

ImmunoTools *special* Award 2015



Supansa Pata, Post-doctoral

Supervisor: Prof. Dr. Watchara Kasinrerak

Biomedical Technology Research Center, National, Center for Genetic Engineering and Biotechnology, National Science and Technology Development Agency at the Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai, Thailand

Functional study of leukocyte surface molecules

Lymphocytes are cellular components of the immune system that participate in and coordinate the immune responses. These cells consist of distinct subsets that are different in their functions. The molecules expressed on lymphocyte surface are demonstrated to play key roles in all aspects of their functions. To provide the better understanding of immune system, we, therefore, functional study and characterize the lymphocytes surface molecules. One of our previous study indicated that, CD99, a broadly expressed leukocyte surface molecule, associate with MHC class I, MHC class II and CD81 which are accessory molecules for T cell activation. In addition, upon T cell stimulation, recruitment of CD99 into the immunological synapse (IS) was demonstrated. However, the complete function of CD99 involving in T cell activation is still unclear. Hence, functional study of CD99 will lead to a better understanding of the process of T cell regulation. Furthermore, in our laboratory, we have produced several monoclonal antibodies (mAb) against lymphocytes surface molecules for using as a study tool. To identify the interested molecules, the retroviral expression cloning system was performed. It was found that the selected mAbs recognized undefined or uncharacterized molecules. By immunofluorescence staining, the co-staining of generated mAbs with cell surface marker mAbs explored cellular distribution of interested molecules.

For defining the function of the surface molecules, we have stimulated or inhibited particular cellular function by using the generated mAbs and the recombinant proteins. Subsequently, we have measured cytokines or proteins produced by particular cell types. Therefore, we have selected **ImmunoTools** antibodies which are FITC - conjugated anti-human CD25, CD69, HLA-ABC, CD56, CD20, HLA-DR, APC - conjugated anti-human CD3 and CD56, PE - conjugated anti-human CD3, CD25, Control-IgG1, Control-IgG2a and Control-IgG2b for cell type distinguishment and cell

sorting. For measurement of intracellular cytokines, we have selected PE- conjugated anti-human IFN- γ , TNF- α , IL-6. Moreover, human sCD147 (sEMMPRIN) ELISA set will be used to measure the level of soluble CD147.

ImmunoTools *special* AWARD for **Supansa Pata** includes 19 reagents

FITC - conjugated anti-human CD20, CD25, CD56, CD69, HLA-ABC, HLA-DR,

PE - conjugated anti-human CD3, CD25, IFN- γ , TNF- α , IL-6. Control-IgG1, Control-IgG2a and Control-IgG2b,

APC - conjugated anti-human CD3 and CD56,

human sCD147 - ELISA-set for 96 wells, (3 reagents) [DETAILS](#) more [AWARDS](#)