

ImmunoTools IT-Box-139 Award 2012



Soley Thordardottir

PhD Supervisor: Dr. Harry Dolstra

Laboratory of Hematology
Department of Laboratory Medicine
Radboud University Nijmegen Medical Centre,
Geert Grooteplein 8, 6525GA, Nijmegen

***Ex vivo* generation of functional dendritic cell subsets from human hematopoietic stem cells**

Dendritic cells (DCs) are immune cells that play a crucial role in initiating adoptive immune responses by capturing, processing and presenting antigens to T-cells. Three main subsets are present in human peripheral blood, CD141⁺ and CD1c⁺ myeloid DCs and CD303⁺ plasmacytoid DCs. These cells are of low frequencies in blood and therefore difficult to obtain in high numbers for research. Therefore my PhD project focuses on generating these cells from human hematopoietic stem cells *in vitro*. This gives us the opportunity to study the development of DCs as well as the possibility to generate high numbers of functional cells that can be used for DC vaccinations to treat various hematological malignancies.

We have developed a culture system for generating DCs with the same phenotype as the different human blood DCs. The antibodies available in the IT-box-139 from **ImmunoTools** would be useful for further characterization of the culture system, for example to assess the functionality of the generated cells, such as the upregulation of costimulatory molecules (CD80, CD86), their IL-6 secretion and their T-cell stimulation capacity (CD3, CD4, CD8) in a mixed lymphocyte reaction.

ImmunoTools IT-Box-139 for Soley Thordardottir 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](#)