

Study of apoptosis of human Vδ2 T lymphocytes

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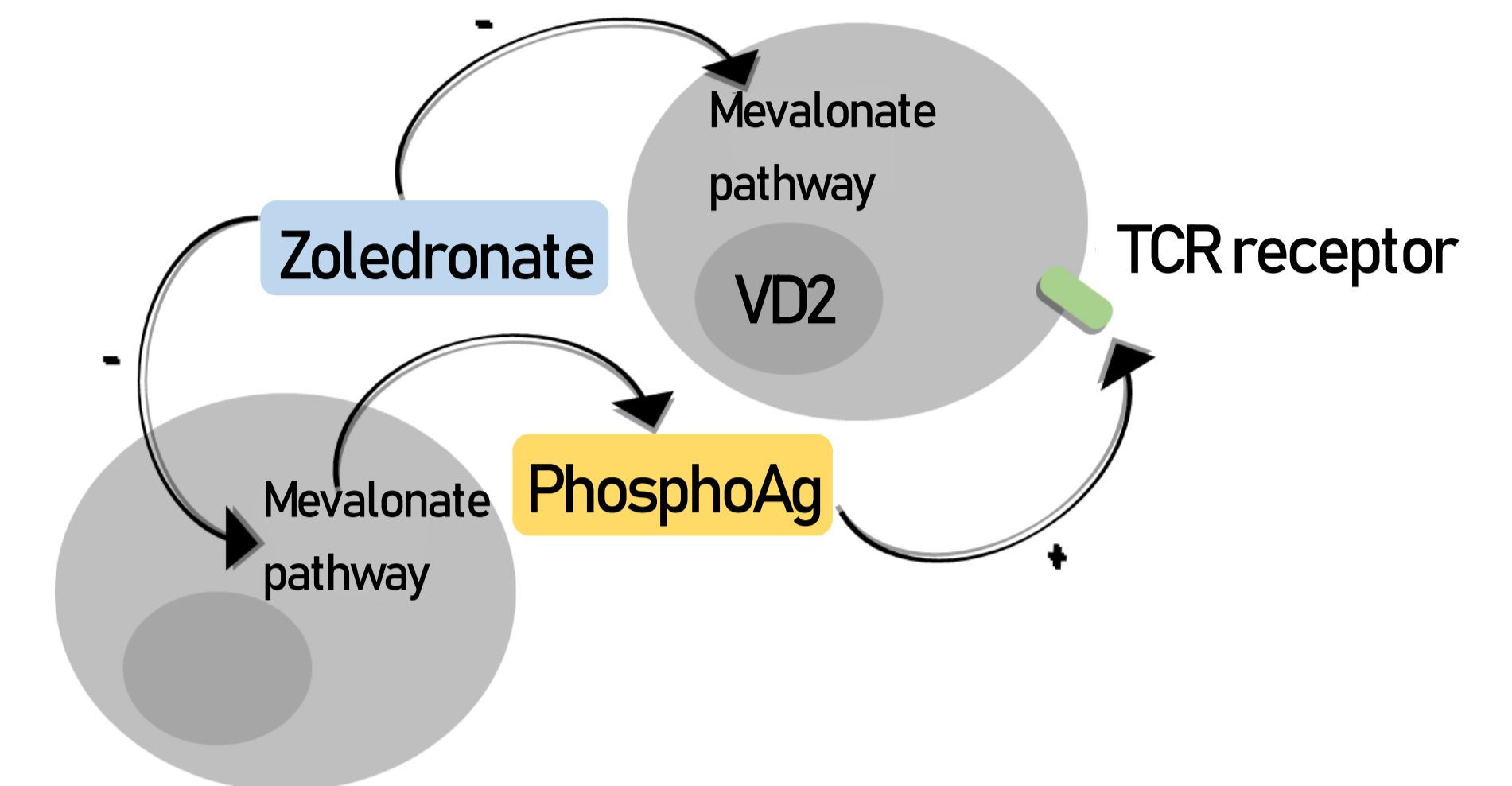
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Introduction

- Vδ2 T cells is the specific subset of human $\gamma\delta$ T cells (a minor subpopulation of T lymphocytes) enriched in the peripheral blood of normal adults where they represent 1-2% of total T lymphocytes.
- $\gamma\delta$ T cells have the particularity to be a link between the innate and the adaptive immunity. In fact, as $\alpha\beta$ T cells $\gamma\delta$ T lymphocytes express $\gamma\delta$ TCR (T-cell receptor), however, their activation are MHC-independent.
- Recently, several studies demostarted high anti-tumor potential of human Vδ2 T cells *in vitro* expanded from the pheripheral blood of both helathy donors and different cancer patients. In particular, Zoledronate is a molecule which blocks the mevalonate pathway leading to an increase of phosphoantigens from stiumulated lymphocytes that bind and activate Vδ2 TCR.
- Therefore, the aim of the project is to study the sucetibility of differnet Vδ2 T cell subsets to apoptosis upon *in vitro* stimulation with IL-2 and Zoledronate in order to better understand the activating and inhibitory phenotype of Vδ2 T cells.
- Thus, we want to have more informations about the impact of IL-2 and Zoledronate stimulation on the Vδ2 T cell apoptosis in correlation with thier activating and inhibitory phenotype.

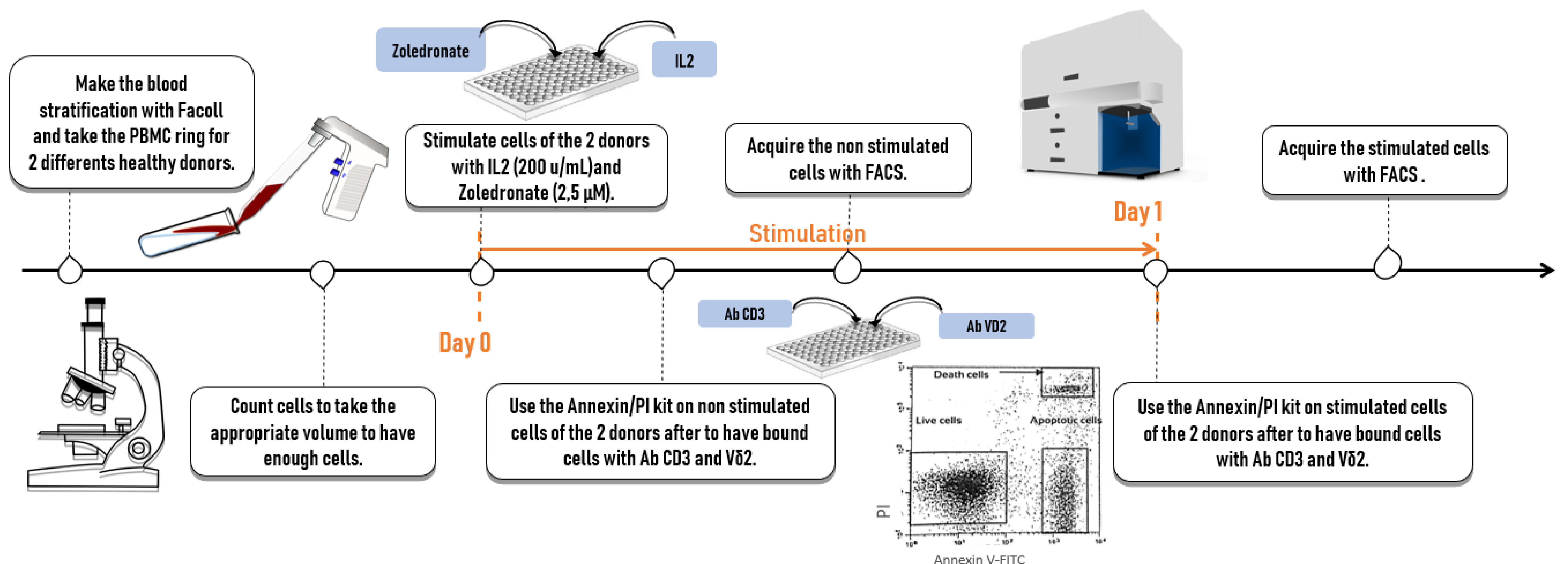
Objectives

- Compare the apoptosis of unstimulated and stimulated Vδ2 T cells.
- Compare the apoptosis of iVδ2 T cells with nhibitory and activating phenotype

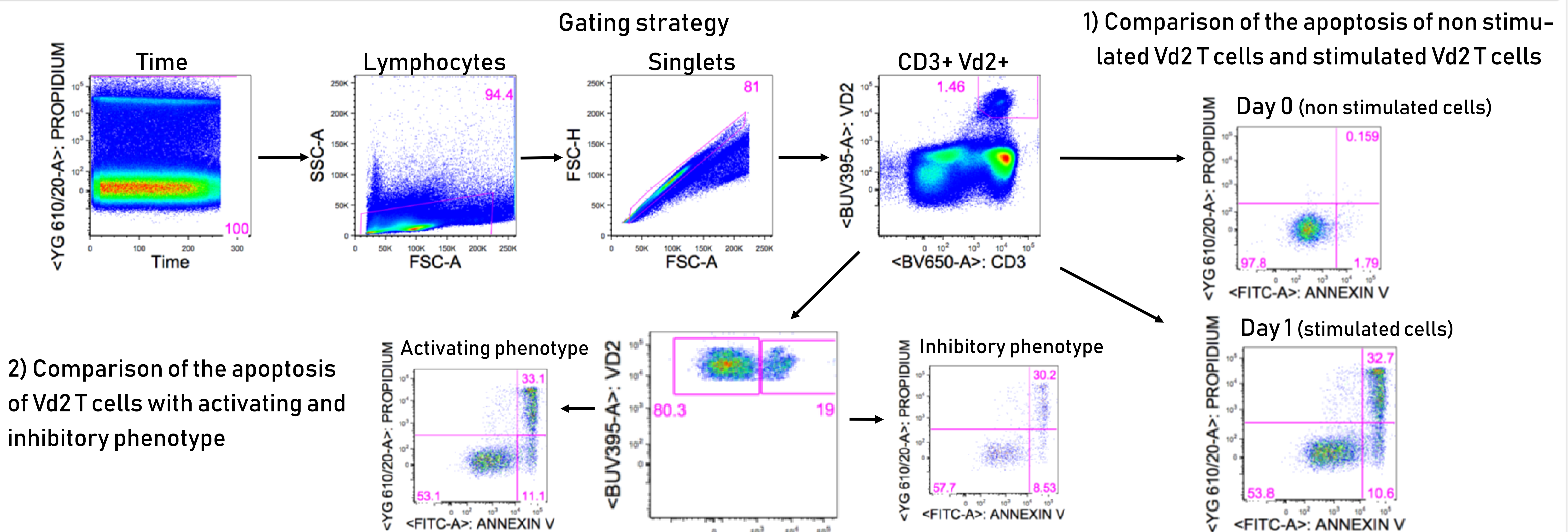


Methods

We use peripheral blood mononuclear cells (PBMCs) obtained from the blood of healthy donors, enriched with T lymphocytes.



Results



Conclusion

- IL-2 and Zoledronate stimulation leads to an increase of Vδ2 T cells apoptosis.
- Inhibitory or activating phenotype have no differences on apoptosis induced by IL-2/Zoledronate
- The next step will be the use of the specific IL-2/phosphoantigen to stimulate Vδ2 TCR instead of IL-2/Zol to avoid non specific effects of mevalonate pathway inhibition on Vδ2 TCR stimulation.

