

## Supplementary Information Guide

**Supplementary Table 1.** Lung organoid donor demographics for Fig. 6, including COVID-19 vaccination record, clinical diagnosis and date of tissue acquisition. The normal margin surrounding the diseased tissue was used for organoid culture. Two independent SARS-CoV-2 plasma serology tests are listed, for MSD V-PLEX panel 1 IgA, IgG and IgM, and for MSD V-PLEX panel 1 IgG, respectively. The threshold values for positivity for each test are listed for every column. The organoid donor was designated as seropositive if any value exceeded the threshold. For case 30006, plasma was not available and positive infection history was obtained from the medical record. Case 30036 was negative for all serologies and was thus designated as seronegative (yellow row). Green and blue values indicate positive values that exceed the threshold for positivity. ND = not determined. NP = nucleocapsid protein. S = spike. RBD = spike receptor binding domain.

**Supplementary Table 2.** Quantification of infected cell types. Quantification of immunofluorescence images of SARS-CoV-2 NP and epithelial cell type markers (basal, AT2, club, ciliated).

**Supplementary Table 3.** Table of primary antibodies used for immunofluorescence staining. Columns correspond to antigen, supplier, product number, and dilution used.

**Supplementary Table 4.** Table of antibodies used for FACS staining of organoids. Columns correspond to antigen, clone, supplier, and product number. All FACS antibodies were used at a dilution of 1:100 in staining medium.

**Supplementary Table 5.** Table of primer sequences used for qPCR.