ImmunoTools IT-Box-139 Award 2013

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Specific effects of the Asthma-related cytokine Thymic Stromal Lymphopoetin (TSLP) on leukocyte subpopulations

Thymic Stromal Lymphopoetin (TSLP) is an IL-7 like cytokine known to be involved in the transition of the naive Th0 cells to active Th2 cells via the interaction of dendritic cells with Th0 cells. T cell activation is a critical event in the development of *Asthma bronchiale,* as the Th2 cytokines lead to the development of most disease symptoms (chronic inflammation, airway obstruction and remodelling). Several co-stimulatory CD antigens like CD28, CD80, CD86 and CTL4 have been found to be upregulated in Asthma in various white cell types and are discussed to be involved in the Th2 response.

Some of the mentioned antigens have been shown to be up- or downregulated by exposure to TSLP. I have observed in preliminary experiments that leukocytes from asthmatic and normal patients differ in their reactions to TSLP. Moreover, I obtained hints that surface markers are affected by TSLP stimulation which have not been connected to Asthma and allergy previously, e.g. the extracellular matrix metalloproteinase inducer EMMPRIN (CD147). I intend to compare responses of leukocytes from asthmatic and normal subjects to TSLP systematically by measuring the expression of various surface antigens by flow cytometry.

The ImmunoTools *IT-Box-139 box* will provide me access to various high quality antibodies which could be used to specifically stain various subpopulations of peripheral blood mononuclear cells (dendritic cells, monocytes, basophilic granulocytes, B cells and T cells) and to quantify by co-staining cell type-specific changes of surface antigens in response to TSLP treatment. For the purpose of double staining I will employ pairs of ImmunoTools antibodies that carry distinguishable fluorophors.

Reference
Sebastian, K.; Borowski, A.; Kuepper, M.; Friedrich, K.: Signal transduction around thymic stromal lymphopoietin (TSLP) in atopic asthma. Cell. Commun. Signal. 6: 5 (2008)

ImmunoTools *IT-Box-139.2* for **Nilabh Ranjan** includes 100 antibodies

FITC - conjugated anti-human CD1a, CD3, CD4, CD5, CD6, CD7, CD8, CD14, CD15, CD16, CD19, CD21, CD25, CD29, CD35, CD36, CD41a, CD42b, CD45, CD45RA, CD45RB,

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CD45RO, CD49d, CD53, CD57, CD61, CD63, CD80, CD86, HLA-DR, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

PE - conjugated anti-human CD3, CD4, CD8, CD11b, CD15, CD14, CD18, CD19, CD20, CD21, CD22, CD31, CD33, CD38, CD40, CD45, CD45RB, CD50, CD52, CD56, CD58, CD62p, CD72, CD95, CD105, CD147, CD177, CD235a, HLA-ABC, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

PE/Dy647 -tandem conjugated anti-human CD3, CD4, CD8, CD14, CD19, CD20, CD25, CD54

APC -conjugated anti-human CD2, CD3, CD4, CD8, CD10, CD11a, CD11c, CD14, CD16, CD27, CD37, CD42b, CD44, CD45, CD59, CD62L, CD69, CD71, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

DETAILS