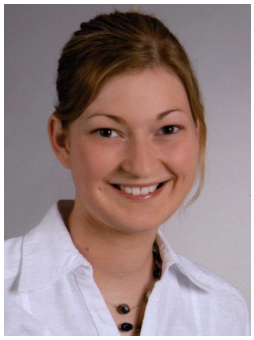
ImmunoTools IT-Box-139 Award 2012



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Resetting circulating CD8 T-cells to tissue-like conditions: mechanistic studies and application in immunomonitoring of cancer patients.

Research in human immunology is mainly based on working with peripheral blood mononuclear cells (PBMC) that are routinely prepared by density gradient centrifugation of blood samples. However, recent investigations of our lab have shown that circulating human PBMC are poorly reactive to several T cell activating agents (e.g. the humanized CD28 superagonist TGN1412) in comparison to mononuclear cells located in secondary lymphoid organs and tissue. Interestingly, circulating CD4 T-cells can be reset to their original reactivity by a short-term preculture of PBMC at high cell density (Restore protocol, Römer, Blood 2011).
The aim of my study is to investigate the effect of the sensitive Restore protocol on CD8 T-cell responses to several virus- and tumor-derived peptides. By using the innovative Restore protocol, CD8 T-cell responses to low-affinity tumor-derived peptides can be detected without prior in vitro T-cell expansion. This method is rapid and robust, and directly reflects the ex-vivo frequency of antigen-specific T-cells. It will be extremely useful to use the ImmunoTool IT-Box in order to determine the PBMC subpopulations that need to interact in order to achieve the sensitizing effect of short-term preculture at high cell density. In addition, I will use the Restore protocol for an effective immunomonitoring of leukemia patients. The characterization of tumor cells as well as the determination of CD8 T-cell subpopulations that react to tumor cells can be effectively done by conjugated antibodies from ImmunoTools.

ImmunoTools IT-Box-139 for Julia Fischer include 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