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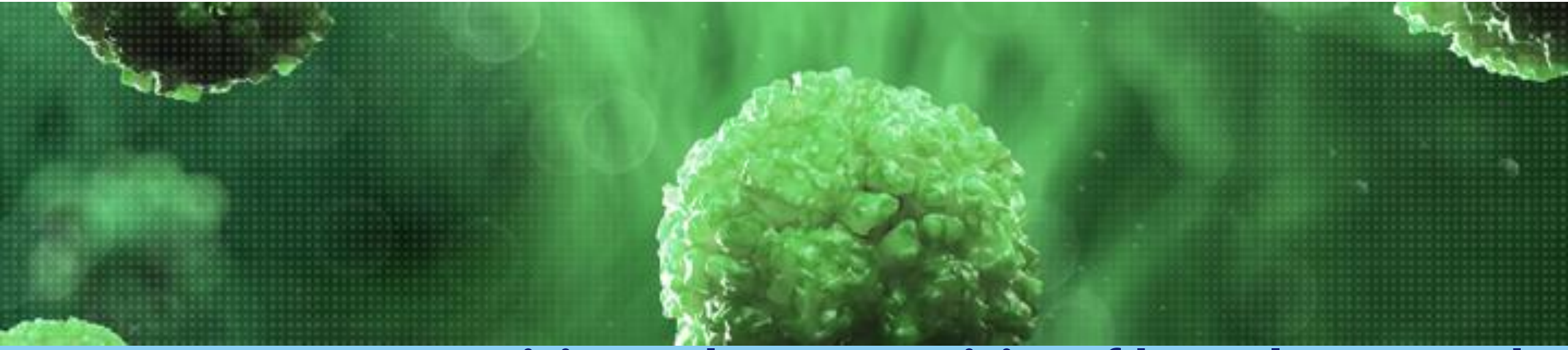
Viroscience lab
WHERE SKILLS MEET TO STUDY & PROTECT



Immunogenicity and reactogenicity of homologous and heterologous boosts after Ad26.COV2.S priming

on behalf of the SWITCH consortium

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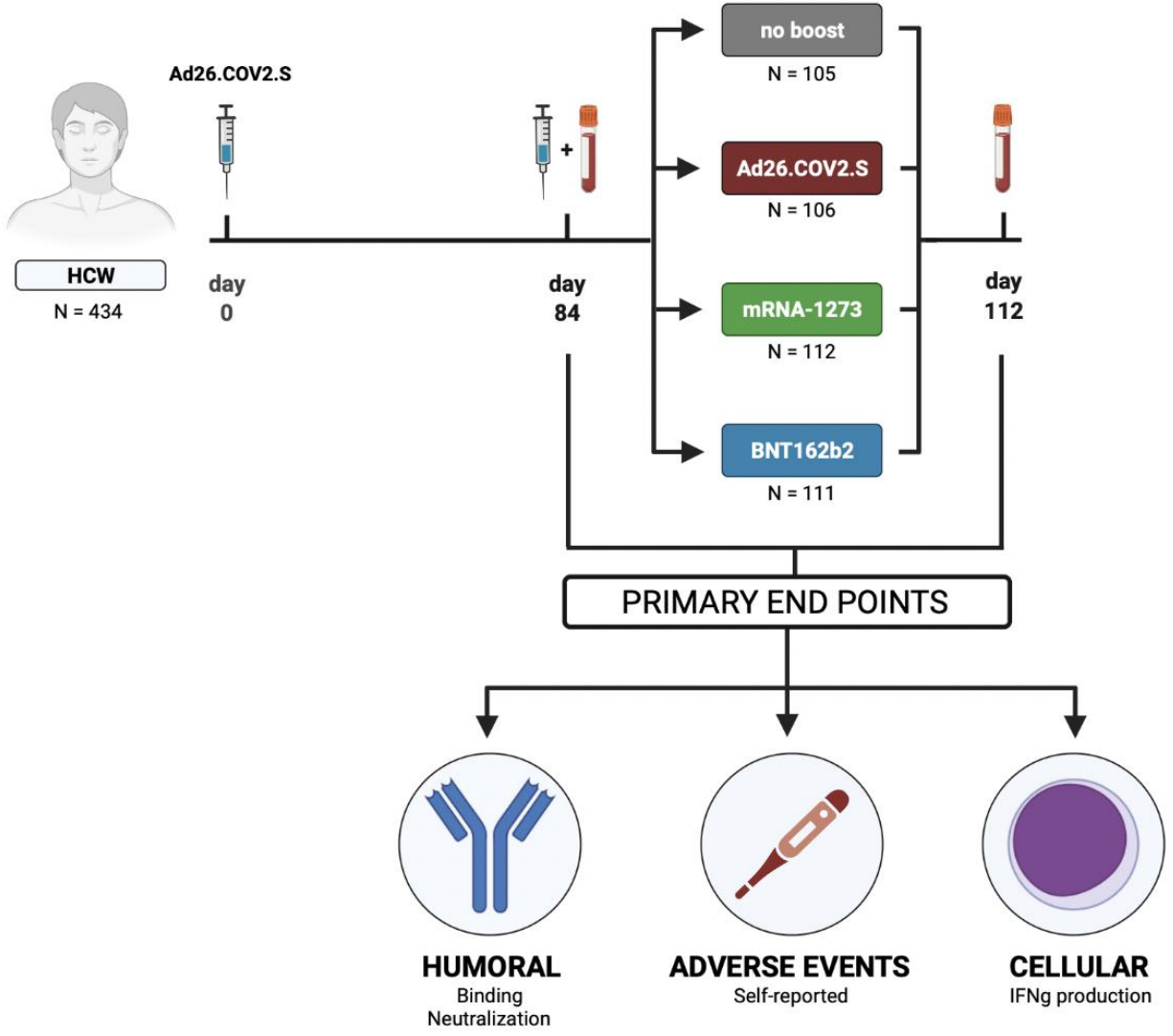
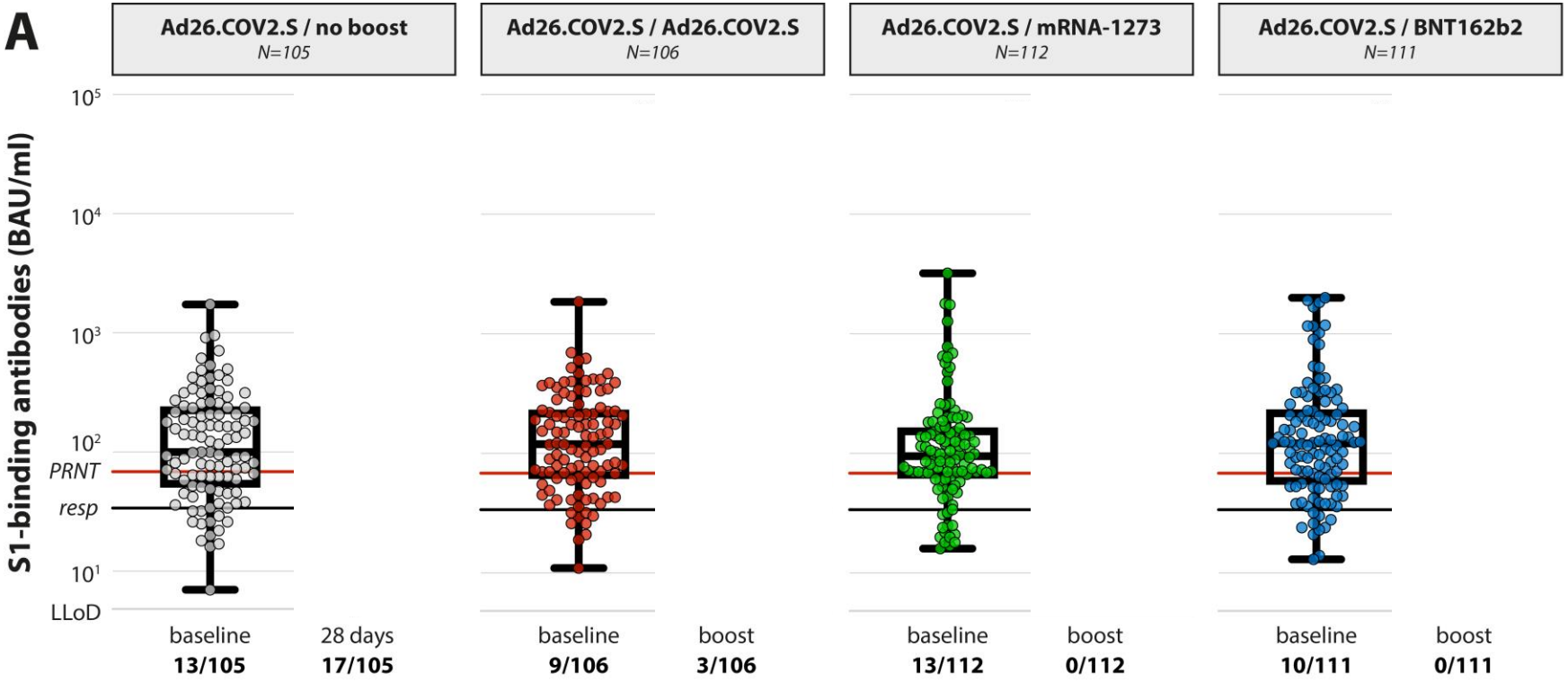
Study overview

- Ad26.COV2.S-primed HCW (**N=434**, median age 40)
- **Booster vaccination at ±84 days**
- Randomized to 4 study groups
  - No boost (N=105)
  - Homologous Ad26.COV2.S boost (N=106)
  - Heterologous mRNA1273 boost (N=112)
  - Heterologous BNT162b2 boost (N=111)
- **Endpoints (28days):** binding antibodies, neutralizing antibodies, T-cell responses, reactogenicity



Antibody levels pre- and post-boost



- 389/434 Ad26.COV2.S HCW had binding antibodies at baseline (**89.6%**)
- Homologous and heterologous injections **boosted** binding antibodies
- Heterologous mRNA-boost **most immunogenic**, especially mRNA1273

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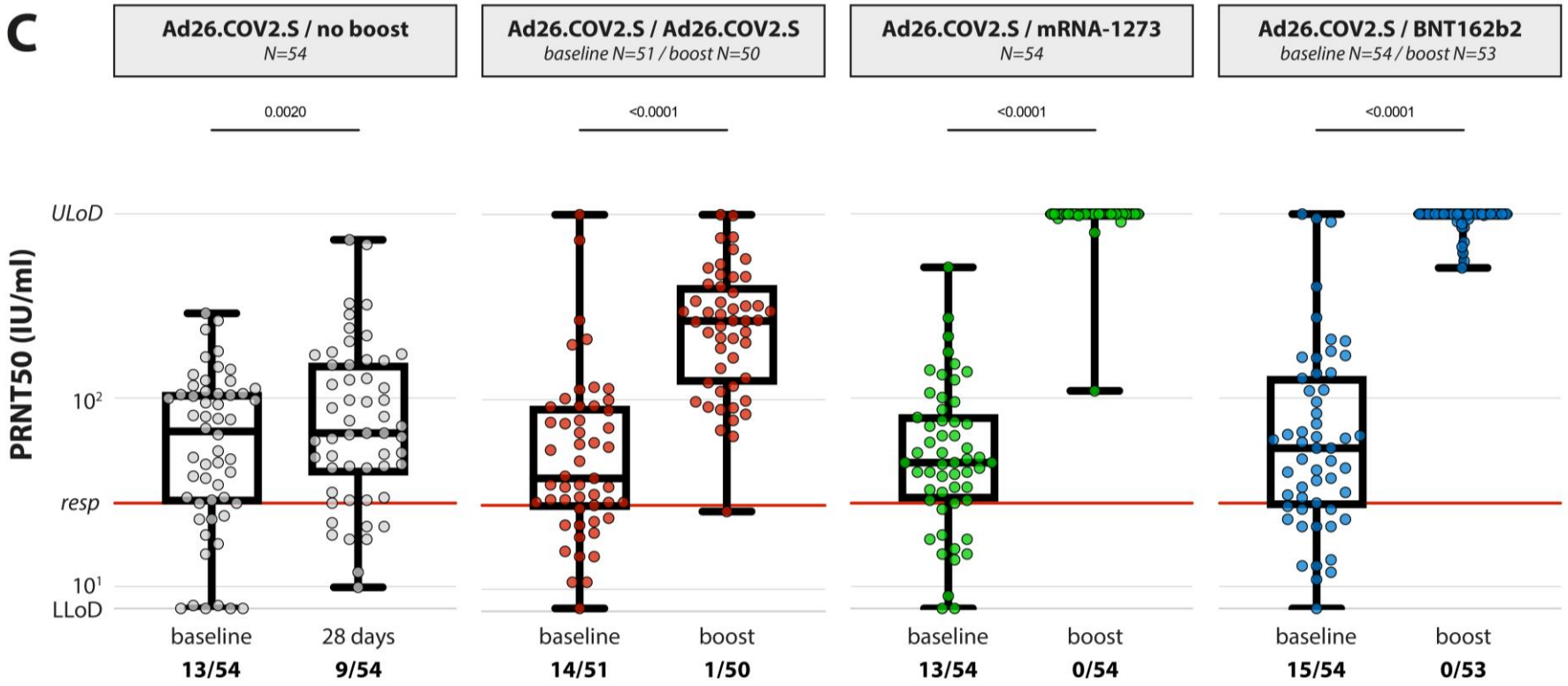
PRNT50 levels pre- and post-boost



- 158/213 Ad26.COV2.S HCW had neutralizing antibodies at baseline (**74.2%**)
- Homologous and heterologous injections **boosted** neutralizing antibodies
- Heterologous mRNA-boost **most immunogenic**, especially mRNA1273

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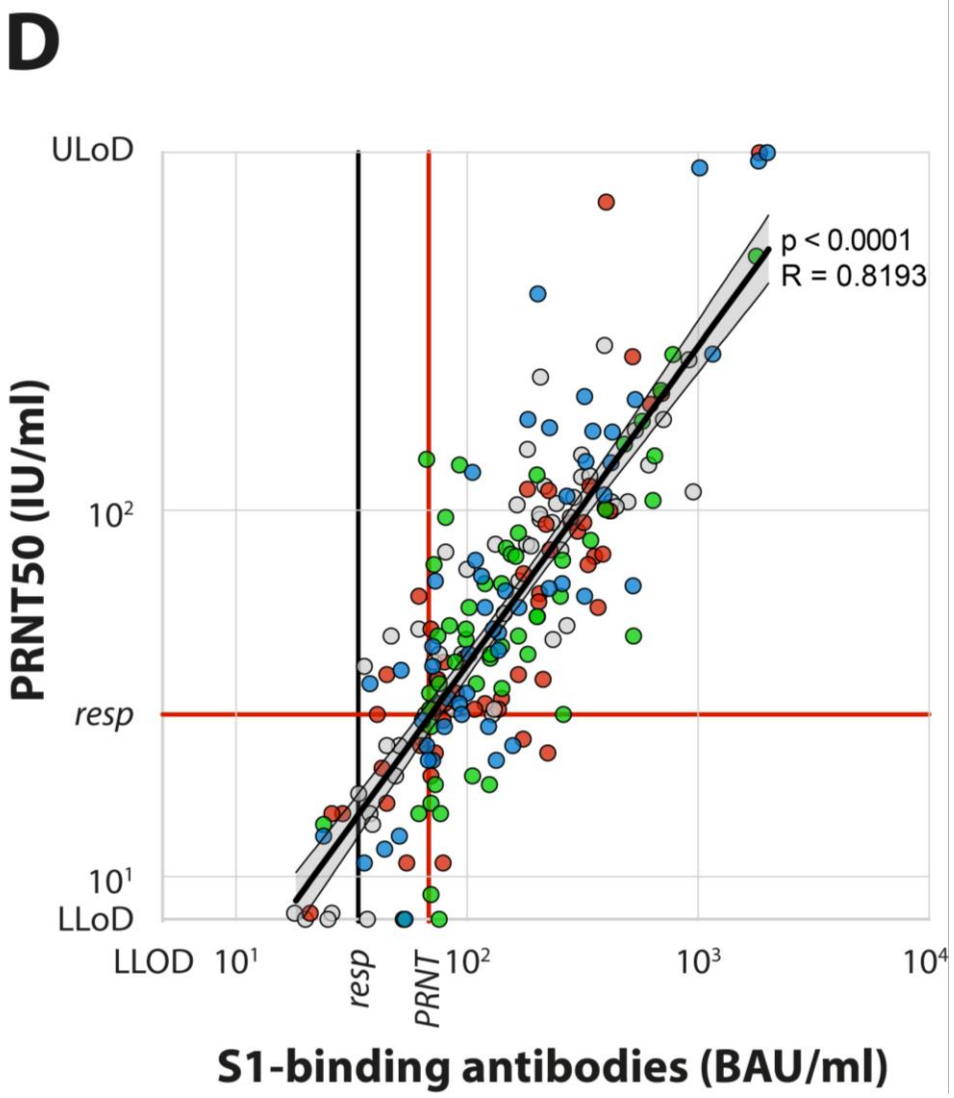
Binding and PRNT50 are correlated



- Binding and neutralizing antibodies significantly correlated
- Cutoff of **68.3 BAU/ml** binding antibodies shown to correlate to presence neutralizing capacity in Ad26.COV2.S-primed participants

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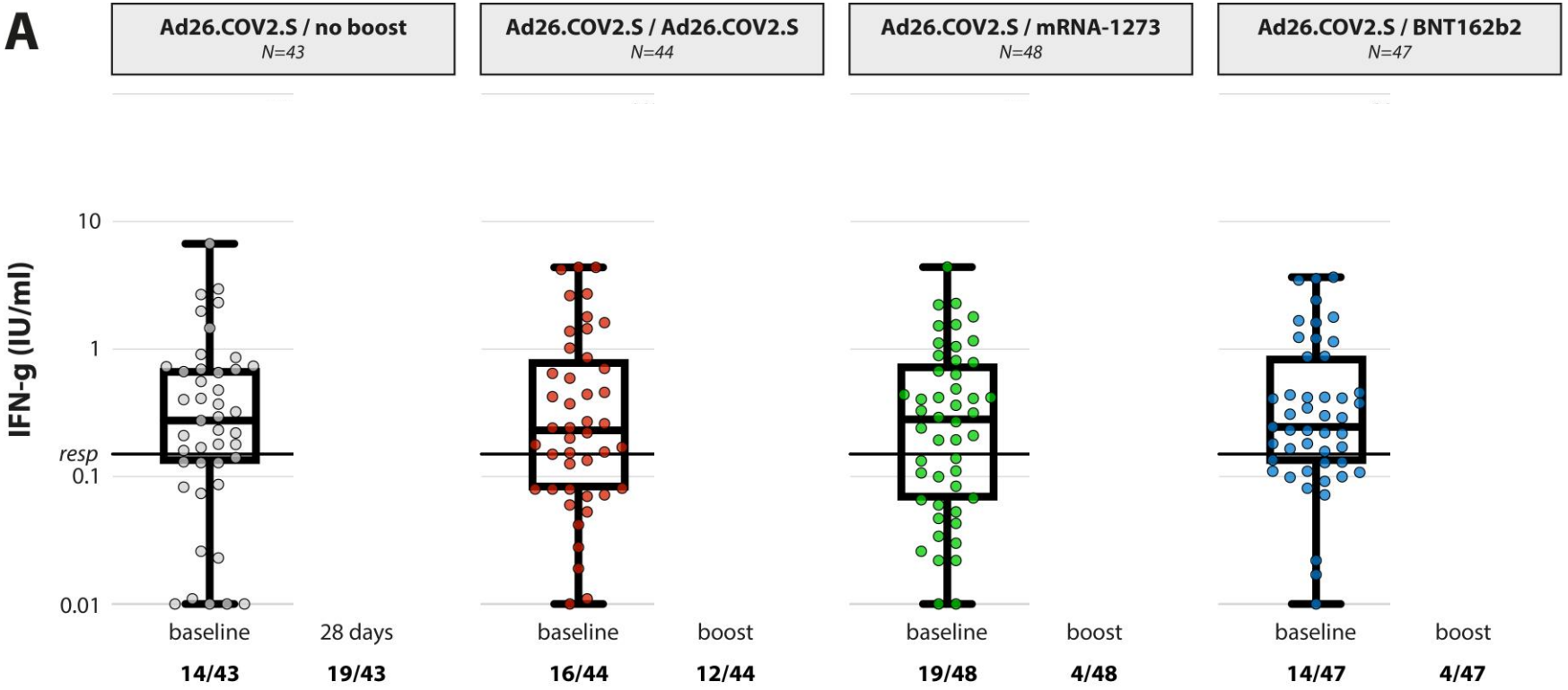
Specific T-cells pre- and post-boost



- 119/182 Ad26.COV2.S HCW had SARS-CoV-2-specific T-cells at baseline (**64.8%**)
- Homologous and heterologous injections **boosted** specific T-cells
- Heterologous mRNA-boost **most immunogenic**, especially mRNA1273

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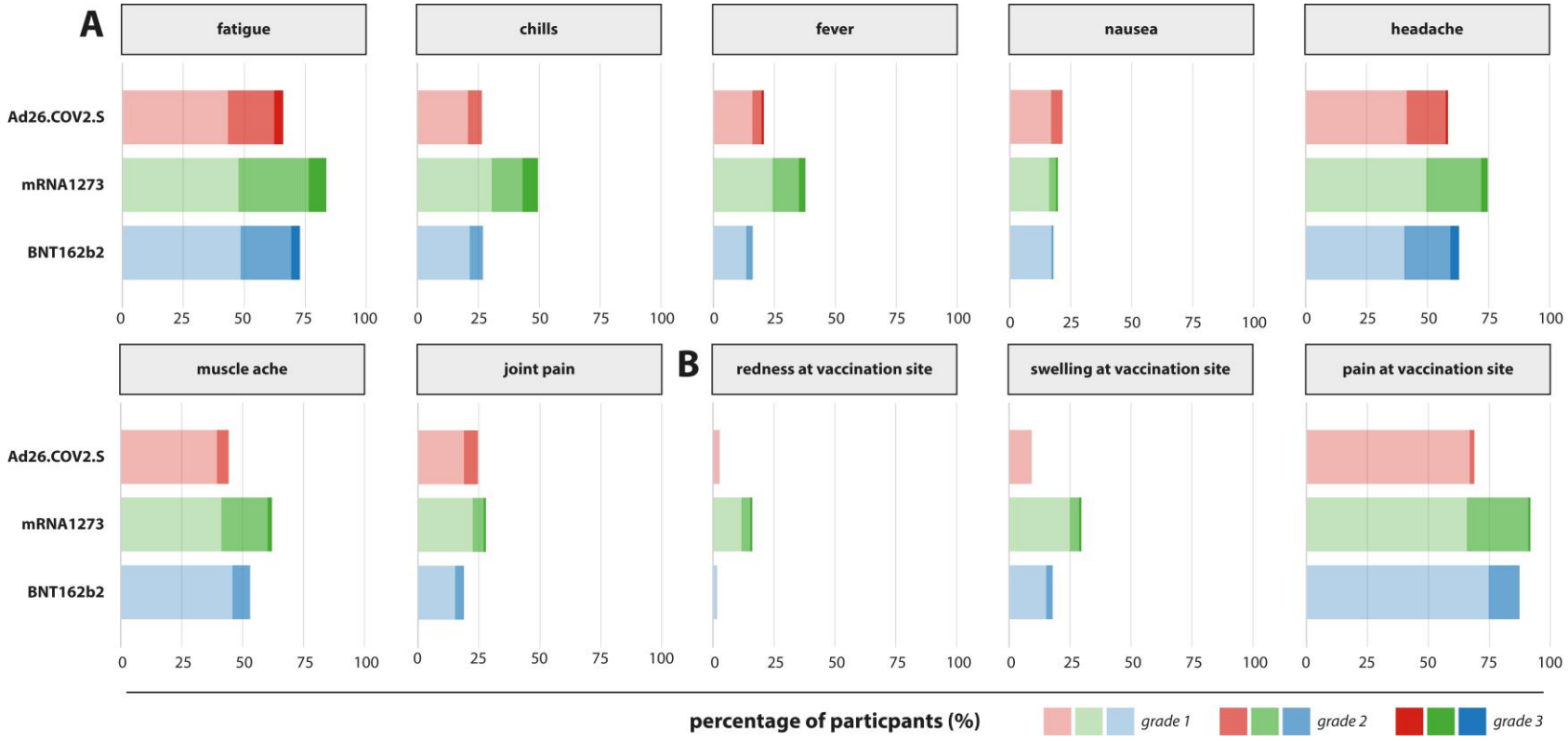
Adverse events post-boost



- Only mild systemic and local adverse events reported
- Adverse events generally resolved within 48hrs
- mRNA1273 was most **reactogenic**

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Conclusions

Ad26.COV2.S priming induces **durable responses** in the majority of vaccine recipients

An arbitrary cut-off of 68.3 BAU/ml corresponds to **neutralizing capacity**

Homologous and heterologous boosts are **immunogenic** and **well-tolerated** after Ad26.COV2.S priming

Heterologous mRNA-based boosts are **more immunogenic** than homologous boost

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