Seminar

“Time-resolved, quantitative interactomics analysis of the TCR and CD28 signal-transduction network in primary T cells”

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T cells probe the surface of dendritic cells in search of molecular cues reflecting the antigenic and inflammatory status of the body tissues and its malfunction has pathological consequences. To make sense of the formidable complexity of the signal transduction networks involved in T cell activation, we have combined high-throughput “omic” approaches that simultaneously measure large numbers of parameters and genetic screens designed to identify novel components of the CD28 costimulatory pathway. Using 17 gene-targeted mice bearing a genetic tag permitting affinity purification coupled with mass-spectrometry analysis, 17 distinct signalosomes were directly isolated from primary CD4+ T cells activated via the TCR. On that basis, we showed that among the hundreds of proteins that composed the proximal T cell antigen receptor signaling network, a wealth have not been identified before. In view of the grand challenges that system immunology uncovers, humility is a more appropriate reaction than hubris. However, as we will illustrate the prospects of integrating in vitro, in vivo and in silico approaches, each bearing unique advantages and drawbacks, to understand T cell activation are excellent.

Date & Time: June 21st, 2018, Thursday, 4pm-

Venue: Biken Hall, 1/F., RIMD Main Building

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* This seminar is conducted in English.

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