TARA Life Science Center of Tsukuba Advanced Research Alliance

TARA Seminar

17:00～18:15, November 18, 2014
Seminar room, Building A, TARA Center

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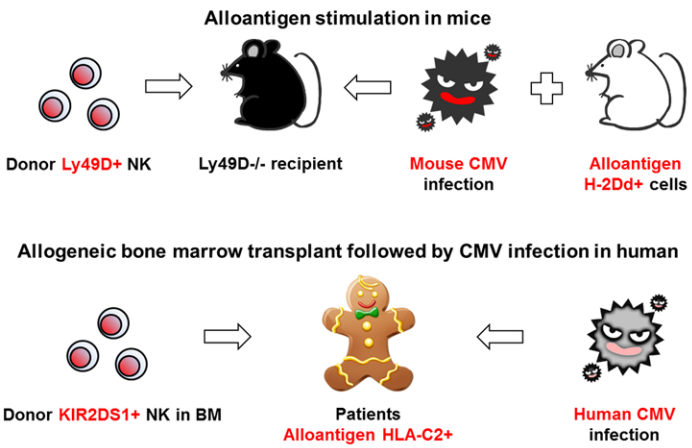
Antigen-specific expansion and differentiation of natural killer cells by alloantigen stimulation
同種抗原刺激によるナチュラルキラー細胞の抗原特異的な増殖及び分化

Natural killer (NK) cells provide important host defense against microbial pathogens. Recently, we have demonstrated that NK cells can generate long-lived memory NK cells after cytomegalovirus infection in mice and humans. Here, we addressed whether NK cells can expand and differentiate after alloantigen stimulation, which may be important in hematopoietic stem cell transplantation. A subset of NK cell in C57BL/6 mice expresses the activating Ly49D receptor that is specific for H-2Dd.

These Ly49D+ NK cells can preferentially expand and differentiate when challenged with allogeneic H-2Dd+ cells in the context of an inflammatory environment. H-2Dd is also recognized by the inhibitory Ly49A receptor, which when co-expressed on Ly49D+ NK cells suppresses the expansion of Ly49D+ NK cells. Specificity of the secondary response of alloantigen-primed NK cells was defined by the expression of activating Ly49 receptors. Thus, the summation of signals through a repertoire of Ly49 receptors controls the adaptive immune features of NK cells responding to allogeneic cells.



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

共催：第60回免疫学セミナー／The 60th Tsukuba Immunology Seminar

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