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- Plakhins G., Gardovskis A., Subatniece S., Liepniece-Karele I., Purkalne G., Teibe U., Trofimovičs G., Miklaševičs E., Gardovskis J. Underestimated survival predictions of the prognostic tools Adjuvant! Online and PREDICT in BRCA1 – associated breast cancer patients. Fam Cancer 2013; 3.
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- Plakhins G., Irmejs A., Gardovskis A., Subatniece S., Rozīte S., Bitina M., Keire G., Purkalne G., Teibe U., Trofimovičs G., Miklaševičs E., Gardovskis J. Genotype-phenotype correlations among BRCA1 4153delA and 5382insC mutation carriers from Latvia. BMC Med Genet 2011; 12, 147.
- Vanags A., Štrumfa I., Gardovskis A., Borošenko V., Āboliņš A., Teibe U., Trofimovičs G., Miklaševičs E., Gardovskis J. Population screening for hereditary and familial cancer in Valka district of Latvia. Hereditary Cancer in Clinical Practice 2010; 8, 8-19.

MAJOR PROJECTS

GRANTS OF THE LATVIAN COUNCIL OF SCIENCE AND STATE RESEARCH PROGRAMMES:

- Project No. 4 “Study of Clinical, Molecular, and Morphological Correlation, Early Diagnosis, Treatment Effectiveness and Patients’ Quality of Life of Hereditary and Sporadic Cancer” – within the framework of the National Research Programme “Development of New Preventive, Treatment, Diagnostic Means and Methods, Biomedical Technologies for Improvement of Public Health”. Duration: 2010–2013
- Project of the Administration of Studies and Research No. 09.1603 “Strategy for Treatment of Life Expectancy and Life Quality Threatening Diseases”. Duration: 2009–2012

BILATERAL PROJECTS:

- Project No. ESTLATRUS/3.2./ELRI-097/2011/06 “Formation of Hereditary Cancer Prevention Measures in Pskov Region” co-financed by the programme “Estonia-Latvia-Russia Cross-border Collaboration 2007–2013”. Duration: 2012–2013
- Project No. LLB-1-090 “Development of Modern Breast Cancer Awareness, Prevention, Early Detection and Management measures in the Border Regions of Latvia, Lithuania and Belarus” co-financed by the programme "Latvia-Lithuania-Belarus Cross-border Collaboration 2007–2013". Duration: 2011–2013

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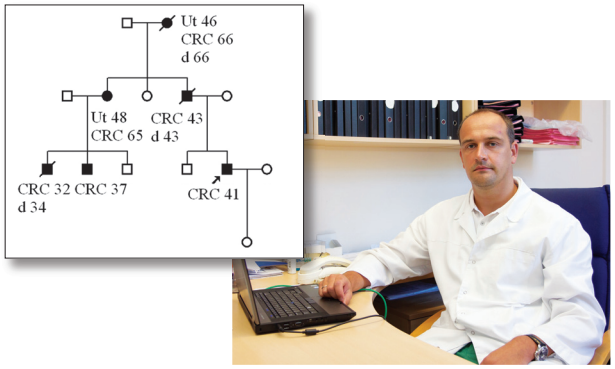
ABOUT THE INSTITUTE OF ONCOLOGY

Since its foundation in 2001, the Institute of Oncology study hereditary and sporadic oncologic diseases in Latvia, based on the characterisation of clinical features and genetic research of the disease.

DEPARTMENTS OF THE INSTITUTE

Director of the Institute of Oncology is Dr. biol. Prof. Edvīns Miklaševičs. Research is done in the following departments:

- **Tumour Chemistry and Laser Therapy Research Department**
  (head: Dr. med. Assoc. Prof. G. Purkalne)
- **Breast Cancer Research Department**
  (head: Dr. med. A. Irmejs)
- **Laboratory of Molecular Genetics**
  (head: Dr. med. Z. Daneberga)
- **Laboratory of Morphology**
  (head: Dr. med. Assoc. Prof. I. Štrumfa)
- **Onco-urology Research Department**
  (head: Dr. med. Assoc. Prof. E. Vjaters)
- **Hereditary Cancer Research Department**
  (head: Dr. med. A. Gardovskis)
- **Sociology and Life Quality Analysis Department**
  (head: M. Pranka)



Clinical work in the Hereditary Cancer Research Department

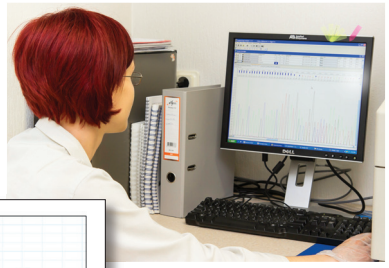
MAIN ACTIVITIES

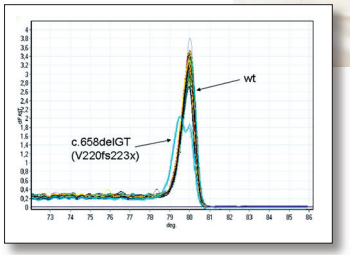
- Clinical studies – hereditary cancer diagnosis, treatment and prevention research.

Clinical work in the Breast Cancer Research Department

- Molecular genetics studies – identification of hereditary and sporadic tumour mutations by a wide spectrum of molecular biology methods from PCR to NGS (Next Generation Sequencing).

Gene sequence analysis with the ABI 3130 genetic analyzer





Identification of BRCA2 gene mutation by RT-PCR/HRM

- Study of sociological aspects – research of the individual experience of cancer patients in the process of care, treatment and rehabilitation. Data analysis of sociological studies in relation to genetic and clinical data to acquire detailed information about the causes, risk factors and progress of the disease.

- Study of tumour biomarkers – research of potential biomarkers with prognostic and predicative significance:
  - analysis of microRNA expression level changes in the tissues of tumour to assess the efficiency of therapy
  - LOH and CNV analysis in the tissues of tumours
  - analysis of circulating nucleic acids in the plasma/serum of metastatic breast and colorectal cancer patients.

LOH and CNV analysis with the Illumina HiScanSQ system

- The Biobank at the Institute of Oncology is a repository of over 14,000 DNA samples from breast, colorectal and other cancer patients and control groups as well as more than 500 fresh-frozen breast cancer tissue samples.

Preparation of samples for storage in the Biobank