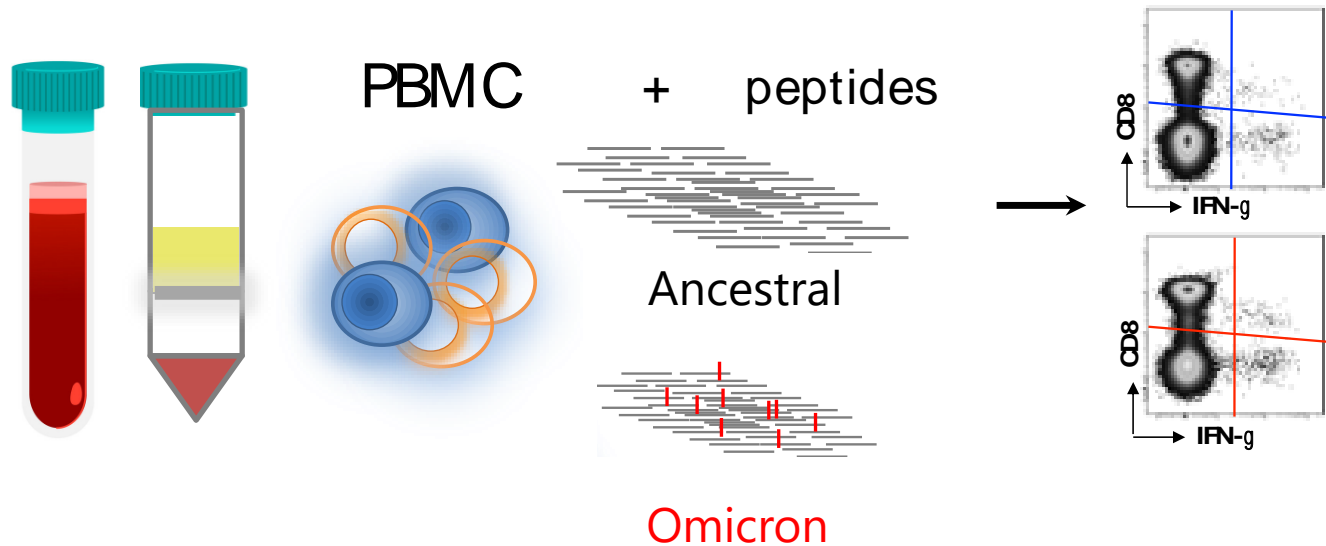


Preliminary experimental data on T cell cross-reactivity to Omicron

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Catherine Riou
University of Cape Town

Measuring T cell escape



Tested response to full Ancestral or Omicron Spike
Readout: IFN- γ , TNF- α and IL-2 production

Peptide pools provided by Alba Grifoni & Alex Sette

PBMC from Alex Sigal & Khadija Khan

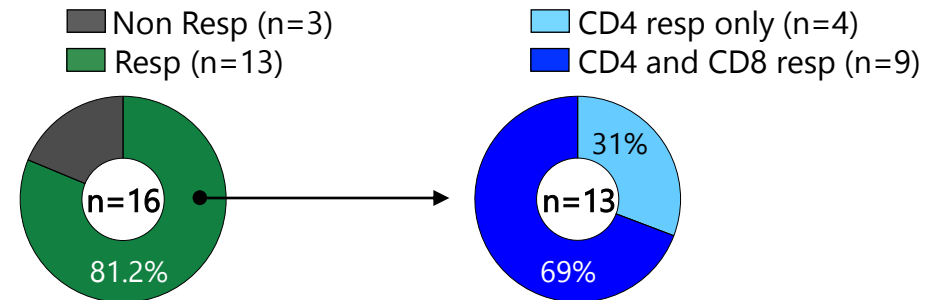
T cell responses to Omicron

Pfizer vaccinees

N=16

2 doses

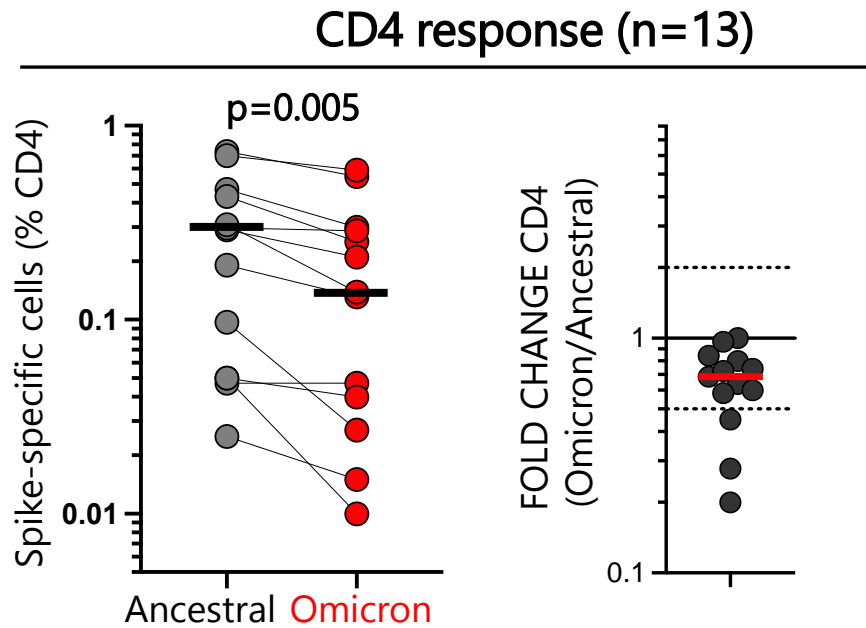
median 31 days after 2nd dose



PBMC from Alex Sigal

Peptide pools provided by Alba Grifoni & Alex Sette

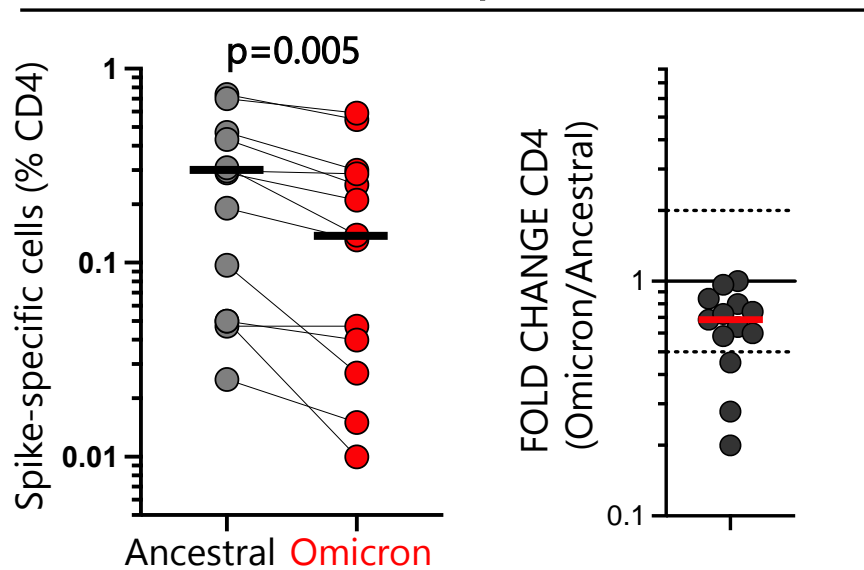
T cell responses to Omicron in Pfizer vaccinees



Median: 30% decrease in CD4 response
(50-82%)

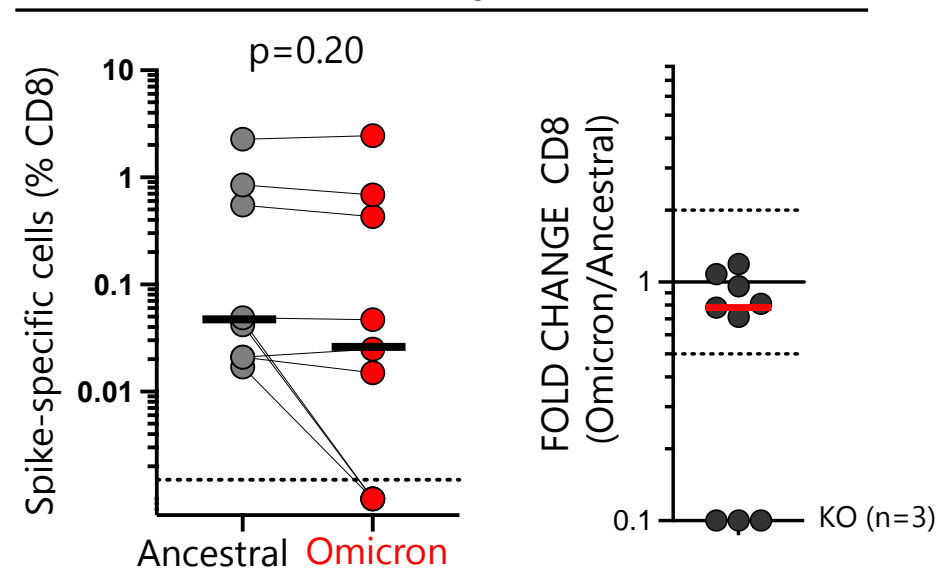
T cell responses to Omicron in Pfizer vaccinees

CD4 response (n=13)



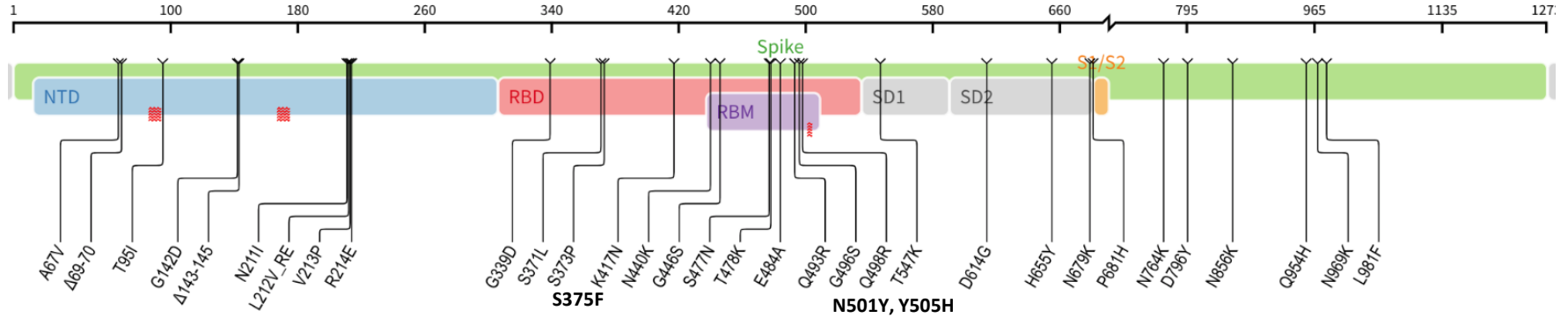
Median: 30% decrease in CD4 response
(50-82%)

CD8 response (n=9)

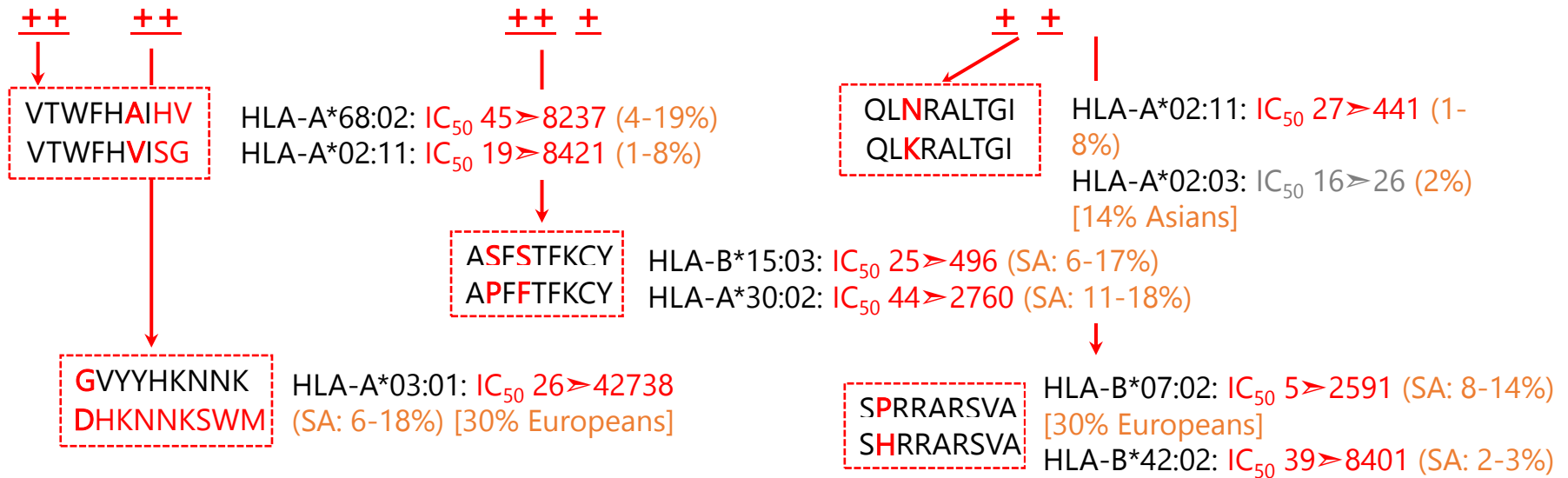


N=6: Preservation of CD8 response to Omicron
N=3: CD8 T cell response to Omicron undetectable

Loss of HLA binding in CD8 epitopes



CD8:



Summary & Conclusion

- T cell responses maintained to Omicron compared to ancestral Spike in Pfizer vaccinees
- Although there is a consistent decrease in the CD4 T cell response to Omicron, **70% of the response is preserved**
- The majority of vaccinees mounting a CD8 Spike response are unaffected by Omicron mutations, with a fraction losing their CD8 response
- Infection prior to vaccination gives some advantage
- JnJ vaccinees (1x and 2x) currently being tested