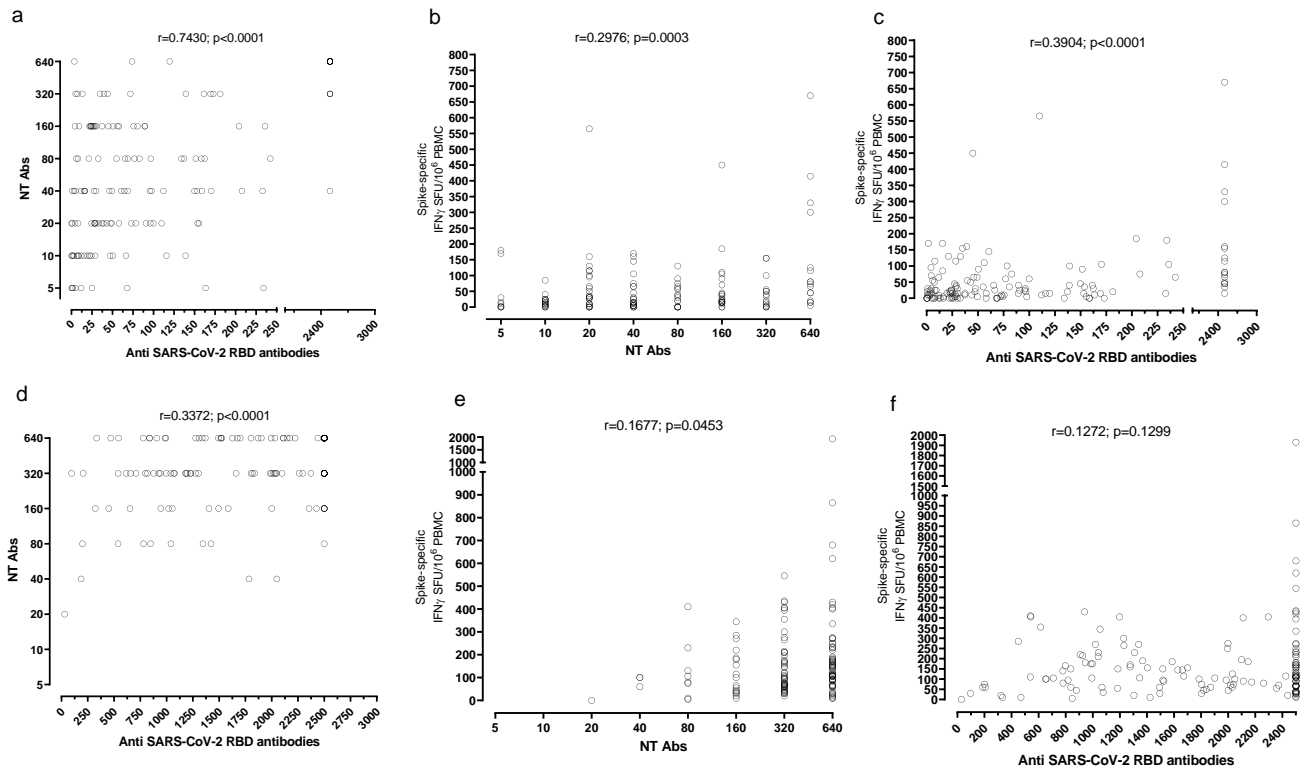


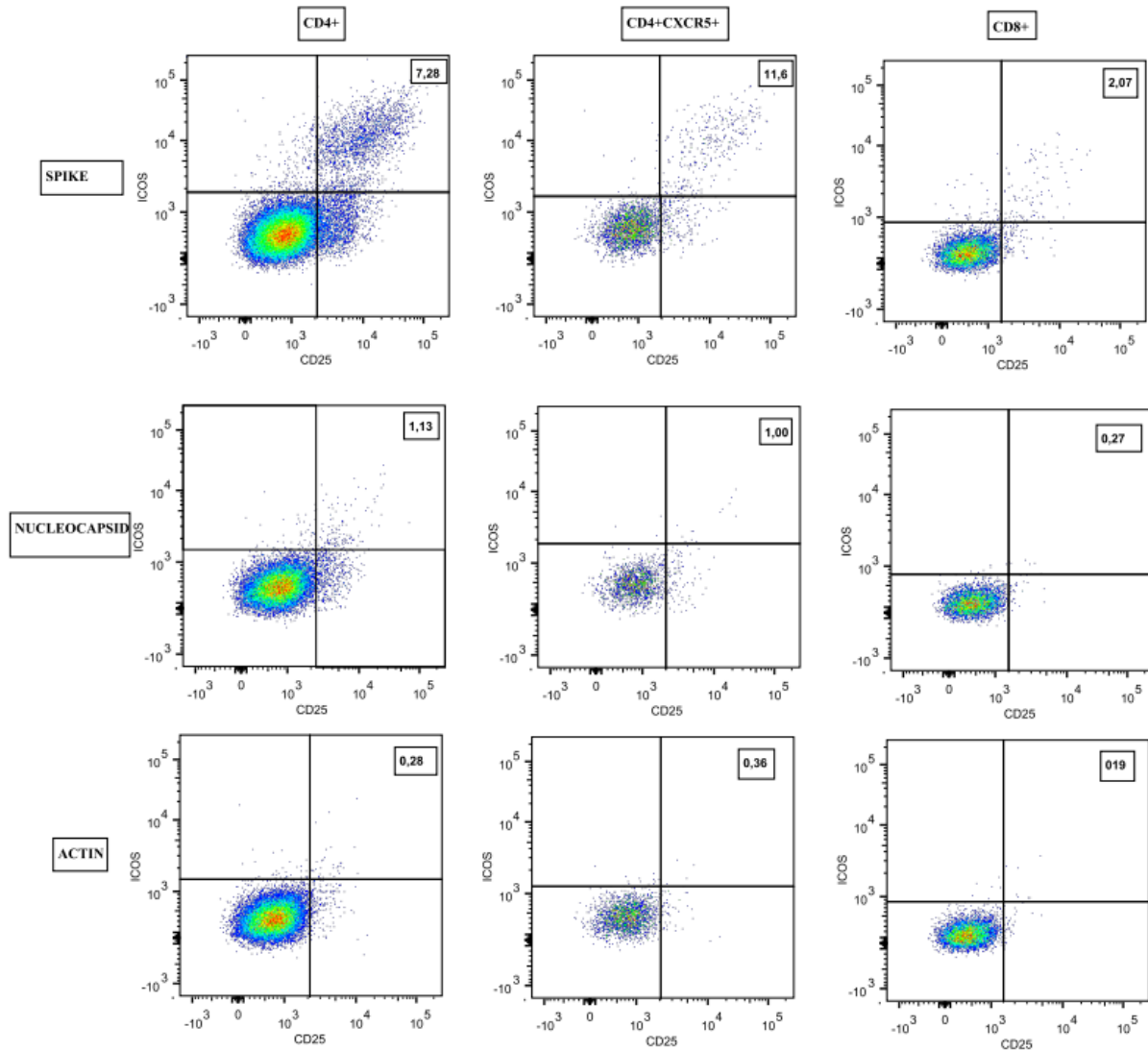
# Supplementary material

## Supplementary Fig 1



**Supplementary Fig 1.** Correlation between NT Abs and anti-S antibodies, Spike-specific T-cell response and NT Abs as well as Spike specific T-cell response and anti-S antibodies at T1 (a-c) and T2 (d-f) was shown;  $r$  and  $p$  value measured by Spearman test were given for each graph.

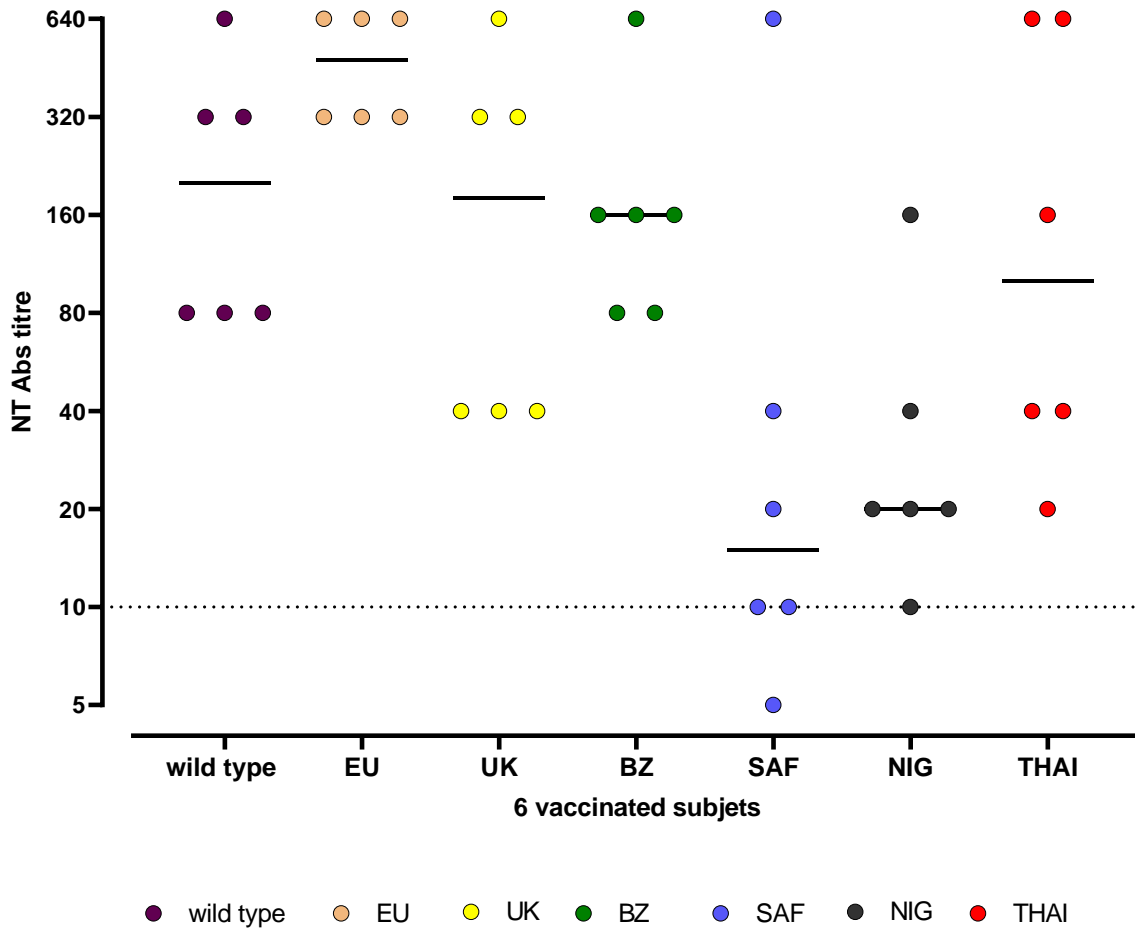
## Supplementary Fig 2



**Supplementary Fig 2.** Pseudocolor plots of CD4<sup>+</sup>, CD4<sup>+</sup> CXCR5<sup>+</sup> (T<sub>FH</sub>) and CD8<sup>+</sup> T cells from a representative subject after stimulation with Spike, Nucleocapsid and Human Actin (negative control) protein overlapping peptide pools. Cells are gated on viable CD3<sup>+</sup> lymphocytes. Activated antigen-specific cells in each subset were identified by ICOS and CD25 co-expression. Numbers in the right-top quadrant indicate the percentage of antigen-specific cells.



Supplementary Fig 3



*Supplementary Fig 3.* NT Abs level against 7 SARS-CoV-2 strains was tested in 6 vaccinated subjects. Dotted horizontal line represent positive cut off for SARS-CoV-2 NT Abs.