ImmunoTools IT-Box-139 Award 2012

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Predicting asthma phenotypes: characterisation of IL1RL1 in asthma.

Asthma is a chronic inflammatory disease of the conducting airways, leading to reversible airway obstruction. A series of recent large-scale genetic studies such as genome-wide association studies (GWAs) have identified RORalpha, IL33 and IL1RL1 as prominent asthma susceptibility genes. These data strongly indicate a central role for IL-33 responsive cells, including the RORalpha-dependent type-2 innate helper cells (ILC2), in the pathogenesis of asthma.

We have recently analysed the independent genetic signals present within these genes (JACI, under revision). Here we find that especially in IL1RL1, multiple genetic signals can be distinguished that have independent contributions to asthma susceptibility. Now, we are interested in testing the contribution of susceptible versus protective alleles of IL1RL1 to the responsiveness of different primary cell types from asthma patients and healthy controls to IL-33.

To this end, we will first characterize and isolate IL-33 responsive cells such as Th2 cells, basophils and ILC2s from peripheral blood. Here, we will need to use a large array of different antibodies to characterize and phenotype these cell subpopulations by flowcytometry. Next, we will study whether cells isolated from individuals with specific genetic variants of IL1RL1 respond differently to IL-33 stimulation. Also for these studies, we will be needing a large number of different fluorochrome-conjugated antibodies for flowcytometry. ImmunoTools reagents might be an interesting option for these studies.

ImmunoTools IT-Box-139 for Neomi Grotenboer 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, 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