

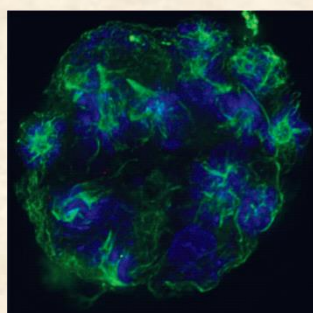
# Department of Molecular Oncology

**Translation of basic science discoveries  
into validated therapeutic targets and  
biomarkers**



## **The Mission of Molecular Oncology Laboratory Focuses on Three Goals:**

- 1. The discovery of novel molecular targets for chemoprevention and treatment.**
- 2. The development and validation of biomarkers for diagnosis and prediction of response/resistance to treatment.**
- 3. The transition of assays developed in the Translational Molecular Genetics lab into the clinical laboratory environment.**



## **Our Research Interests Are:**

### **1. Mitotic Regulators and Chromosomal Instability in Cancer (Kaori Sasai)**

We have been investigating essential key role interactions of oncogenic proteins and/or tumor suppressor proteins with mitotic kinases, frequently over expressed in a wide variety of human cancers, in the induction of chromosomal instability, deregulation of DNA and spindle checkpoints, and development of stem like phenotypes in mitotic kinases overexpressing chemo-resistant cancer cells.

(Ref. Nature Genetics, Cancer Cell, J Natl Cancer Inst, Cancer Res.)

### **2. MicroRNAs/Exosome and Cancer Therapy (Sachio Ito)**

We have been pursuing identification of microRNAs aberrantly expressed in lung and pancreatic cancers and their bona fide target genes to elucidate central signaling pathways relevant to tumor malignancy, and to validate them as promising cancer biomarkers in molecular diagnostics.

(Ref. Neoplasma, Plos One)

### **3. MYNN, Novel Oncogenic Transcription Factor in Lung Tumor Development (Sachio Ito & Kaori Sasai)**

We have been characterizing function of a novel oncogenic transcription factor MYNN identified by us which overexpresses in squamous cell derived carcinomas including lung squamous cell carcinoma by means of expression array and transgenic mouse model.

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