

# ImmunoTools IT-Box-139 Award 2012



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## Antitumor potential of iNKT ligands

I am starting my PhD thesis on the antitumor capabilities of some iNKT activators developed in our lab. These are  $\alpha$ GalactosylCeramide ( $\alpha$ GC) synthetic analogs that are presented by CD1d and that may be specifically recognized by iNKT cells inducing their activation. As clinical trials of  $\alpha$ GC have not been as successful as expected from animal models studies, a number of laboratories are developing new analogs that may overcome some of the known handicaps of  $\alpha$ GC function. Our approach has been successful in obtaining some analogs that activate iNKT and are able to control the development of lung metastases in a melanoma model of murine tumor. We are planning to thoroughly study the efficacy/potency of the functional activators in their antitumoral action and analyze the mechanisms that explain their differential behavior relative to  $\alpha$ GC.

A second and essential step, and the essential goal for my thesis, will be to translate these studies from mouse to human iNKT. We will need to isolate and establish human iNKT cell lines and study their response to the functional ligands. We will analyze the capacity of the activated iNKT cells to transactivate other immune cells as DC, B cells, T cells and monocytes/macrophages. For this purpose, we will need to phenotype the different cell populations and study their maturation status after coculturing with iNKT cells activated with the different CD1d ligands. Therefore, a number of antibodies (from lineage specific to markers of activation) will be needed to complete these studies that, if successful, may open the doors to a future translation to the clinic of putative antitumor treatments.

**ImmunoTools** IT-Box-139 for Ignasi Esteban Riera 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](#)