ヒト疾患モデル研究センターセミナー・生命研合同セミナー

日時　2017 年 11 月 9 日(木)　16:30~18:00
場所　東京理科大学生命医科学研究所２階大講義室

Speaker　Hidehiro Yamane, PhD
Cellular Immunology Section, Laboratory of Immune System Biology, National Institute of Allergy and Infectious Diseases, National Institutes of Health, USA

Title　Mechanisms underlying the fine-tuning of $CD4^+$ T cell positioning during T follicular helper cell differentiation

Abstract

T follicular helper (T_{FH}) cells are a subset of T helper cells that helps B cells produce immunoglobulin (Ig) and induce class switch recombination and somatic hypermutation in the Ig genes upon encounter with a T-dependent antigen (Ag). Differentiation of naïve $CD4^+$ T cells into functional T_{FH} cells involves not only a transcriptional regulation of signature T_{FH}-related genes, a set of genes that drives T_{FH} polarization program, but an alteration in the expression of chemoattractant receptors, integrins and their ligands, since a subcellular localization of Ag-primed $CD4^+$ T cells in the secondary lymphoid organs is spaciotemporally regulated during T_{FH} differentiation. We recently found that an E-box binding protein family of transcription factors HEB and Notch signaling pathway played crucial roles in the entry of Ag-primed $CD4^+$ T cells that had undergone the T_{FH} polarization program into B cell follicles and germinal centers, respectively, with little or no impact on the signature T_{FH}-related gene expressions. Our findings shed a light to unappreciated functions of HEB and Notch pathway in fine-tuning the positioning of Ag-primed $CD4^+$ T cells during the differentiation into functional T_{FH} cells and may offer novel strategies for the development of effective antibody-based vaccines.

世話人：岩倉洋一郎
東京理科大学 生命医科学研究所
ヒト疾患モデル研究センター