

ImmunoTools IT-Box-139 Award 2013



Almedina Isakovic

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The natural immune response against the timothy grass pollen allergen Phl p 5 in non-atopic humans living in different environments

The hygiene hypothesis postulates that contact with the microbial world in early childhood protects from allergies. This is attributed to the establishment of a TH1 immunity which protects from TH2 sensitization. However, other mechanisms such as induction of regulatory T cells (Tr1) or immunological ignorance have also been described in non-allergic individuals. Little is known about the distribution of these different phenotypes in populations living in diverse microbial environments.

The aim of my PhD project is to investigate about 340 PBMC samples from non-atopic humans exposed to a „rich microbial world“ (farmers) and „poor microbial world“ (townspeople). These PBMCs are expanded antigen-specifically with timothy grass pollen allergen Phl p 5 and afterwards T cell function will be determined in terms of surface activation markers, transcription factors, proliferation and multiple intracellular cytokine secretion.

I will need to use a large range of different fluorochrome-conjugated antibodies for proper characterization and phenotyping of TH1, TH2, and Tr1 polarized cells by flow cytometry. This detailed characterization will allow me to statistically assess the distribution of different T cell subsets in the non-atopic immune system, depending on different environments.

ImmunoTools *IT-Box-139* would be a great benefit to me as it includes a variety of antibodies which would be helpful for identification of different polarized T cell

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populations and to expand our lymphocyte phenotyping panel in order to try staining of surface markers that I have not tested at the moment. Moreover, the *IT-Box* would not only offer antibodies for identifying T cell populations but also for sorting certain populations for further mRNA analysis.

ImmunoTools *IT-Box-139.2* for **Almedina Isakovic** 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

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