

28th IRCMS Seminar

Date: **September 11, 2017 (Mon)**
Time: 17:30 - 18:30
Venue: 1F Meeting Lounge,
International Research Center for
Medical Sciences (IRCMS)
Speaker: **Makoto Yawata, M.D., Ph.D.**



Assistant Professor, Department of Pediatrics,
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Title: **Human diversity in the regulatory mechanisms of natural killer cells – implications for immunology and clinical medicine**

Abstract: Human natural killer (NK) cells are a surprisingly diverse cell population considering that they are lymphocytes of innate immunity. NK cells are regulated in part by various HLA class I allotypes, however the mechanisms of HLA recognition and cell control is entirely different from those for CD8 T lymphocytes that are also HLA-restricted. Of note, a polygenic and highly polymorphic family of HLA class I-recognizing receptors termed Killer cell Immunoglobulin-like Receptors (KIR) are key determinants that distinguish the specificity and strength of NK cell responses. KIR are responsible also for differentiating NK cell responses amongst human individuals, therefore playing an important role in personalizing immune responses in virus infections and tumor immunosurveillance.

In this seminar, the genetic basis for KIR heterogeneity and the immunological consequences of variegated KIR expression that generates repertoires of NK cell subsets unique to human individuals will be described. As example of a clinical application of KIR biology, KIR and HLA genetics have come to be incorporated as a biomarker guiding the design of hematopoietic stem cell transplant in leukemia treatment.

Organizer: Dr. Hitoshi Takizawa, Professor (IRCMS)
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