

ImmunoTools IT-Box-139 Award 2012



Dhifaf Sarhan

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Improving NK cell cytotoxicity against tumors using Zoledronic acid

Natural killer (NK) cells are innate lymphocytes with the ability to directly kill tumor cells. A prerequisite for optimal killing by NK cells is high expression of activating receptors as well as high expression of death ligands. Of particular interest is the death ligand TNF-related apoptosis-inducing ligand (TRAIL). NK cells with a high expression of TRAIL are very efficient in killing tumor cells expressing the cognate TRAIL receptor. Zoledronic acid (ZA) is a bisphosphonate known to upregulate the expression of TRAIL on human $\gamma\delta$ T cells. Our published results (PMID: 22996291), show that NK cells co-cultured with ZA-treated monocytes, have elevated TRAIL expression through upregulation of IFN γ production of monocytes.

We plan to initiate a clinical study with cancer or healthy patients treated with ZA. Blood from patients before and after treatment will be immunomonitoring for different cells and markers. The IT-box from **ImmunoTools** will help us to investigate the activation of monocytes and NK cells mainly, however with such variety of antibodies that will give us the opportunity to do extensive investigations in these patients. The immunomonitoring will make a new knowledge about the ZA effect on the immunecells and their interaction with each other.

ImmunoTools IT-Box-139 for Dhifaf Sarhan 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](#)