Omicron neutralization

14.12.2021

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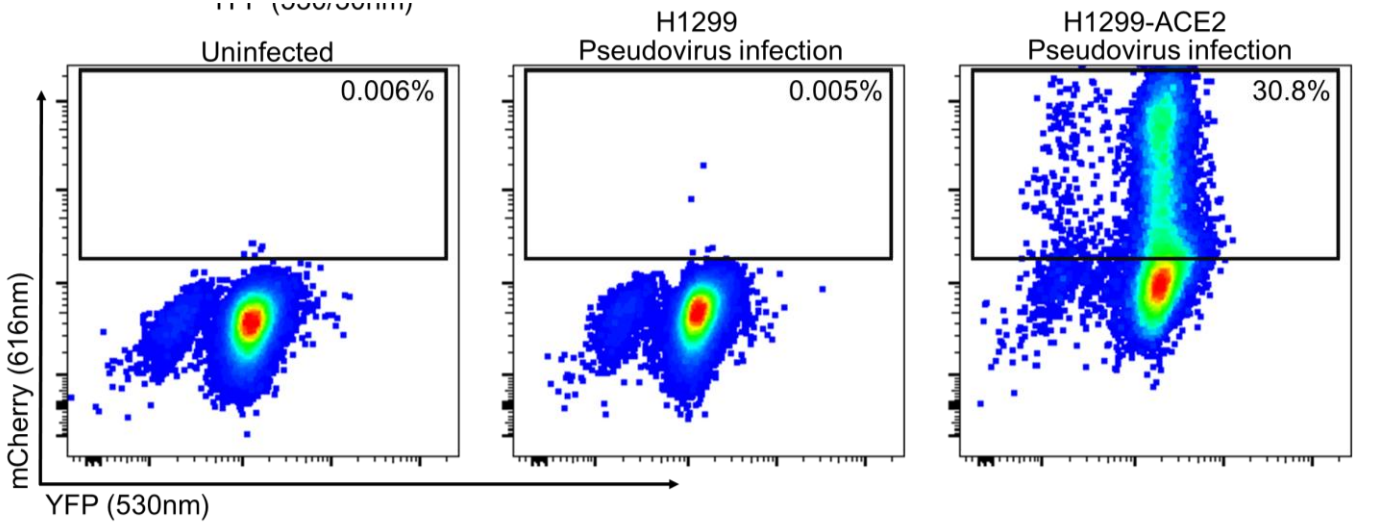
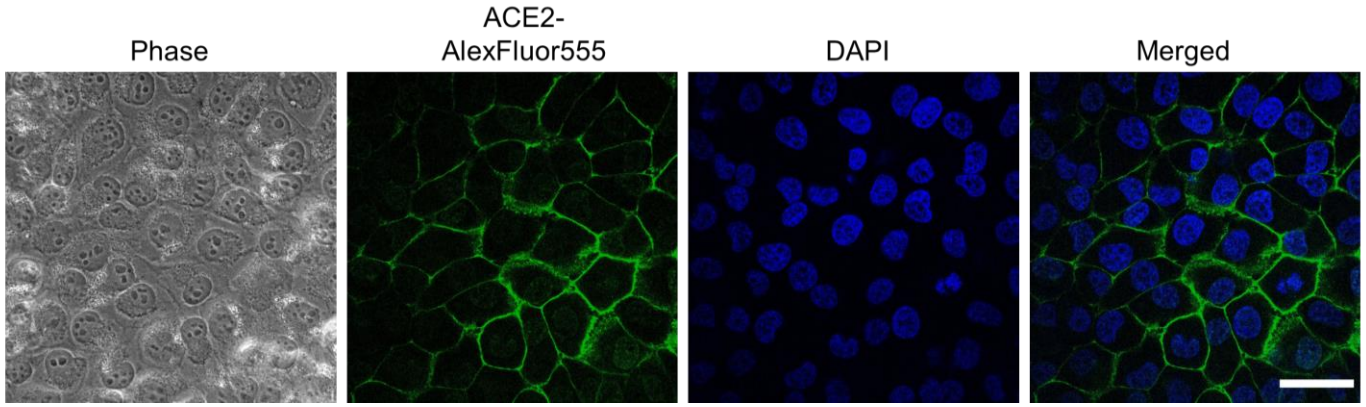
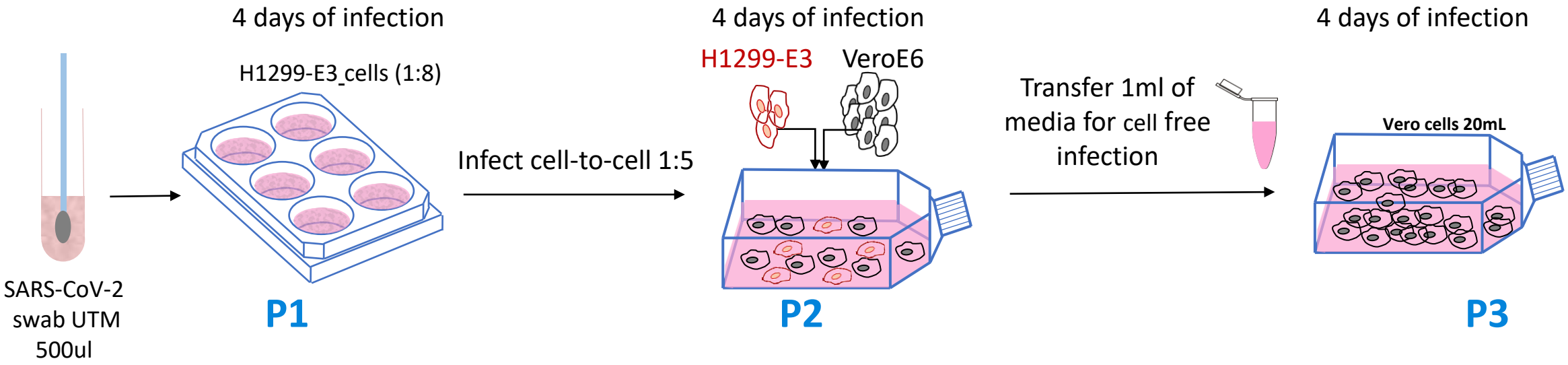
Validation of cell line

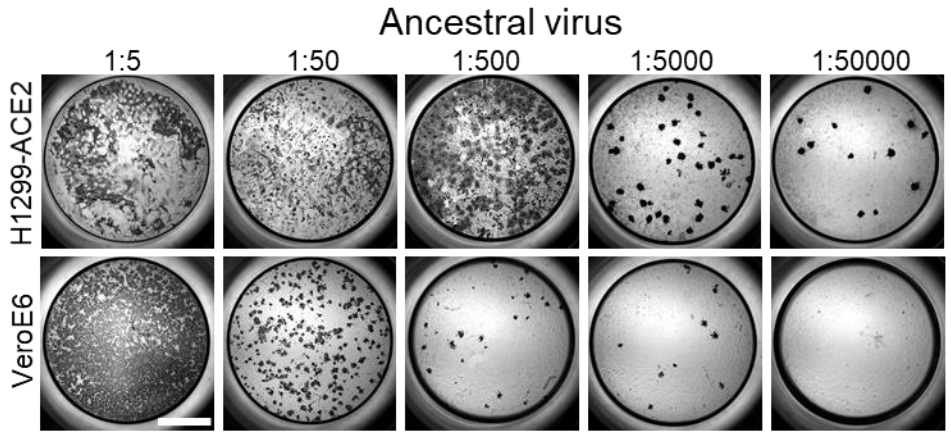


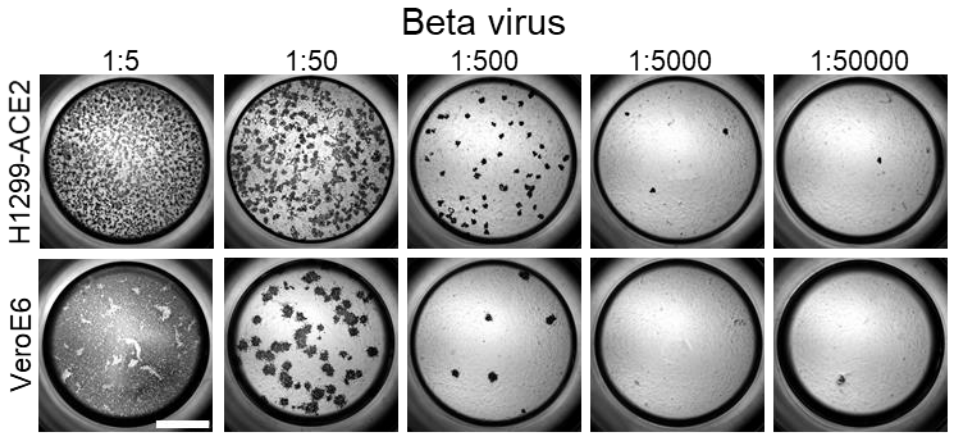


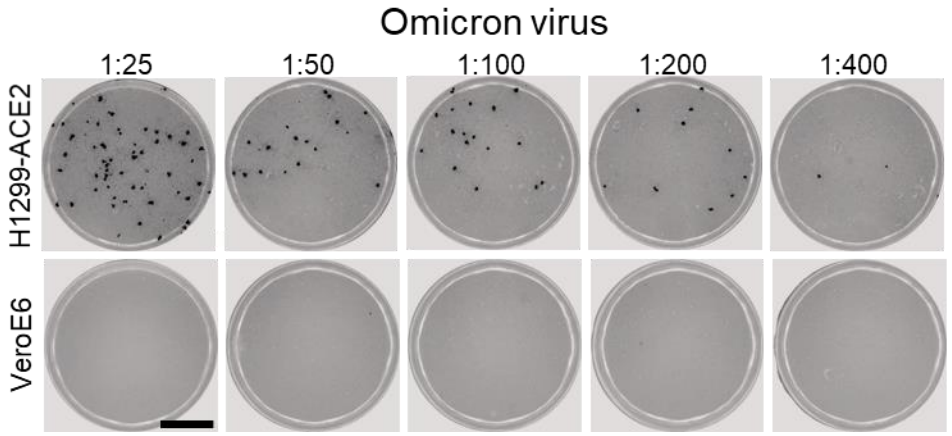
Outgrowth

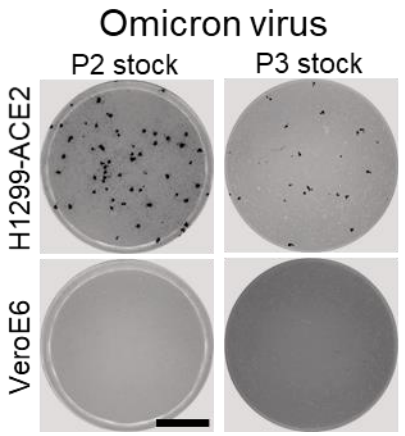

4 days of infection
H1299-E3 cells (1:8)
SARS-CoV-2 swab UTM 500ul
P1
Infect cell-to-cell 1:5
4 days of infection
H1299-E3
VeroE6
P2
Transfer 1ml of media for cell free infection
4 days of infection
Vero cells 20mL
P3

Expansion of Omicron

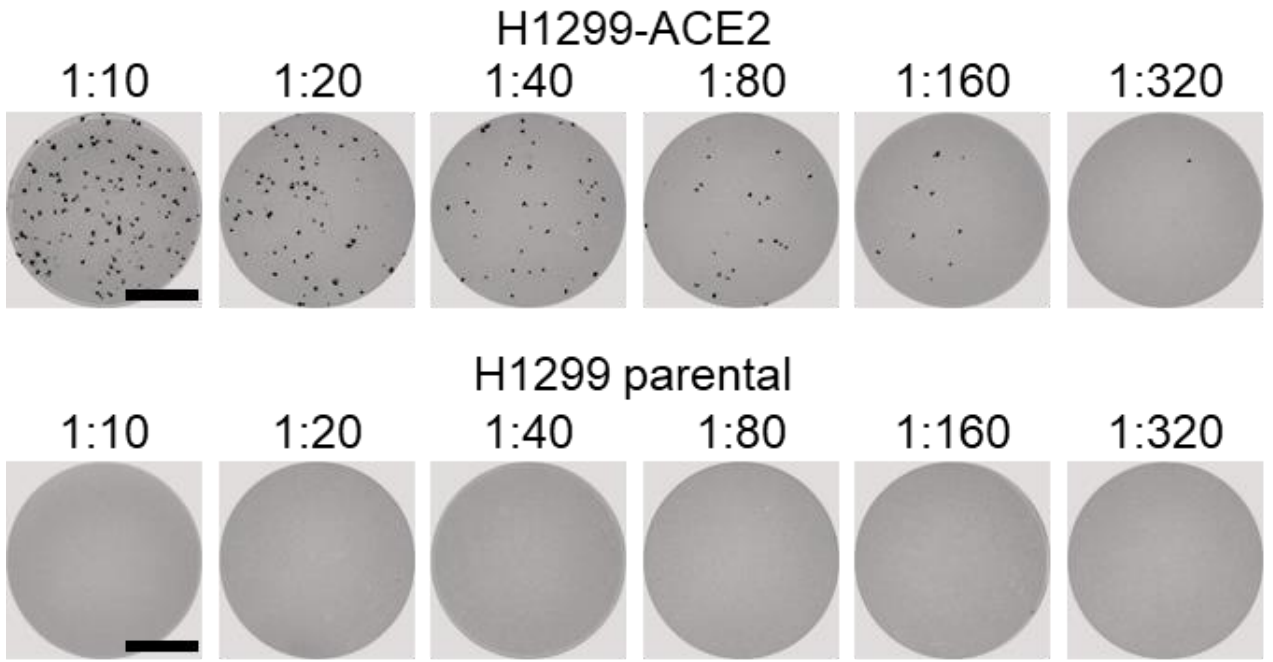


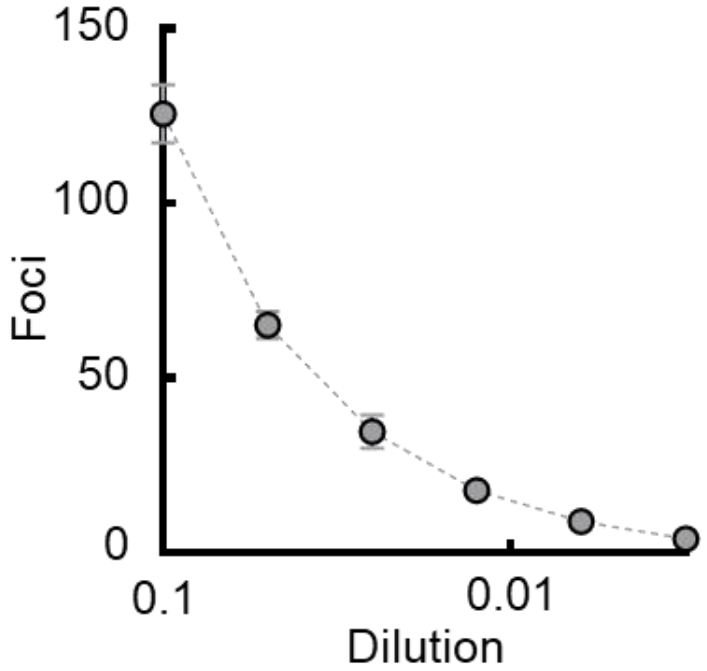




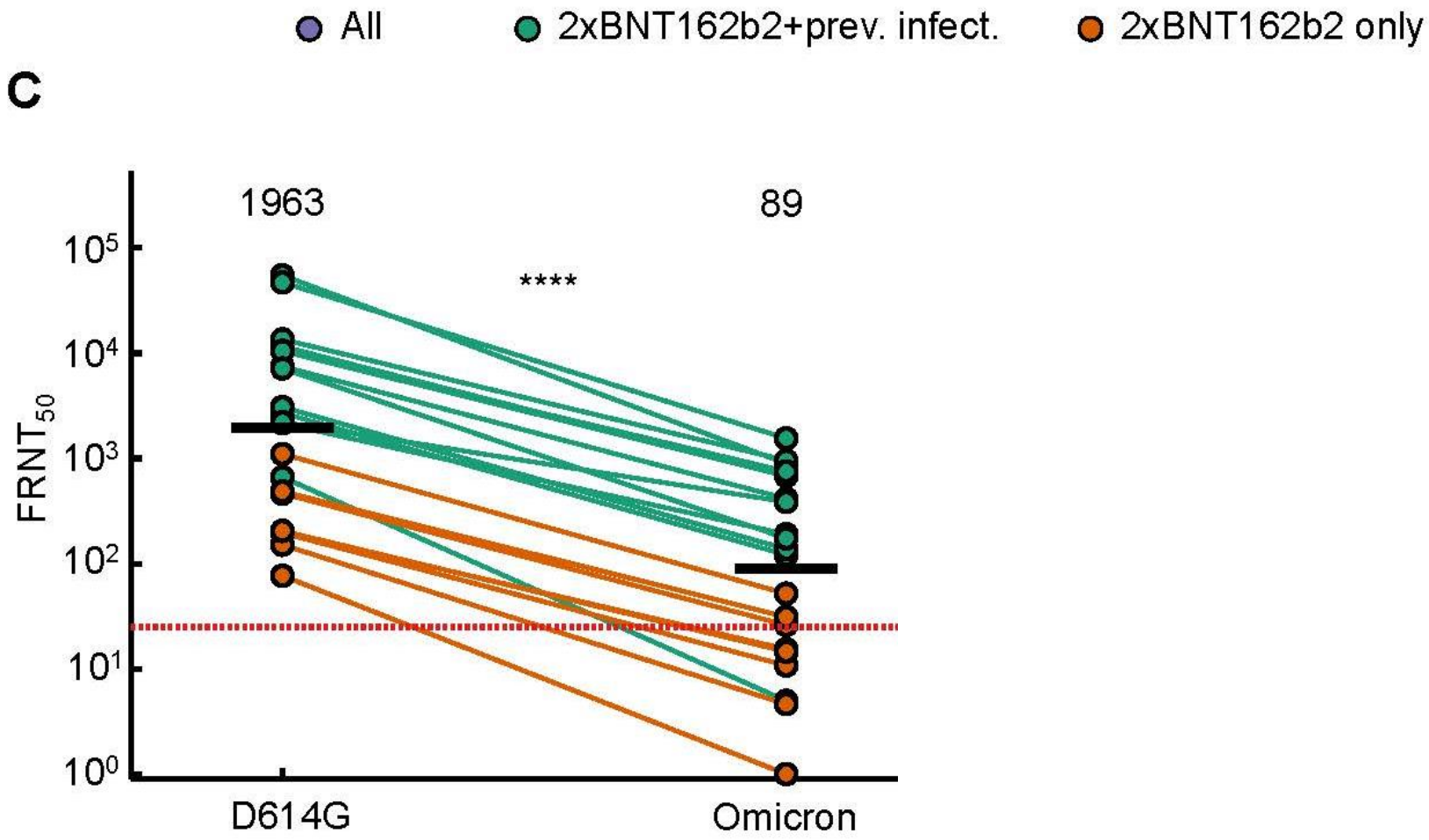


ACE2 still required for Omicron



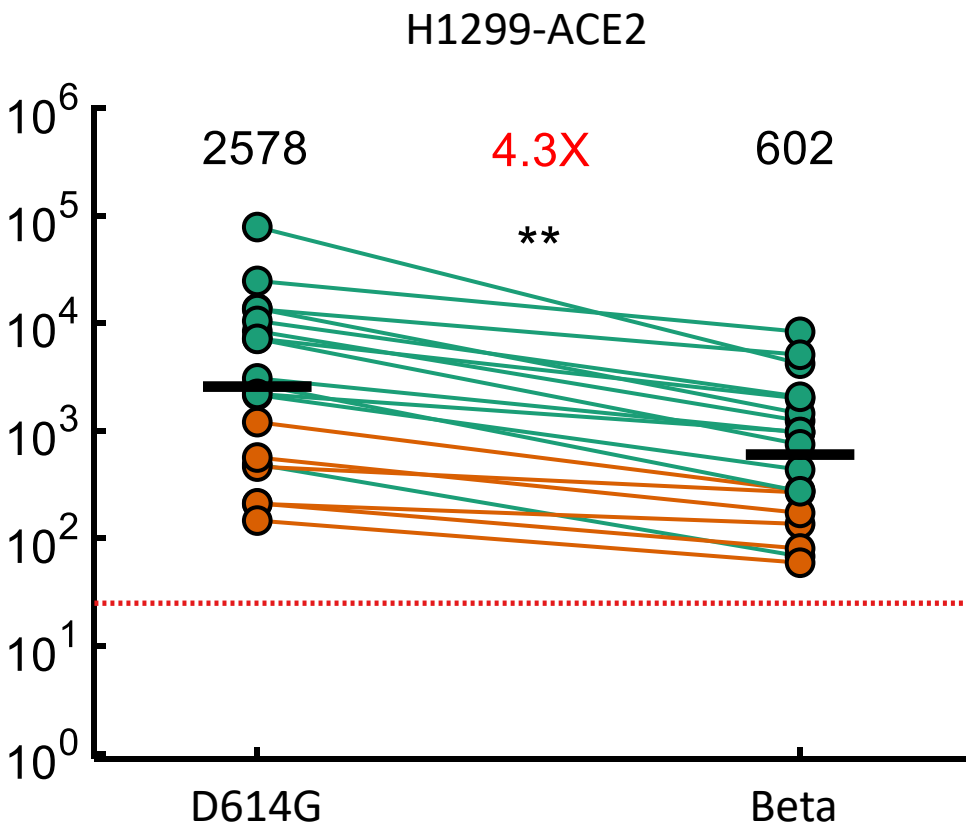


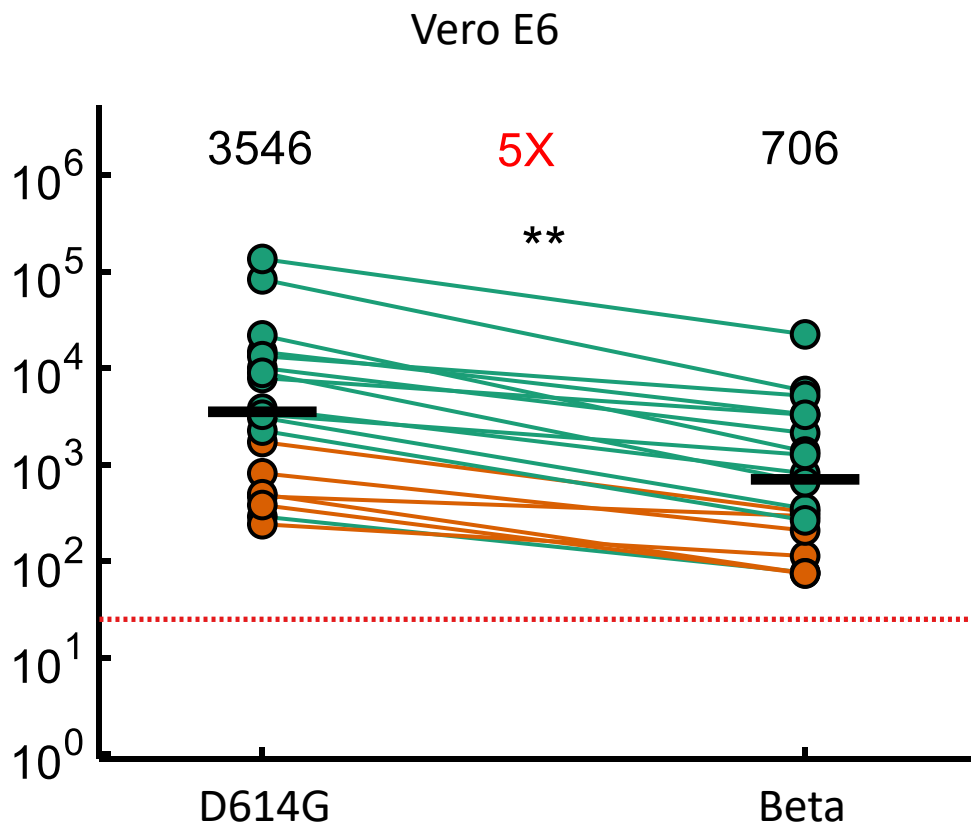
Neutralization of Omicron and estimates of VE



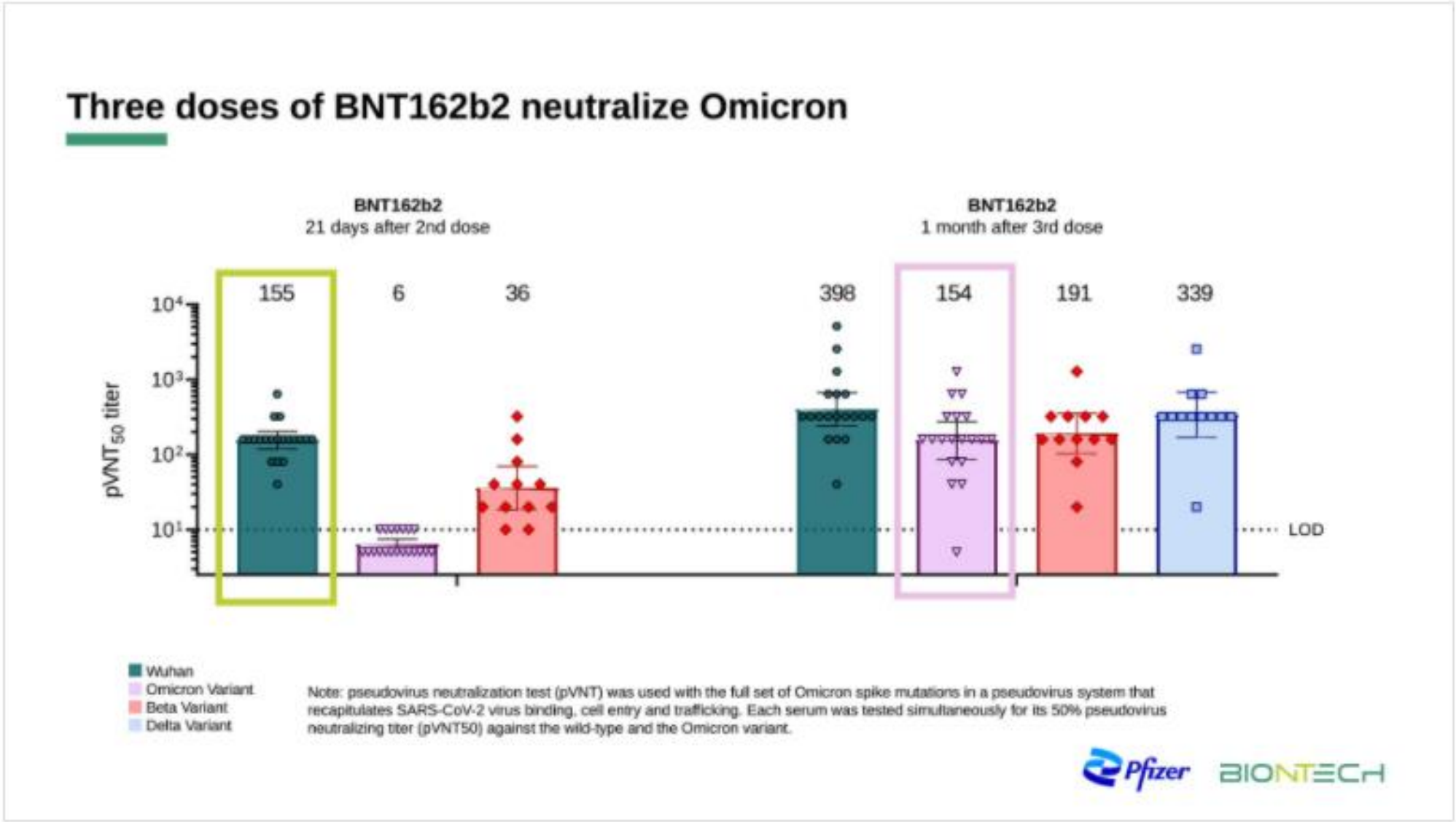
*Note that VE against severe outcomes is much less reliable and validated, because we do not have data to support the model at such low titers against severe outcomes, and also because we do not understand baseline severity with omicron.

Neutralization of Beta in H1299-ACE 2 and Vero-E6





Pfizer-BioNtech Results



Conclusions

- Extensive but incomplete escape of Omicron from Pfizer-BNT162b2 vaccine elicited neutralization
- Numbers game – fold-change in neutralization same between low and high neutralizers but residual neutralization level different
- Pfizer-BNT vaccination is predicted to give reasonable protection protection from Omicron severe disease but waning not considered

Acknowledgments (Partial)

Sandile Cele

Farina Karim

Laurelle Jackson

Khadija Khan

Gil Lustig

Willem Hanekom

Miles Davenport

David Khoury

Deborah Cromer

Tulio de Oliveira

Richard Lessells

Houriiyah Tegally

Yunus Moosa

Bernadett Gosnell

Penny Moore

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