Search for molecular markers - predictors of a positive response to immunotherapeutic treatment according to single-cell RNA sequencing

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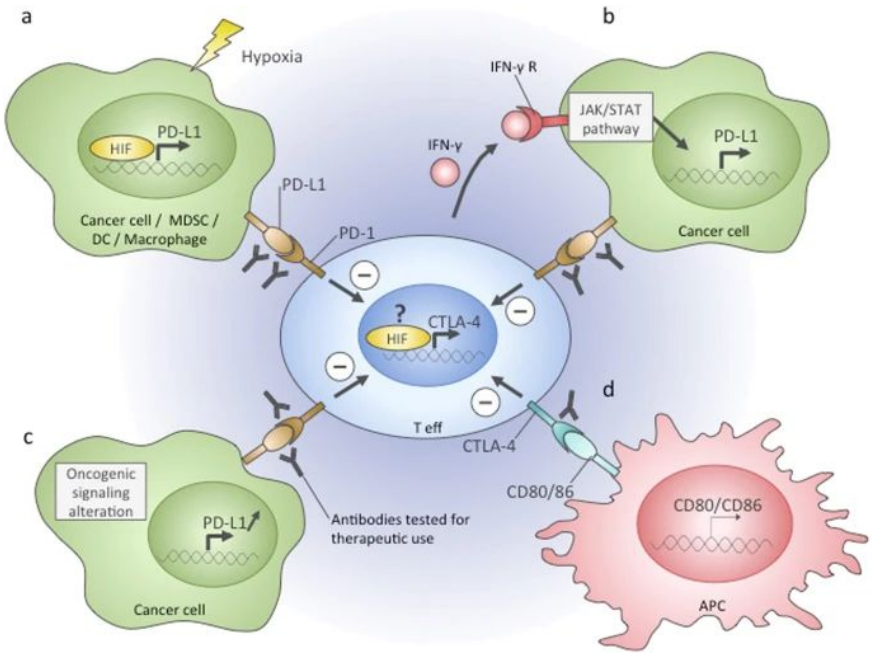
Checkpoints



Checkpoints - molecules in the membrain of the immune cells. They play role in the immune cells activity regulation. High specific immune therapy could help counter them.

Petrova, V., Annicchiarico-Petruzzelli, M., Melino, G. *et al.* The hypoxic tumour microenvironment, https://doi.org/10.1038/s41389-017-0011-9

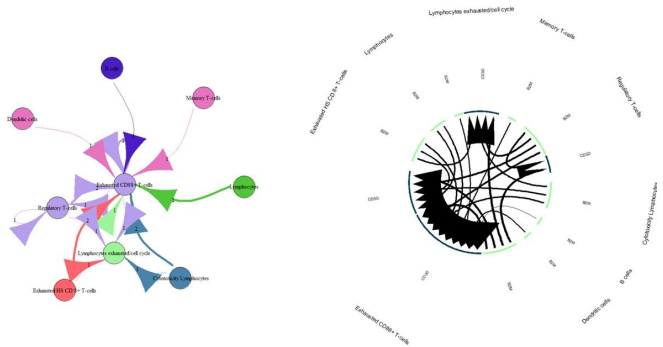
iTalk package

Computational approach to characterize and illustrate intercellular communication signals in the multicellular tumor ecosystem using single-cell RNA sequencing data.

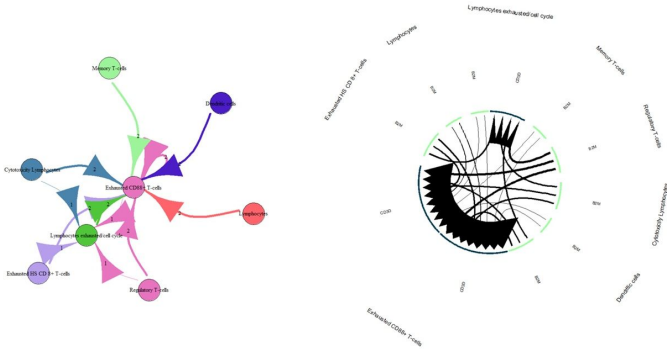
https://www.biorxiv.org/content/10.1101/507871v1

Plots from iTalk

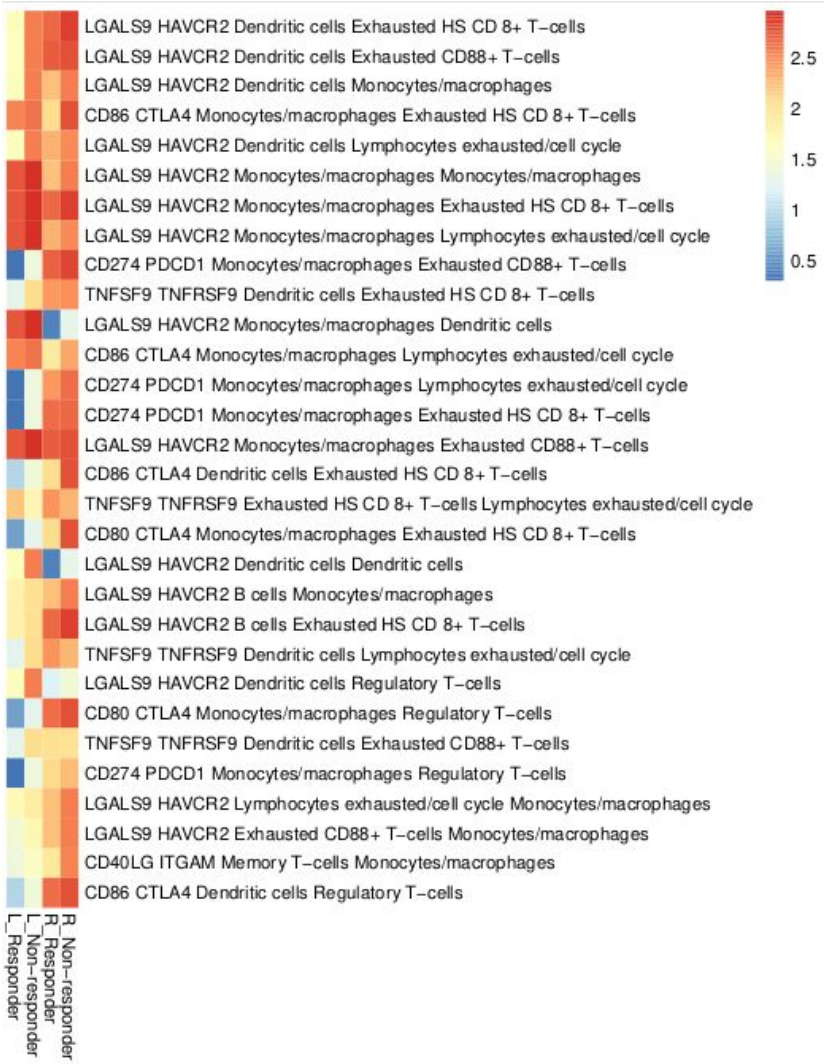
Responders



Non-responders



Not a big difference, so we used heatmaps to dive into information about checpoints (and their ligands expression)



Heat map of the difference in the expression of checkpoints and their ligands in responders and nonresponders

Ligands:

- LGALS9 (ligand HAVCR2)
- CD274 (PD-L1 - ligand PD1)
- CD80/CD86 (ligand CTLA4)
- TNFSF9 (TNF family)

Receptors:

- HAVCR2 (checkpoint)
- CTLA4 (checkpoint)