

# ImmunoTools IT-Box-139 Award 2012



**Simone P. Sittig**

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## Human peripheral blood Dendritic Cells in cancer immunotherapy:

Dendritic cell (DC) immunotherapy makes use of tumor-antigen-loaded DCs that are injected into cancer patients to stimulate T cells and initiate tumor eradication. DCs for immunotherapy are commonly prepared in vitro from monocyte-precursors, which may not be the optimal DC-source for immunotherapy. Extensive ex vivo culturing may negatively affect their immunological potential. Naturally occurring DCs may therefore be more potent inducers of anti-tumor responses than monocyte-derived DCs. Two major types of naturally-occurring DCs circulate in peripheral blood, myeloid DCs and plasmacytoid DCs. Myeloid DCs can even be subdivided based on CD1c<sup>-</sup>, CD16<sup>-</sup>, and BDCA-3-expression. Human blood-DC subsets differ significantly in their surface marker-expression and transcriptional profile, suggesting that there may also be strong divergence in migratory- and antigen presenting function. The overall aim of this project is to determine the most effective human circulating dendritic cell population for cancer immunotherapy.

In this project I use flow cytometry to characterize the peripheral blood DCs phenotypically after isolation from the blood and after following different treatments in our experiments. In these experiments I also study effects and interactions with T cells and their maturation status. Peripheral blood DC markers, T cell markers, other lineage markers for distinction from our cell populations and maturation markers for DCs and T cells are therefore crucial to my project.

**ImmunoTools** IT-Box-139 for Simone P. Sittig 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](#)