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Supplemental information

Functional differences among the spike glycoproteins of multiple emerging severe acute respiratory syndrome coronavirus 2 variants of concern

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Table S1. Information on convalescent COVID-19 patients, Related to Figure 6.

Sample ID	Age	Sex	Race	Days from symptom onset
CP1	49	Male	Caucasian	35
CP2	27	Female	Asian	29
CP3	85	Male	Caucasian	101
CP4	83	Male	Caucasian	8
CP5	55	Male	Caucasian	31
CP6	76	Male	Black or African American	19

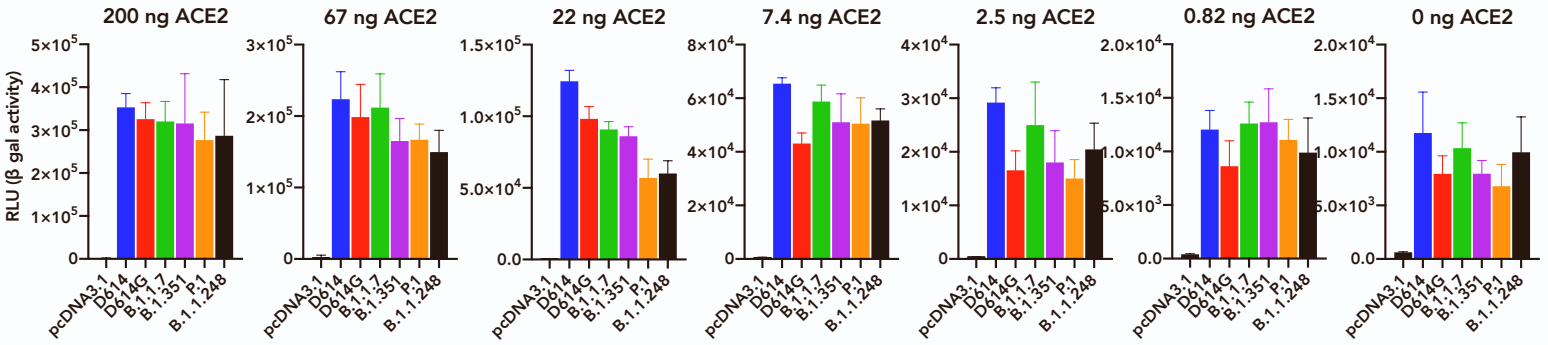

Figure S1. Fusion of cells expressing S glycoprotein variants and cells expressing different levels of human ACE2, Related to Figure 3A. Fusion efficiency between COS-1 effector cells transiently expressing α-gal and the indicated S glycoprotein and 293T target cells transiently transfected with a plasmid expressing **ω**-gal and the indicated amount of an ACE2-expressing plasmid was studied. The cell-cell fusion efficiency was determined by quantitation of **β**-galactosidase activity in the culture. The results shown represent the means and standard deviations derived from two independent experiments.

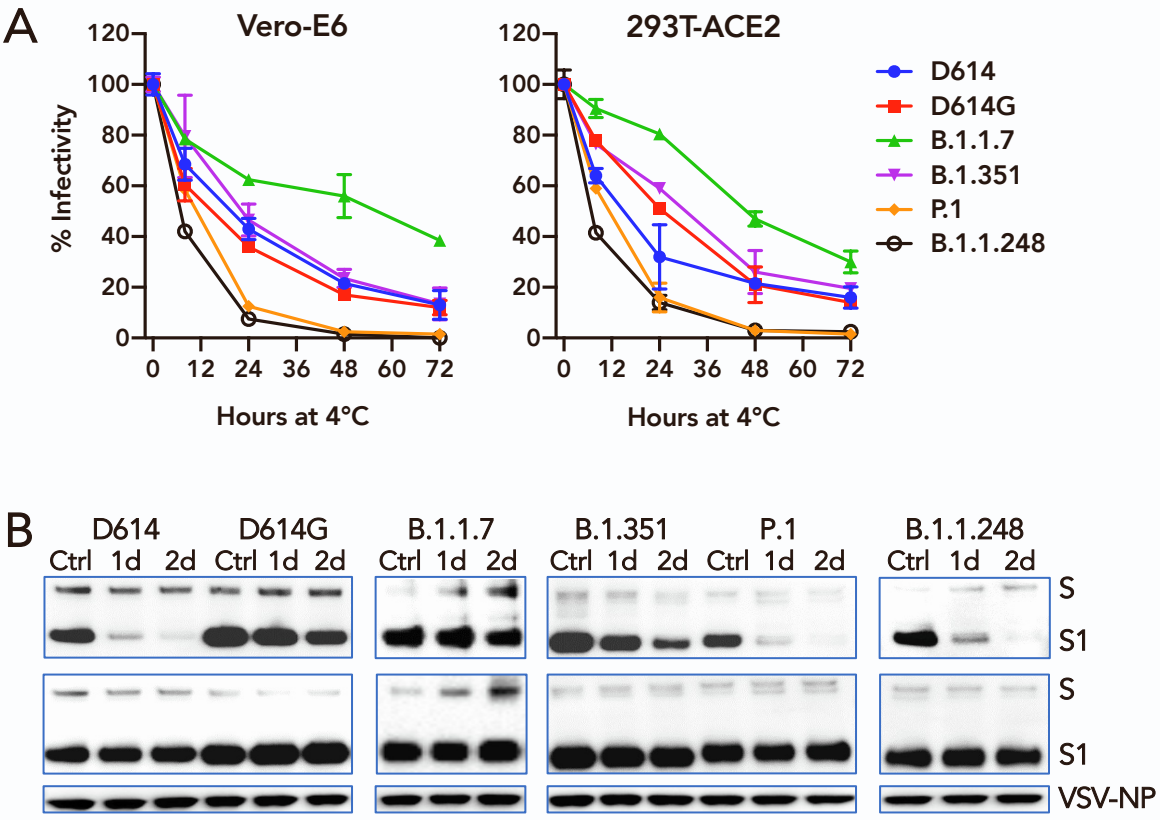

Figure S2. Cold sensitivity of SARS-CoV-2 S glycoprotein variants, Related to Figure 5.
(A) VSV vectors pseudotyped by the variant SARS-CoV-2 S glycoproteins were incubated at 4°C for the indicated times. The infectivity of the viruses was measured on Vero-E6 and 293T-ACE2 cells. The infectivity at each time point is reported, relative to that observed at time 0 for each pseudovirus. Means and standard deviations from three replicates are shown.
(B) VSV particles pseudotyped with the variant SARS-CoV-2 S glycoproteins were incubated at 4°C for one or two days. VSV pseudotypes that were not incubated at 4°C served as controls (Ctrl). Pelleted VSV particles were analyzed by Western blotting with antibodies against S1, S2 and VSV NP. The results shown are representative of those obtained in duplicate experiments.

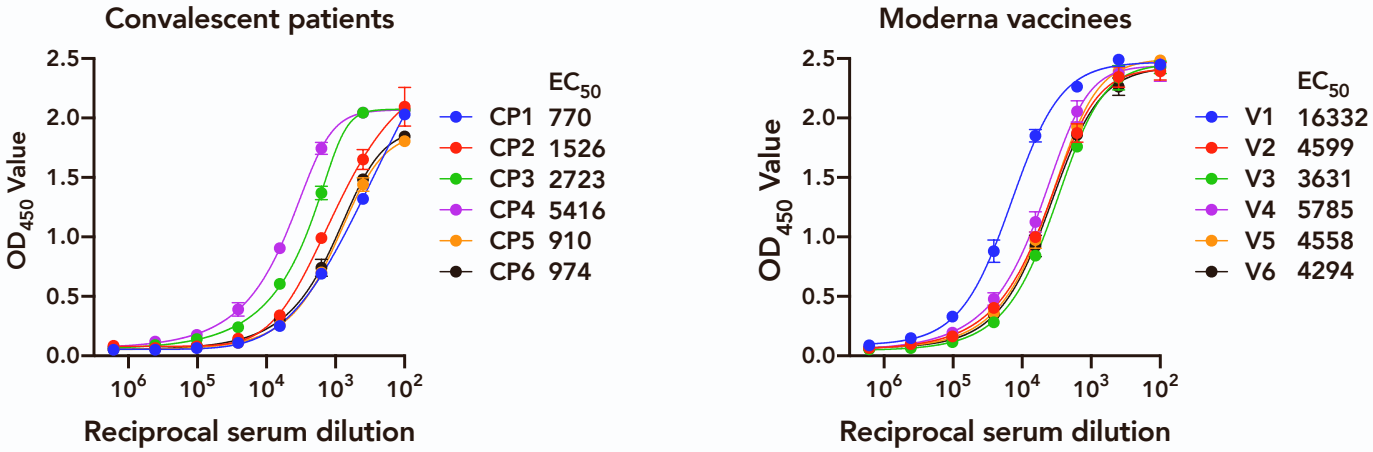

Figure S3. Binding of convalescent COVID-19 patient sera (CP1-CP6) and Moderna vaccinee sera (V1-V6) to the SARS-CoV-2 D614G S2P trimer, Related to Figure 6. The S2P trimers were captured on ELISA plates. Serially diluted sera (starting from 1:100) were incubated with the plates and the bound antibodies were measured. Data in the graphs represent the means +/- SEM of triplicate measurements. The dilution of serum (EC_{50}) required to achieve 50% saturation of binding was calculated and is shown to the right of the graph.

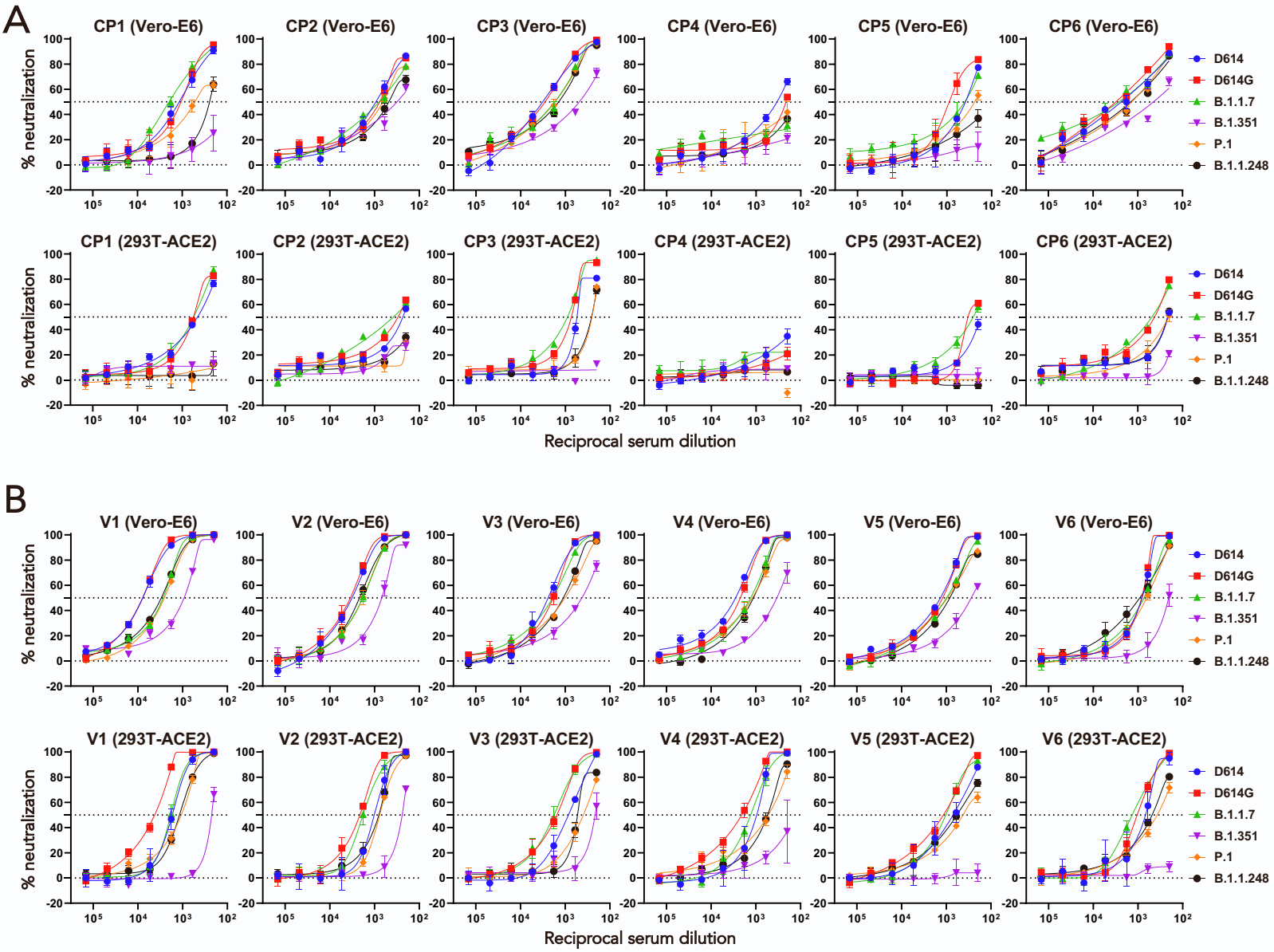

Figure S4. **Neutralization of VSV pseudotypes by sera from COVID-19 patients and vaccinees, Related to Figure 6.** Neutralization curves are shown of convalescent sera **(A)** and Moderna vaccinee sera **(B)** against VSV particles pseudotyped by the variant SARS-CoV-2 S glycoproteins on Vero-E6 and 293T-ACE2 cells. Data are represented as mean +/- SEM.

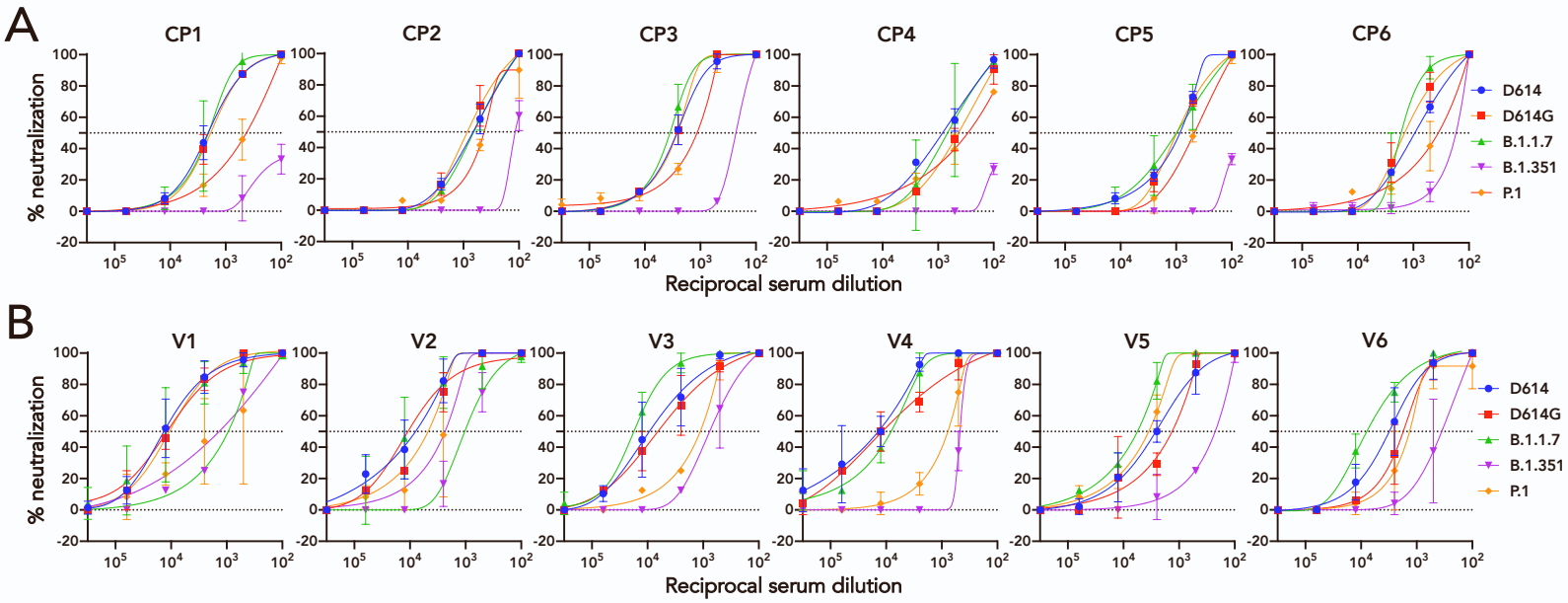

Figure S5. **Neutralization of authentic SARS-CoV-2 variants by convalescent and vaccinee sera, Related to Figure 6.** Neutralization curves are shown of convalescent sera **(A)** and Moderna vaccinee sera **(B)** against authentic SARS-CoV-2 viruses of the indicated strains on Vero-E6 cells. Data are represented as mean +/- SEM.