

Mini-Oral Abstract Presentations 3

#21 Transcriptional Analysis of Lymph Node Derived Follicular CD4 T Cells Reveal Novel Phenotypic Markers and Functions of T Follicular Regulatory (TFR) Cells

Bongiwe Mahlobo, South Africa

DPP4 and FCRL3 define distinct T follicular regulatory cells in human lymph node tissues

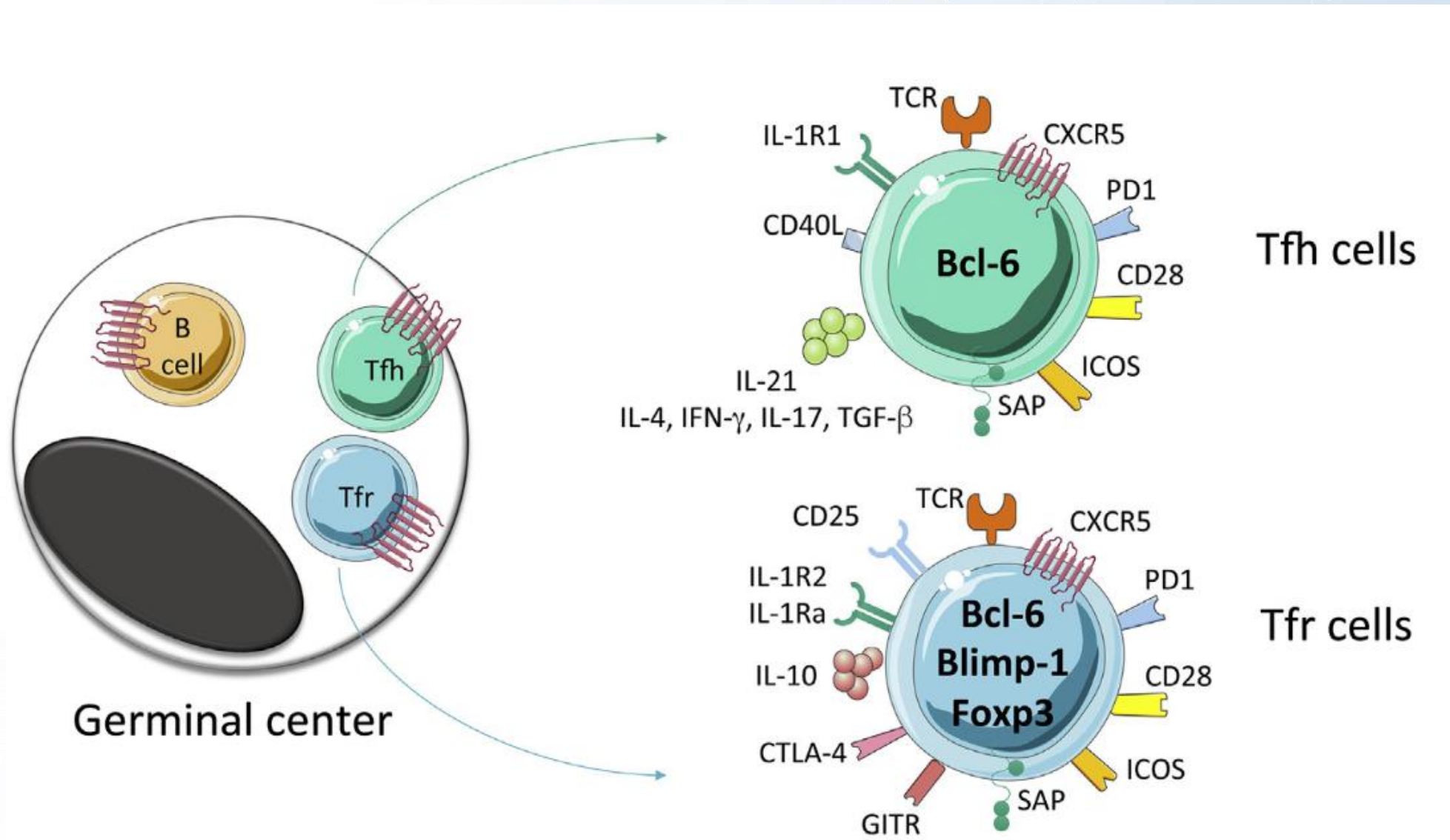
PhD candidate: Ms Bongwiwe Mahlobo

Supervisor: Prof. Zaza Ndhlovu

INTEREST 2020_Mini-Oral Presentation

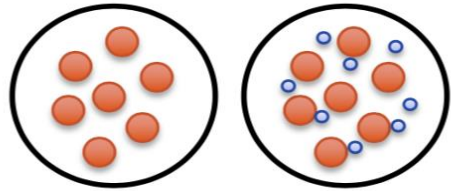
November-2020

Basic molecules expressed by Tfr and GC Tfh cells



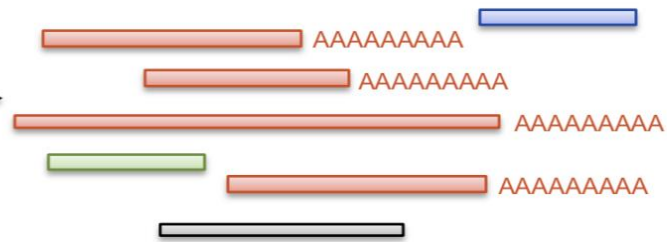
Study aim: To identify novel biomarkers that distinguish Tfr from GC Tfh cells using RNA-Seq

Experimental design

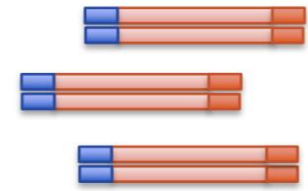


HIV -VE HIV +VE

Isolate RNA



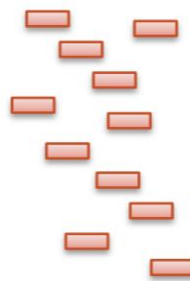
Prepare library



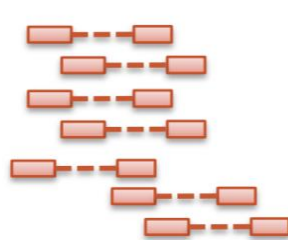
Sequence



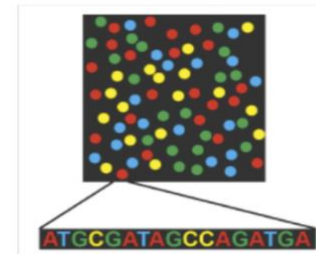
Single reads



Paired end reads



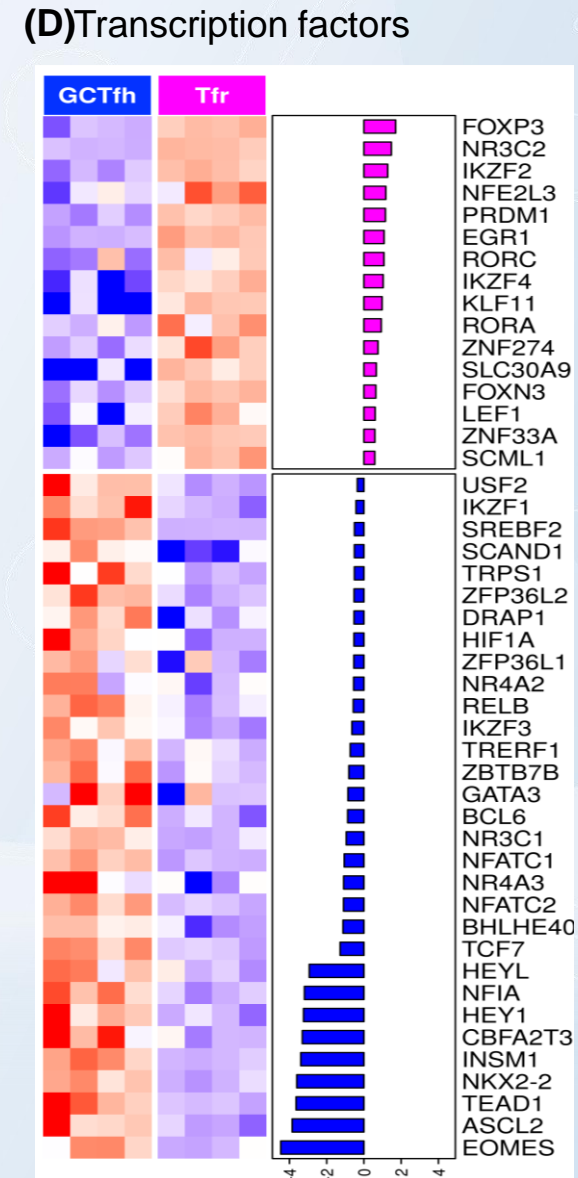
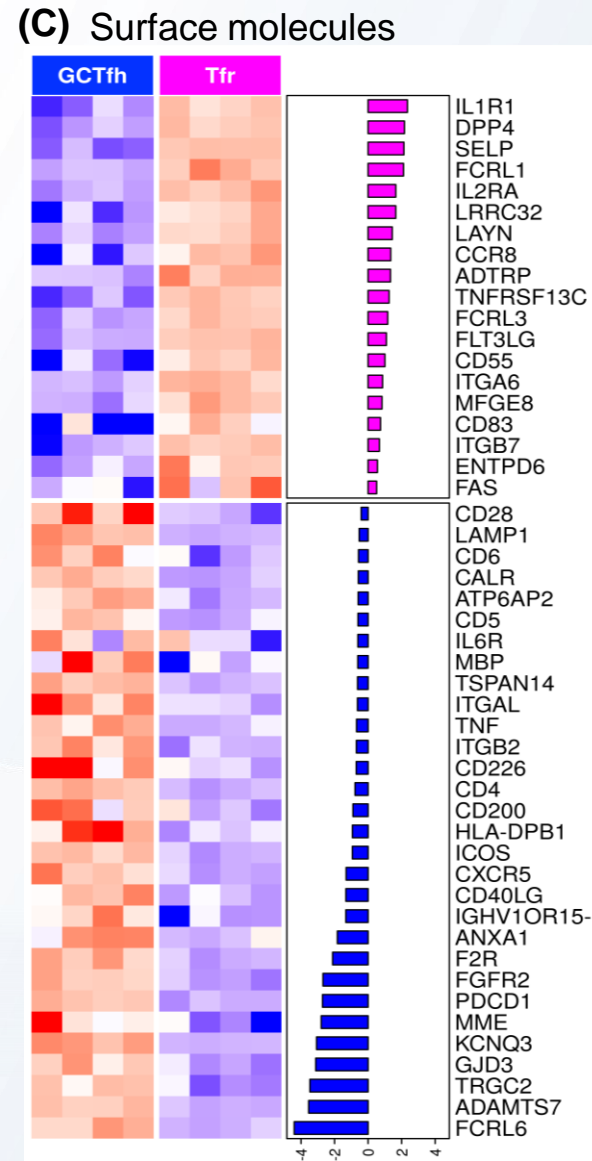
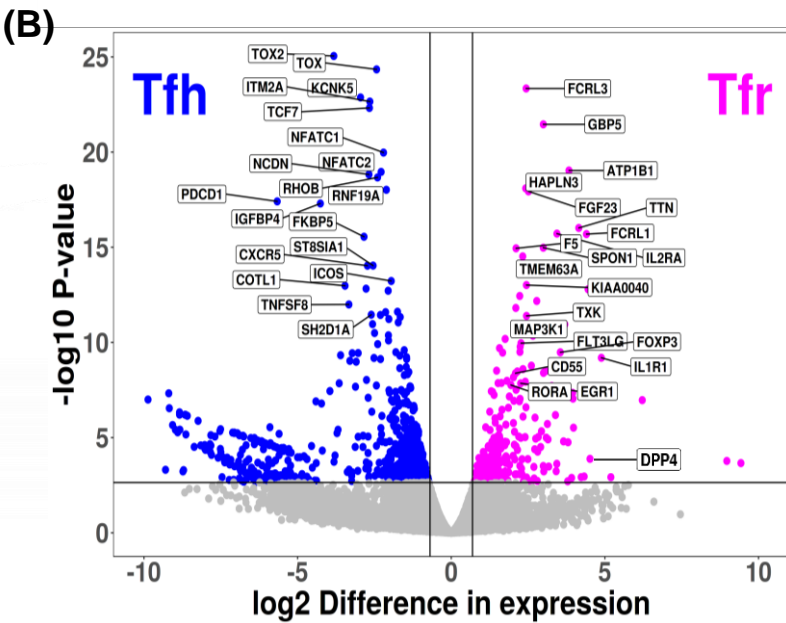
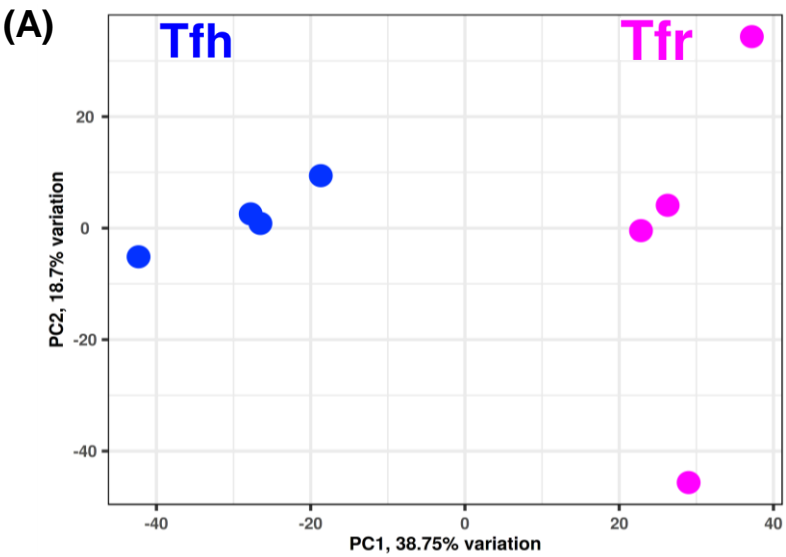
FASTQ files



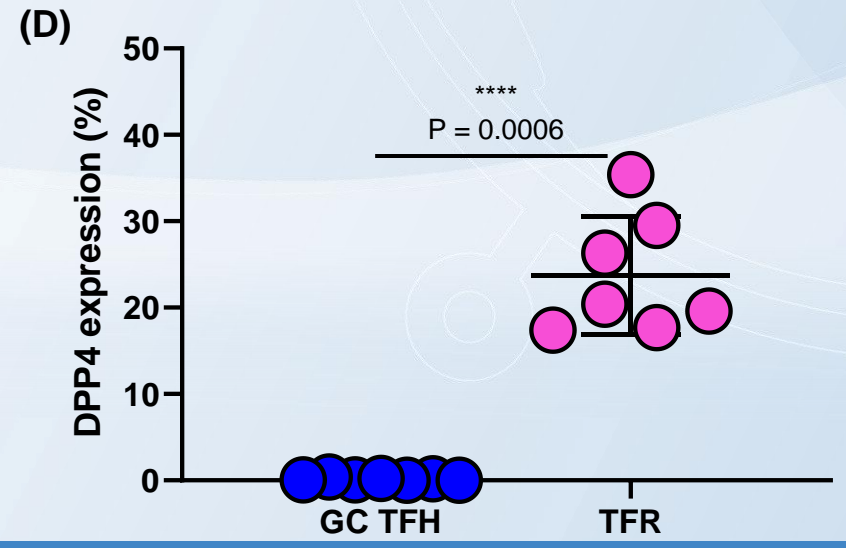
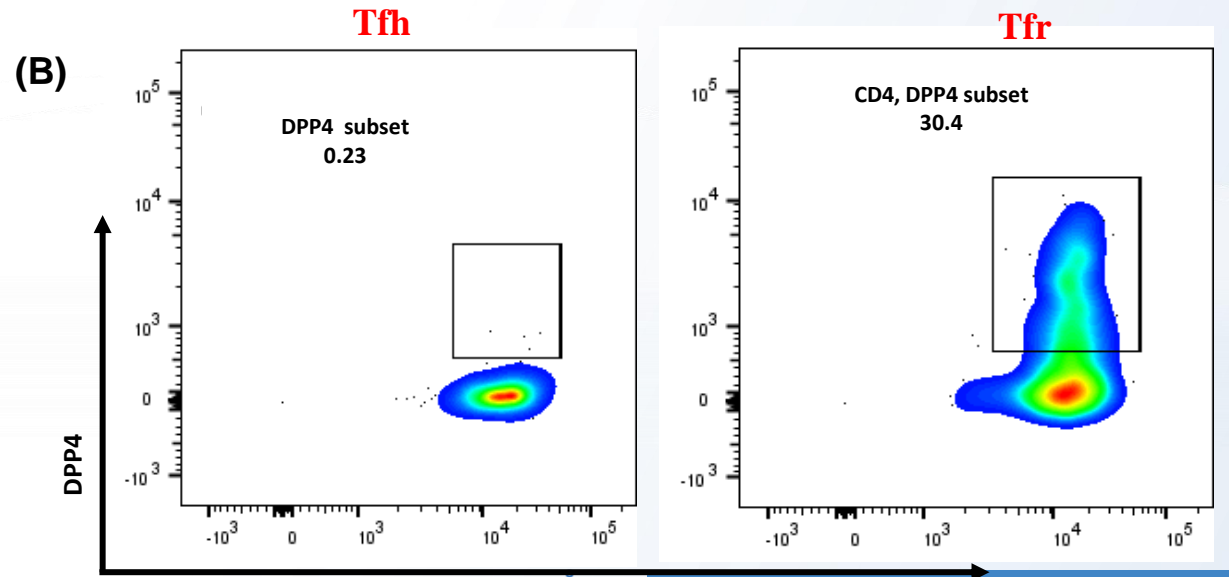
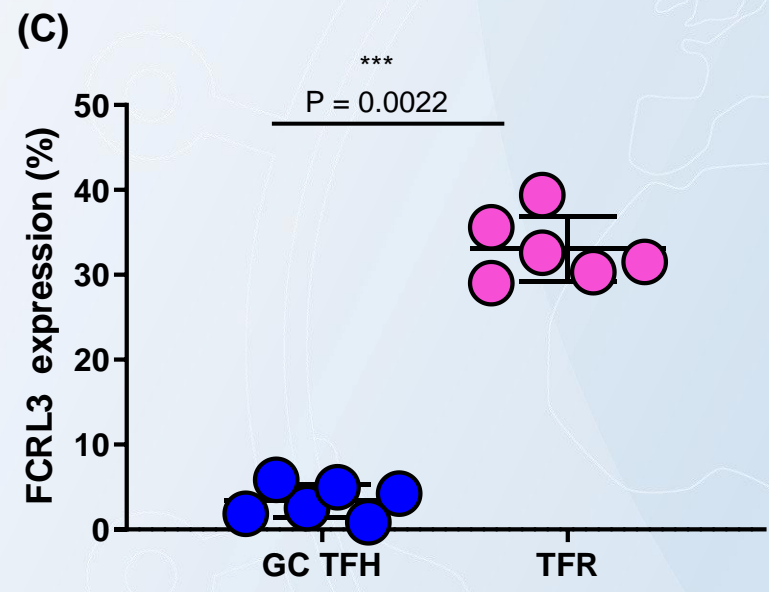
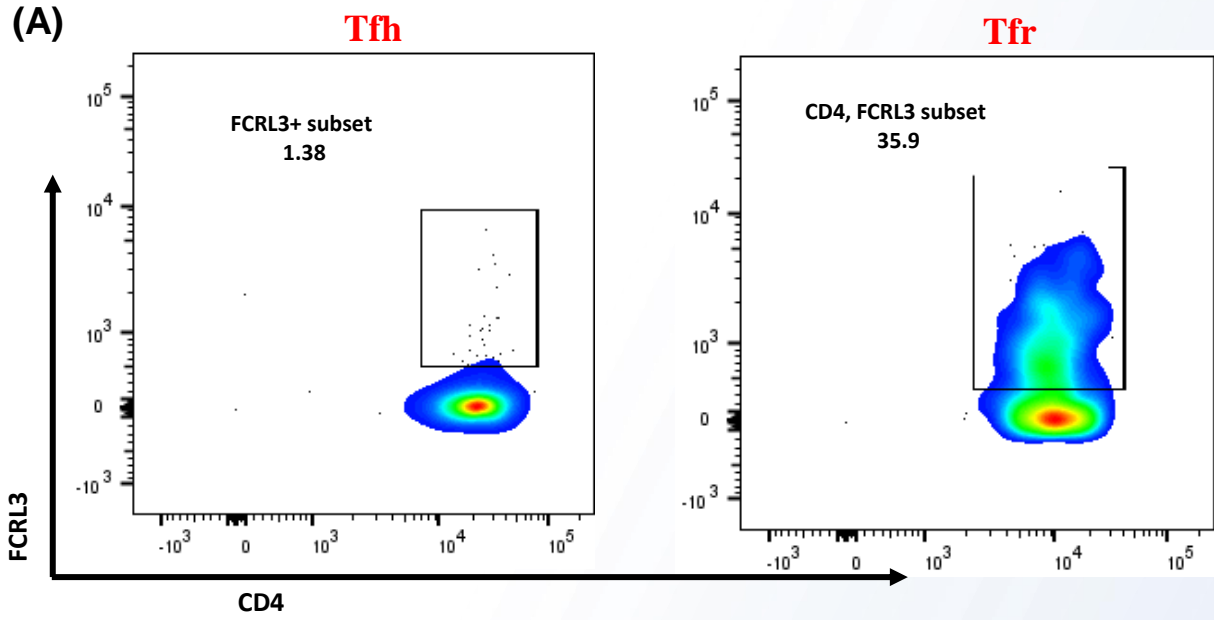
Flow cytometry



Tfr cells display a distinct transcriptional program from GC Tfh cells

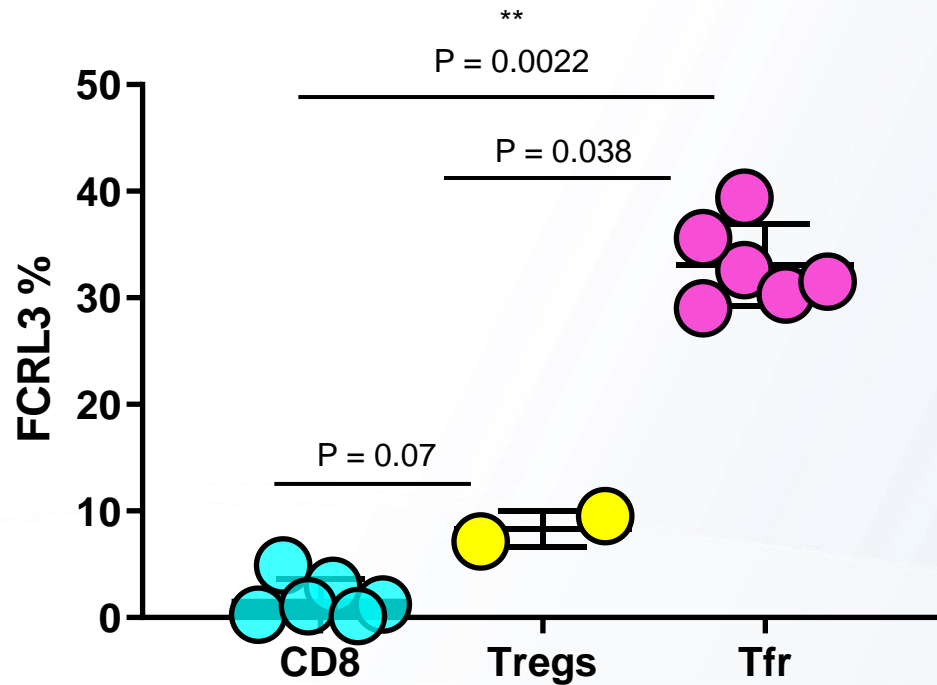


DPP4 and FCRL3 markers discriminate Tfr from GC Tfh cells

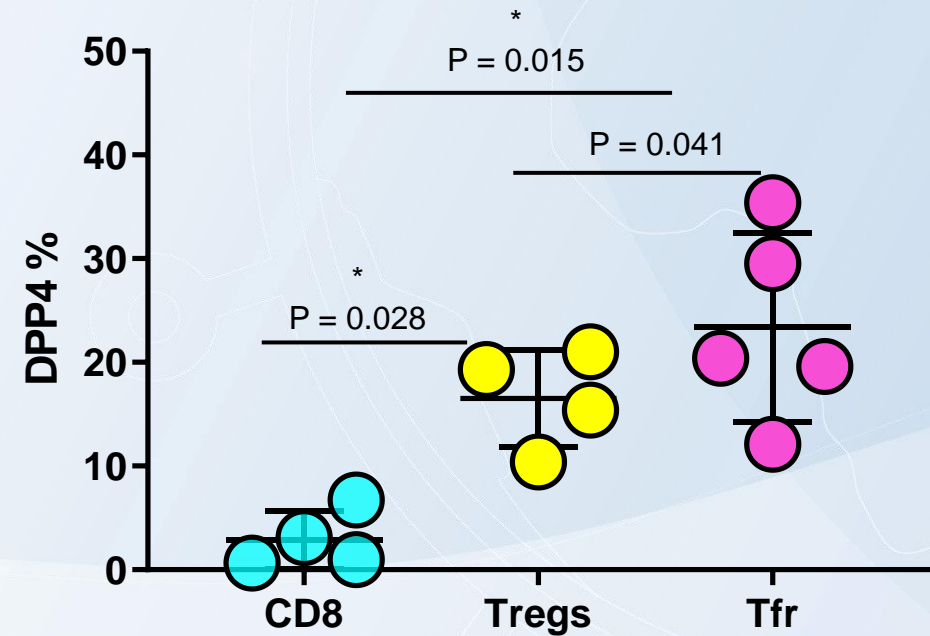


DPP4 and FCRL3 expression on Tfr cells is significantly higher than on Treg and CD8 T cells

(A)



(B)



Conclusion

- i. We identify novel surface biomarkers for the consistent identification and isolation of Tfr cells in human LN tissues.
- ii. Our study provides new insights into the biology of Tfr cells with implications for HIV vaccine design and cure strategies.

Acknowledgements



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