The 3rd Ad Hoc IRCMS Seminar

Cancer Genome: From Knowledge to Cancer Clinics

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Date: **December 17, 2014**, Wednesday, **17:00-18:00**

Venue: 1F Conference Room,
Institute of Molecular Embryology and Genetics (IMEG)

Dr. Yokota was the chief of Division of Multistep Carcinogenesis, National Cancer Center Research Institute. He has been a Senior Group Leader at the Institute of Predictive and Personalized Medicine of Cancer in Spain since 2012. He will mention managing an international lab in Spain in addition to his main talk.

Abstract:

Cancer is a disease of the gene. Many genes are somatically mutated in cancer cells during their development. Distributions of genetic polymorphisms in cancer patients are different from those in non-cancer individuals. In particular, the presence of germline mutation is responsible for the development of familial cancers. Therefore, molecular mechanisms of cancer development and its progression can be elucidated if we could understand the genomic diversity among cancer cells as well as among cancer patients. Recent advances in molecular technology have made it possible to analyze the sequence, copy number, and structure of the whole genome. Based on the information obtained by genome-wide analyses of cancer cells, several molecular targets useful for therapy have been identified to date. Comparative analysis of whole genome structure between cancer patients and non-cancer individuals has also given clues to develop a novel way of cancer prevention. Here I summarize our knowledge on the diversity of human cancer genome.

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