TARA

Life Science Center of
Tsukuba Advanced Research Alliance

TARA Seminar

17:00～18:15, July 14, 2015

Seminar room, Building A, TARA Center

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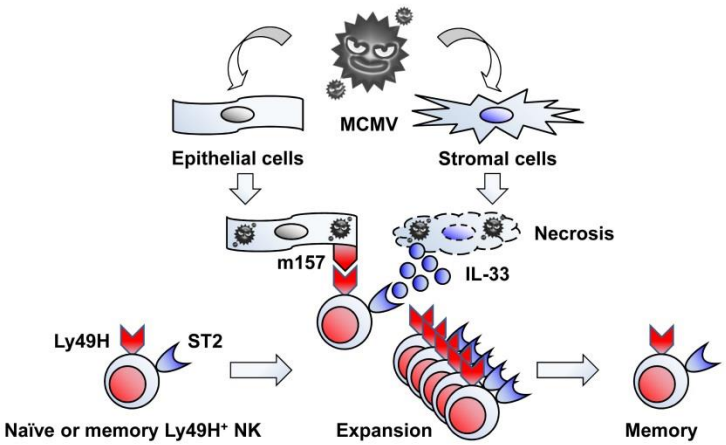
IL-33 amplifies the expansion of natural killer cells and enhances host defense during mouse cytomegalovirus infection

マウスサイトメガロウイルス感染時、インターロイキン33は ナチュラルキラー細胞の増殖を促進し、生体防御に貢献する

Natural killer (NK) cells provide important host defense against viruses and can differentiate into self-renewing memory NK cells after infection, alloantigen stimulation, and cytokine stimulation. In this study, we investigated the role of the interleukin (IL)-33 receptor ST2 in the differentiation of NK cells during mouse cytomegalovirus (MCMV) infection. Although ST2-deficient (*Il1rl1*$^{-/-}$) Ly49H^{+} NK cells develop normally and differentiate into memory cells after MCMV infection, naïve and memory *Il1rl1*$^{-/-}$ Ly49H^{+} NK cells exhibited profound defects in MCMV-specific expansion, resulting in impaired protection against MCMV challenge. Additionally, IL-33 enhanced MCMV m157 antigen-specific proliferation of Ly49H^{+} NK cells in the presence of IL-12 *in vitro*. Thus, an IL-33-ST2 signaling axis in NK cells contributes to host defense against MCMV.

IL-33 amplifies expansion of mouse CMV (MCMV)-specific naïve and memory natural killer (NK) cells



Organizer; Prof. Akira Shibuya, <ashibuya [at] md.tsukuba.ac.jp>

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