak P, Bruha J, Vycital O, Holubec L, Treska V, Vodicka P, Soucek P.: *The role of ABC transporters in progression and clinical outcome of colorectal cancer.* Mutagenesis. 2012 Mar; 27 (2): 187–96
- Slyskova J, Cordero F, Pardini B, Korenkova V, Vymetalkova V, Bielik L, Vodickova L, Pitule P, Liska V, Matejka VM, Levy M, Buchler T, Kubista M, Naccarati A, Vodicka P.: *Post-treatment recovery of suboptimal DNA repair capacity and gene expression levels in colorectal cancer patients.* Mol Carcinog. 2014 Mar 3. doi: 10.1002/mc.22141

Are you interested in this expertise?

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Experts and their Department

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