

807

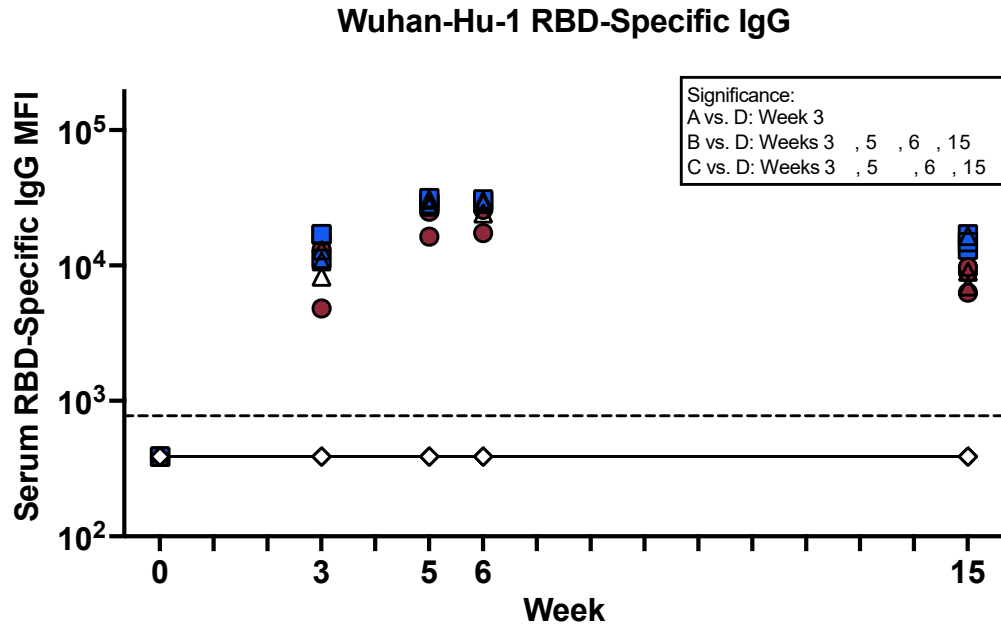


Figure S1. Serum Wuhan Hu1-Specific IgG Kinetics Serum S-specific IgG kinetics measured using a MIA. Titers were expressed as MFI. Dashed line indicates the limit of detection (LOD, =733 MFI). Individual values falling below the LOD were set to ½ LOD. Significance was calculated using a one-way ANOVA followed by a Dunnett's Multiple Comparison to Group D at each time point. (* $p \leq 0.05$, ** $p \leq 0.01$)

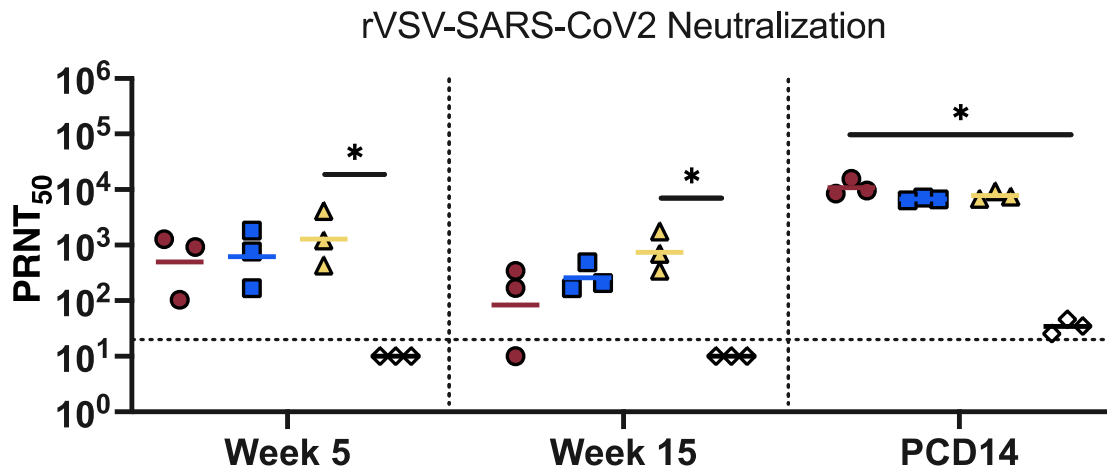


Figure S2. Pre-and Post-Challenge rVSV-SARS-CoV2-S Neutralizing Antibody Response

Neutralizing antibodies collected at week 5, week 15 and at 14 days after P.1 challenge were measured using a rVSV-SARS-CoV-2 S PRNT assay. Curve-fitted PRNT₅₀ titers were calculated using a sigmoidal dose response curve. Dashed line indicates the LOD ($\leq 1:20$). Individual values falling below the LOD were set to $\frac{1}{2}$ LOD. Significance was calculated using a Kruskal-Wallis Test followed by a Dunn's Multiple Comparison to Group D at each time point. (* $p \leq 0.05$).

809

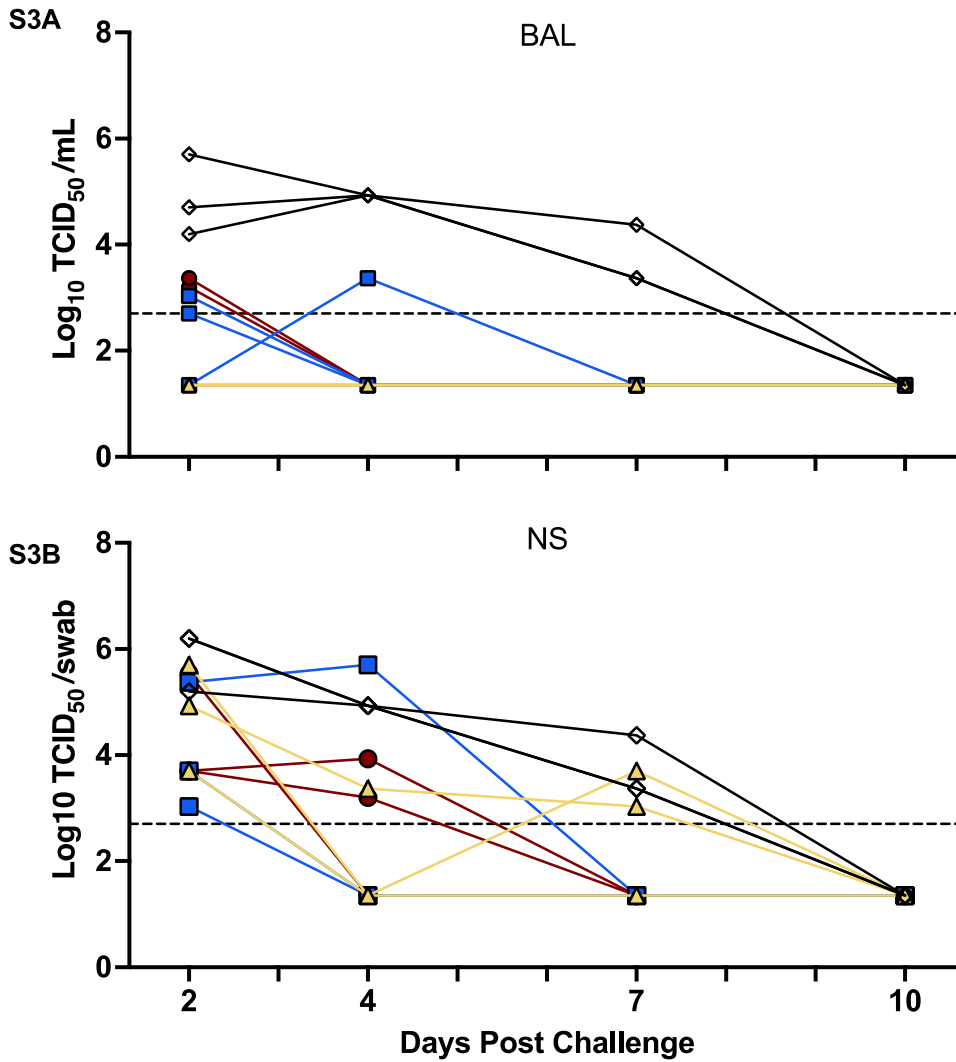


Figure S3. Individual TCID₅₀ Viral Load from the BAL and NS Serial diluted samples from the (A) lower and (B) upper respiratory tract at each timepoint were incubated with Vero E6 cells and then observed for cytopathology effect (CPE). Endpoint titers were determined at the dilution showing 50% CPE.

810

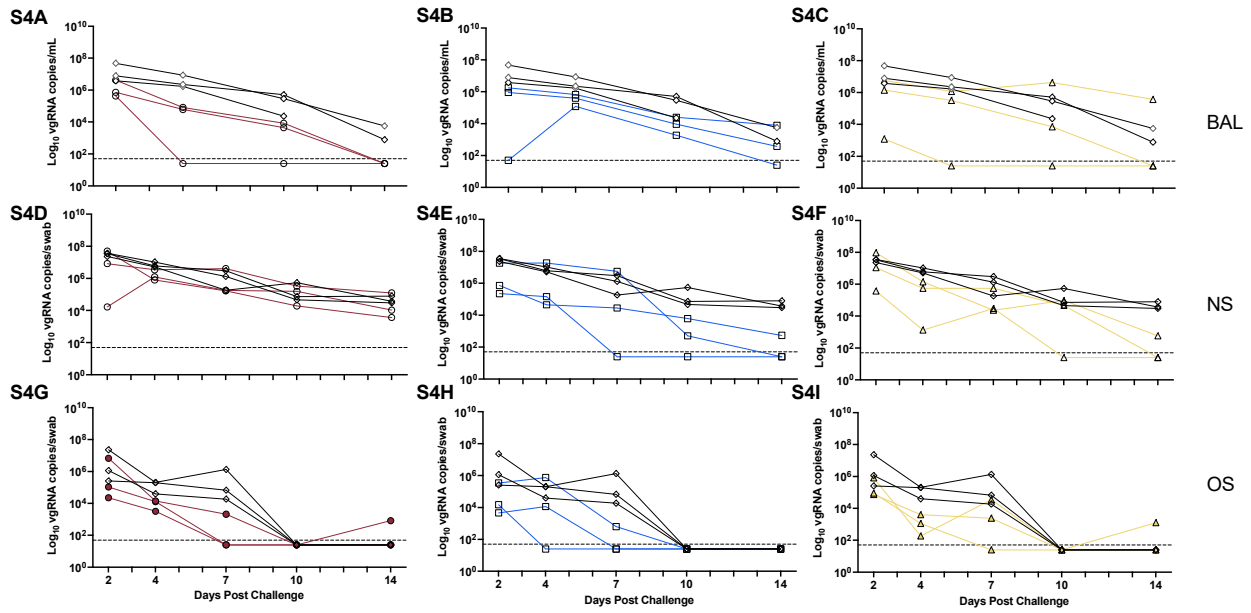


Figure S4. Individual Genomic Viral RNA Load Samples were collected from the (A-C) BAL, (D-F) nasal (NS) and (G-I) oral swab (OS) from each macaque at each timepoint and the viral genomic RNA was quantified using qPCR. Individual viral load kinetics from Groups A (A, D, G), B (B, E, H) and C (C, F, I) are plotted together with Group D for comparison. Dashed line indicates the LOD.

811

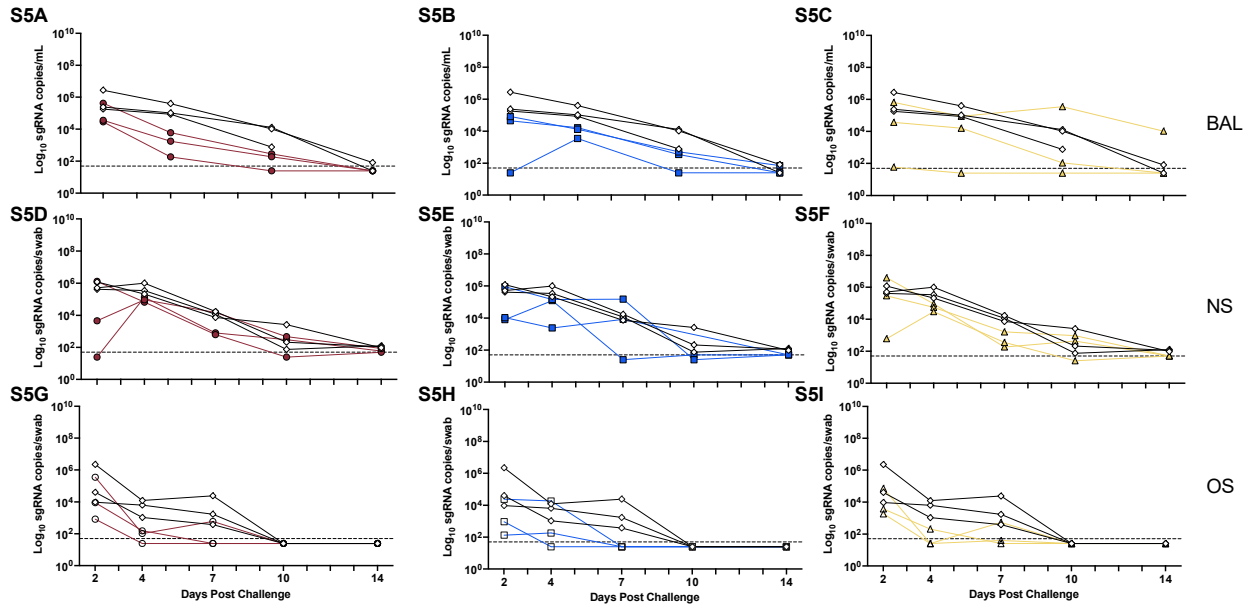


Figure S5. Individual Subgenomic N transcript Viral RNA Load Samples were collected from the (A-C) BAL, (D-F) nasal (NS) and (G-I) oral swab (OS) from each macaque at each timepoint and the subgenomic N transcript RNA was quantified using qPCR. Individual viral load kinetics from Groups A (A, D, G), B (B, E, H) and C (C, F, I) are plotted together with Group D for comparison. Dashed line indicates the LOD.

Supplemental Table 1: Detailed Histopathology Scoring System

	0	1 (minimal)	2 (mild)	3 (moderate)
Intraalveolar edema	Absent	Occasional alveoli, up to 5% of the slide affected	Confluent alveoli; 6-25% of the slide affected	Confluent alveoli; 26-50% of the slide affected
Intraalveolar inflammation	Alveolar macrophages ^a WNL	Occasional alveoli with increased macrophages	Multiple foci of alveoli with increased or clustered macrophages, and/or multinucleated giant cells	Criteria for 2 with associated acute inflammation (acute pneumonia)
Interstitial inflammation	Absent	Focal	Multifocal	/
Perivascular inflammatory infiltrates (cuffing)	None	Occasional, incomplete, or loosely formed cuffs	Numerous cuffs; predominantly incomplete and loosely formed with lesser well-formed complete cuffs	Numerous cuffs; approximately half or more well-formed, and may have a few broad, dense cuffs
Amount of ^bBALT	^a WNL	Mildly increased	Moderately increased	/

^aWNL: Within Normal Limits. Results are in range with what is considered normal.

^bBALT: Bronchiolar-associated lymphoid tissue