

1666p: Humoral and cellular immune responses against SARS-CoV-2 after 3rd dose BNT162b2 following dual-dose vaccination with BNT162b2 vs ChAdOx1 in cancer patients

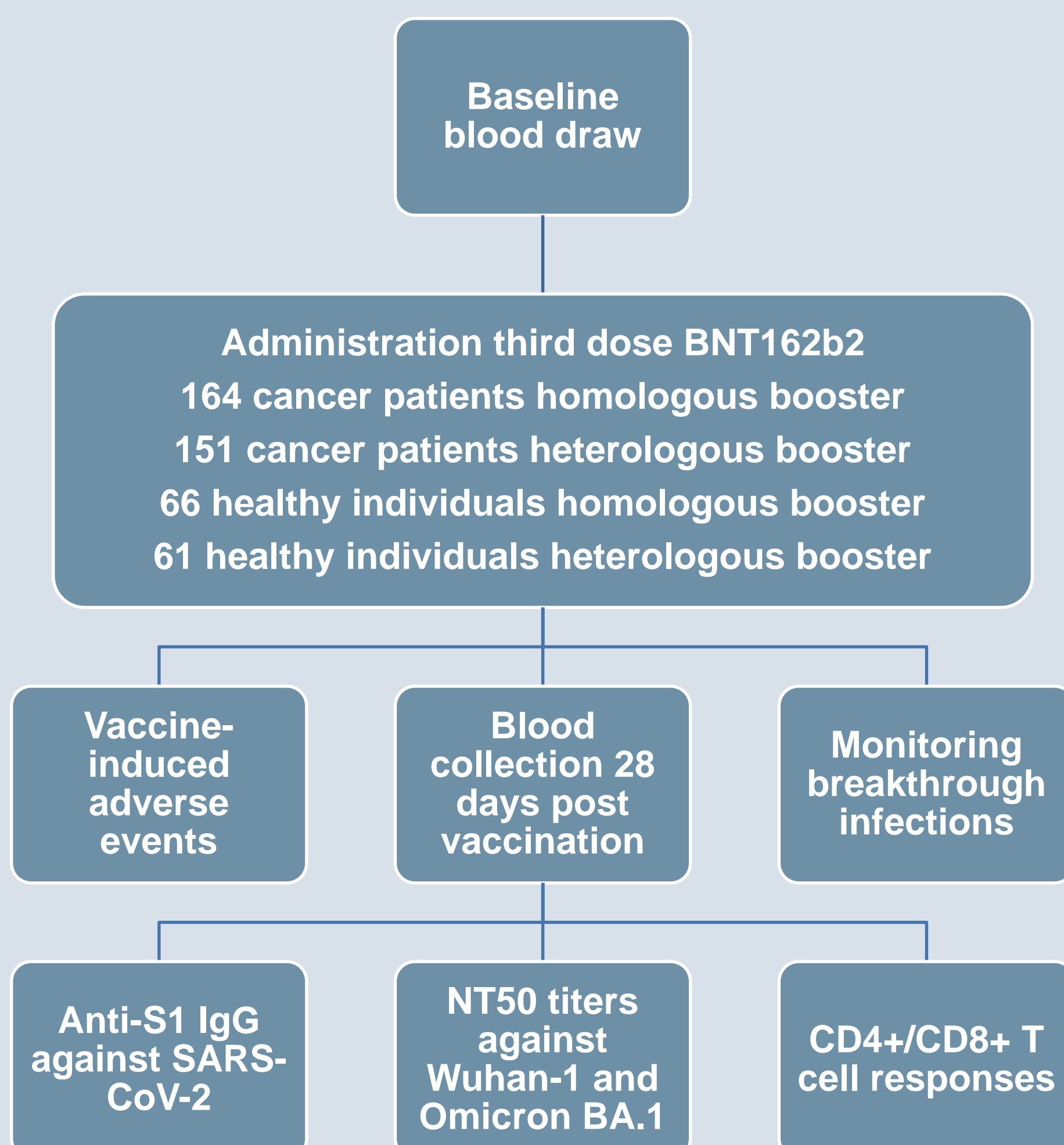
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Introduction

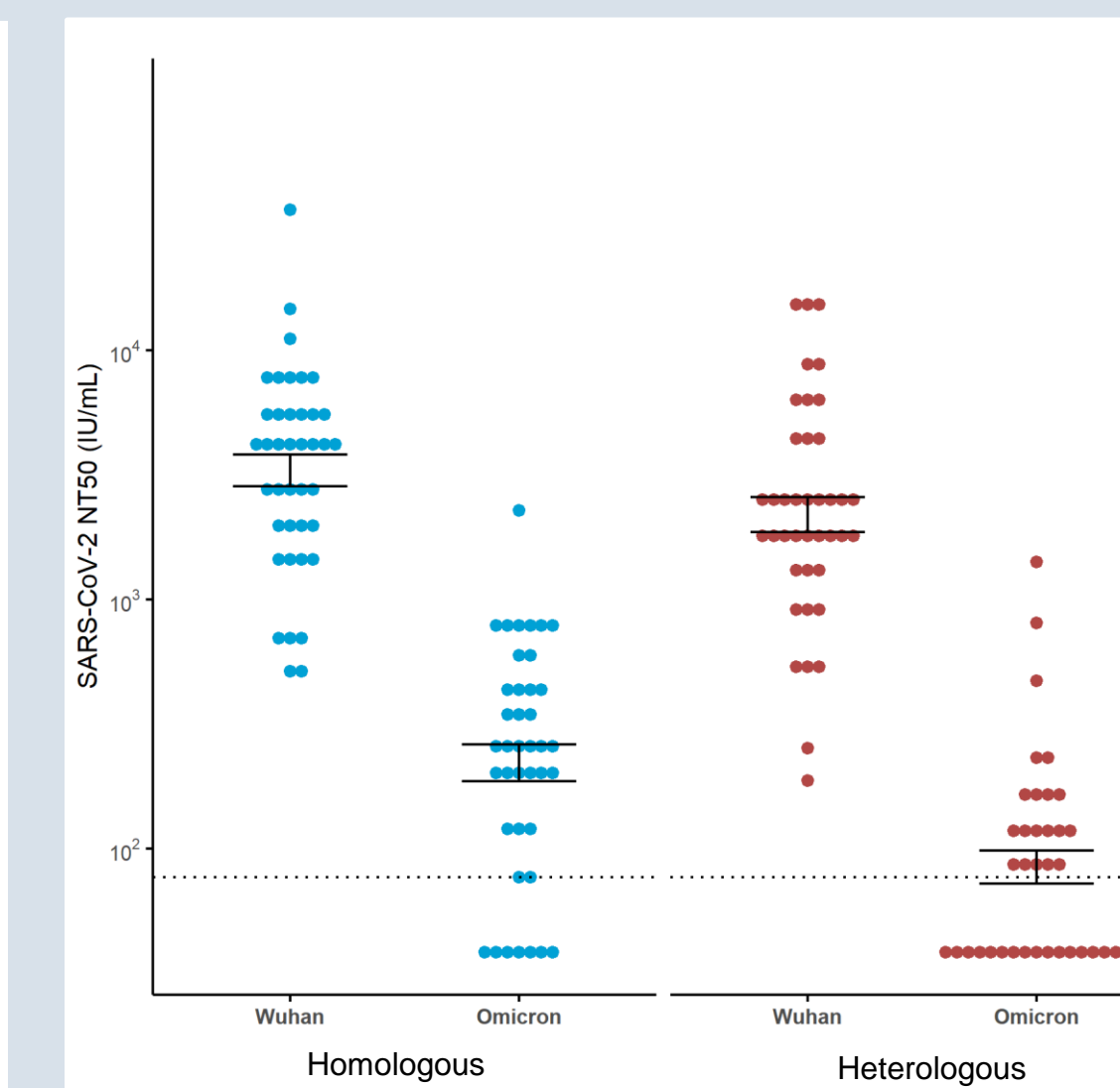
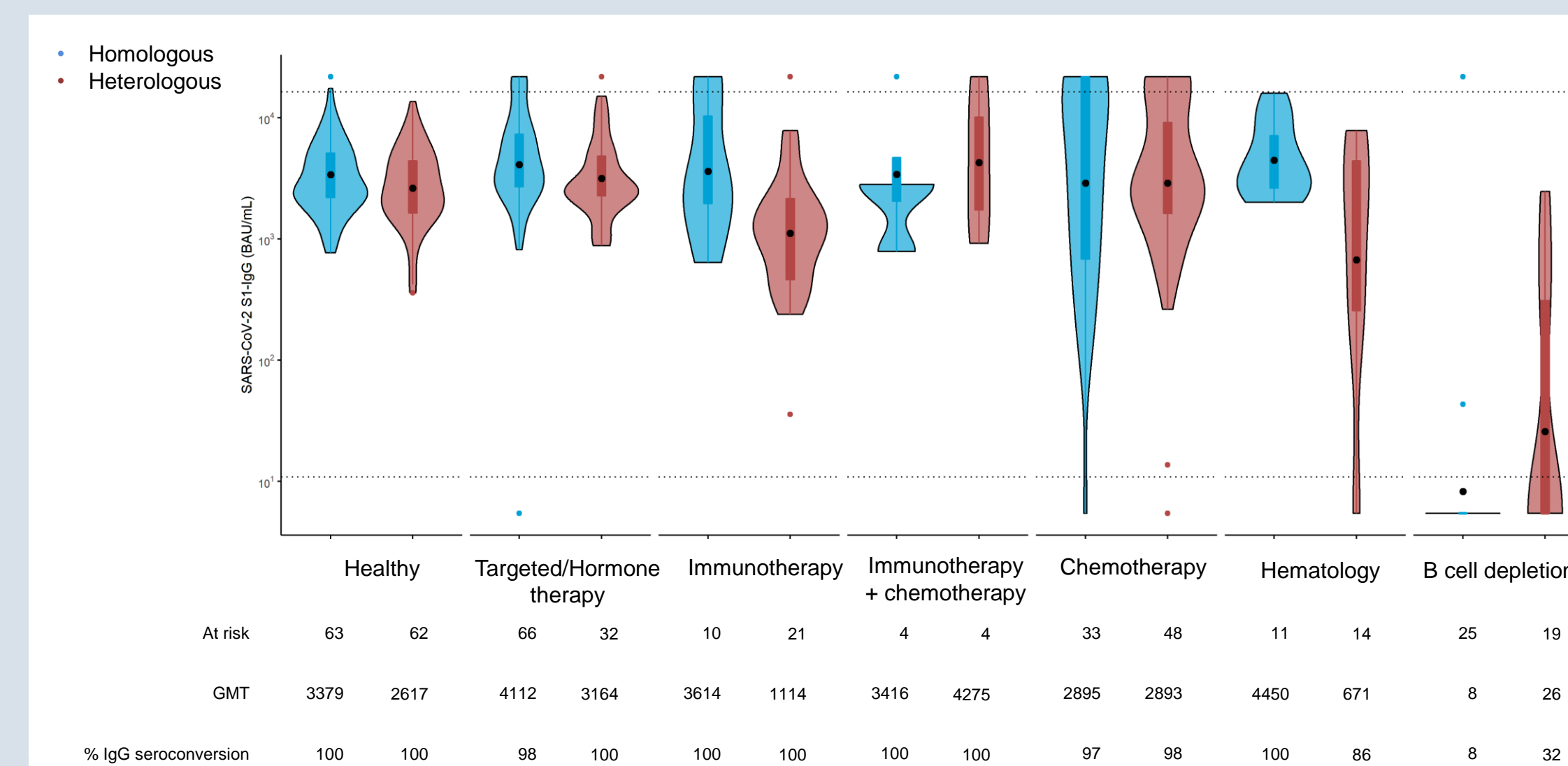
- Cancer patients display reduced humoral responses after dual-dose COVID-19 vaccination
- Third vaccination dose boosts immune responses
- Homologous (same as dual-dose vaccination) and heterologous (different as dual-dose vaccination) boosters have been administered

Patients and methods

- Homologous booster: BNT162b2 after dual-dose BNT162b2
- Heterologous booster: BNT162b2 after dual-dose ChAdOx1



Results

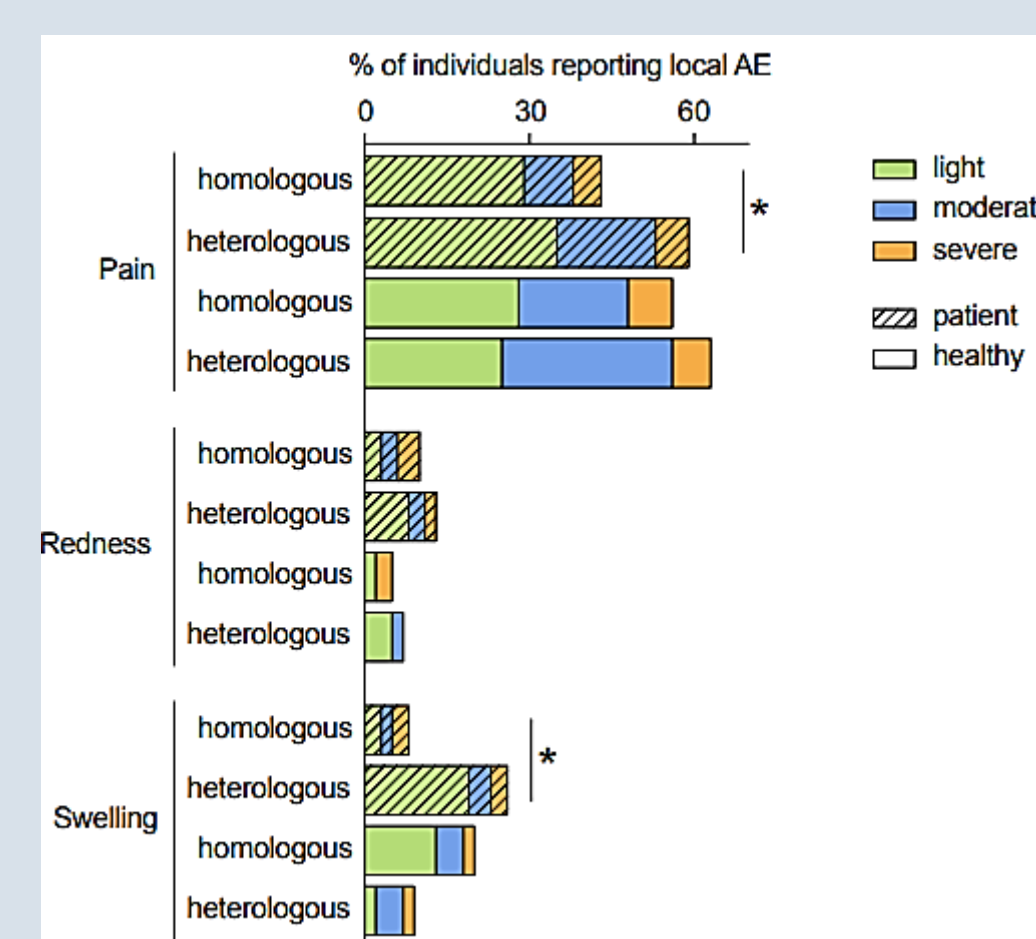
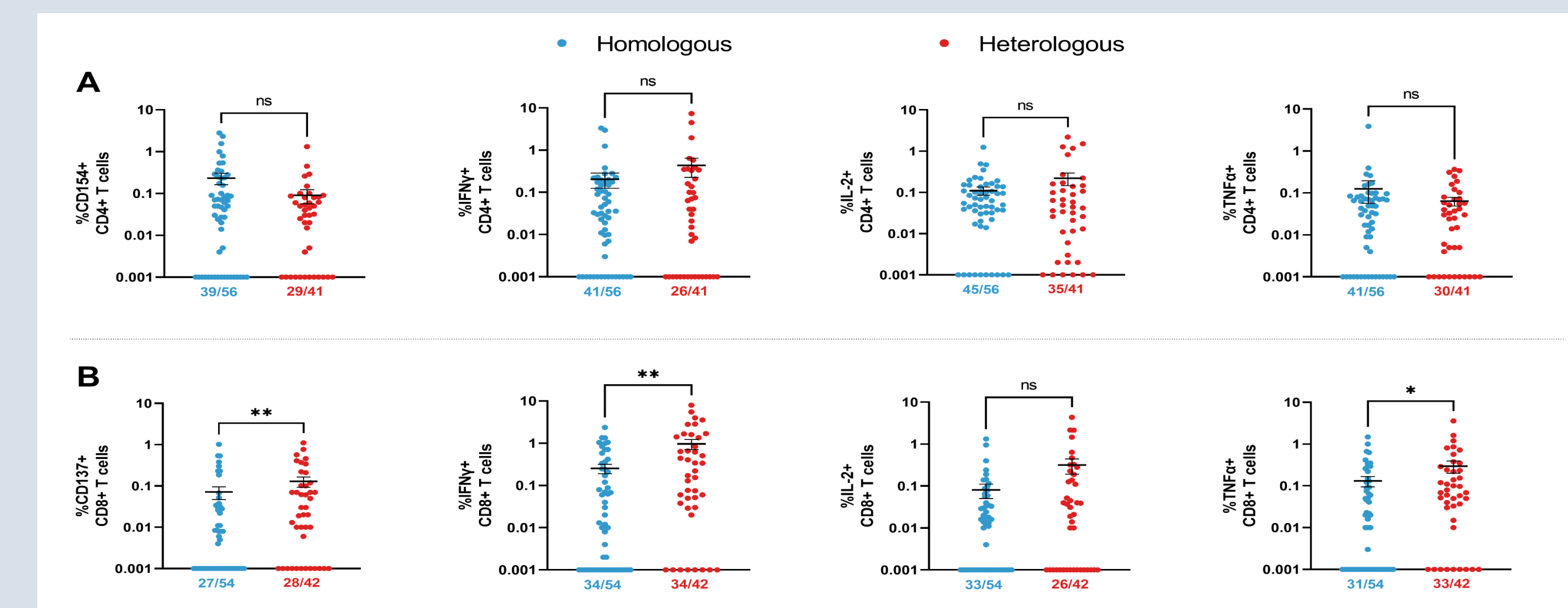


Vaccine induced antibody response

- Similar SARS-CoV-2 anti-S1 IgG antibody levels
- Hematological patients receiving B-cell depleting therapy mount lower binding antibody responses
- Similar NT50 against Wuhan-1
- Higher NT50 against Omicron BA.1 after homologous boosting
- Comparable occurrence of breakthrough infections

T cell reactivity

- Similar CD4+ T cell response between homologous and heterologous boosting
- Lower CD154 response after heterologous boosting in hematology cohort
- 30% did not mount a CD4+ T cell response
- Higher CD137, IFN γ and TNF α response after heterologous boosting
- 50% (homologous) and 33% (heterologous) did not mount CD8+ T cell response
- Majority of patients receiving B-cell depleting therapy mount CD8+ T cell response



Adverse events (AEs)

- >50% reported pain at injection site
- More local pain/swelling after heterologous boosting
- No vaccine related serious AEs
- Acceptable safety profile

Conclusion

1. Higher NT50 against Omicron BA.1 after three doses BNT162b2
2. Higher CD8+ T cell responses after dual-dose ChAdOx1 followed by BNT162b2
3. Local AEs more common after dual-dose ChAdOx1 followed by BNT162b2