

医学セミナー・第 13 回分子遺伝疫学セミナー
“Seminars in Medical Sciences” Lecture

“HLA-based precision medicine can be a clinical reality”

Speaker: Dr. Kazuyoshi Hosomichi

(Associate Professor, Department of Bioinformatics and Genomics,
Graduate School of Medical Sciences, Kanazawa University)

Date: September 15 (Thursday), 2016

Time: 17:00-18:15

Venue: Clinical Lecture Room B (臨床講義室 B)

*This seminar will be given in English; however, questions in Japanese are also welcome.

Abstract: In the past decade, the development of next-generation sequencing (NGS) has paved the way for whole-genome analysis in individuals. Analyses of the personal genomes of individuals have provided information on human genetic variation and complexity. Additionally, rapid progress in NGS technology has led to revolutionary changes in medical genomics, carrying out clinical sequencing for diagnostic test. Research on the human leukocyte antigen (HLA), an extensively studied molecule involved in immunity, has also benefitted from NGS technologies. The HLA region, a 3.6-Mb segment of the human genome at 6p21, has been associated with more than 100 different diseases, primarily autoimmune diseases. In addition, the HLA region has received much attention because severe adverse effects of various drugs are also associated with particular HLA alleles. The goal of HLA typing as complete gene sequencing should be clinical applications that will benefit patients. Future HLA-typing methods will realize the HLA-based precision medicine, providing medical treatment guideline with HLA alleles. In this seminar, I would like to introduce NGS technologies focused on the HLA research to discuss HLA-based precision medicine.

Reference: Hosomichi K, et al. The impact of next-generation sequencing technologies on HLA research. *J Hum Genet* 2015;60:665-73. doi: 10.1038/jhg.2015.102.

【contact】 Naoyuki Tsuchiya (tsuchiya@md.tsukuba.ac.jp), Molecular and Genetic Epidemiology Laboratory