

## Supplementary Materials

### PRIMERS

The following primers were used for mRNA expression analysis:

MxA (F 5'-CCAGAGGCAGGAGACAATCAG-3'; R 5'-TCTTCGGTGGAACACGAGGT-3') Sigma Aldrich, MO, USA

MX2 (F 5'-GTGGAGCCCGCCCTTAGC-3'; R 5'-TCTGCCTTTGCTGTGTGTTTCA -3') Sigma Aldrich, MO, USA

IFNA (F 5'-CAGCAGACCTTAATCTCTTCAGC-3'; R 5'-GATCTCATGATTTCTGCTCTGAC-3') Sigma Aldrich, MO, USA

IFNB (F 5'-GACGCCGATTGACCATCTA-3'; R 5'-GACATTAGCCAGGAGGTTCTCA-3') Sigma Aldrich, MO, USA

IFNG (F 5'-GGCGACAGTTCAGCCATCAC-3'; R 5'-TGTGGAGACCATCAAGGAAGACA-3') Sigma Aldrich, MO, USA

ACE2 (Unique Assay ID: qHsaCED0044301) Bio-rad, CA, USA

IFITM1 (F 5'-TCTTGAAGTGGTGTCTGTGG-3'; R 5'-ACTTGCGGTGGAGGCATAG-3') Sigma Aldrich, MO, USA

IFITM3 (F 5'-ACTGGGATGACGATGAGCA-3'; R 5'-AGCATTCGCCTACTCCGTGA-3') Sigma Aldrich, MO, USA

IFI16 (Unique Assay ID: qHsaCED0037796) Bio-rad, CA, USA

NF-kB (F 5'-GCAATCATCCACCTTCATTCTC-3'; R 5'-TCCTCCACCACATCTTCCTG-3') Sigma Aldrich, MO, USA

IL1B (F 5'-TTCTGCTTGAGAGGTGCTGATG-3'; R 5'-TGTCTGCGTGTGAAAGATGA-3') Sigma Aldrich, MO, USA

IL6 (F 5'-GGTGTTCCTGCTGCCTTC-3'; R 5'-GCCAGTGCCTCTTTGCTGCT-3') Sigma Aldrich, MO, USA

IL17A (Unique Assay ID: qHsaCID0015941) Bio-rad, CA, USA

IL18 (F 5'-GCTGCTGAACCAGTAGAAGAC-3'; R 5'-CCGATTTCTTGGTCAATGAAGA-3') Sigma Aldrich, MO, USA

ERAP1 (F 5'-TGTCAGCAAGATAACCAAGAGTGG-3'; R 5'-AAGAGTCACCGCAGCATCCAG-3') Sigma Aldrich, MO, USA

ERAP2 (F 5'-TCCAAACCAGCGGAAACCC-3'; R 5'-CTGCTCCACAAGTCATCATC-3') Sigma Aldrich, MO, USA

TAP1 (F 5'-GCTGCCACCAATGTAGAG -3'; R 5'-GGCGAAGCCAGAAAGTTTAGG -3') Sigma Aldrich, MO, USA

HLA-A (Unique Assay ID: qHsaCED0037388) Bio-rad, CA, USA

CASP1 (Unique Assay ID: qHsaCED0038605) Bio-rad, CA, USA

CASP3 (Unique Assay ID: qHsaCID0013989) Bio-rad, CA, USA

CASP8 (Unique Assay ID: qHsaCED0001959) Bio-rad, CA, USA

STAT1 (Unique Assay ID: qHsaCED0043612) Bio-rad, CA, USA

STAT3 (Unique Assay ID: qHsaCID0010912) Bio-rad, CA, USA

SARS-CoV-2 N1 (F 5'-CAATGCTGCAATCGTGCTAC-3'; R 5'-GTTGCGACTACGTGARGAGG-3') IDT, IA USA

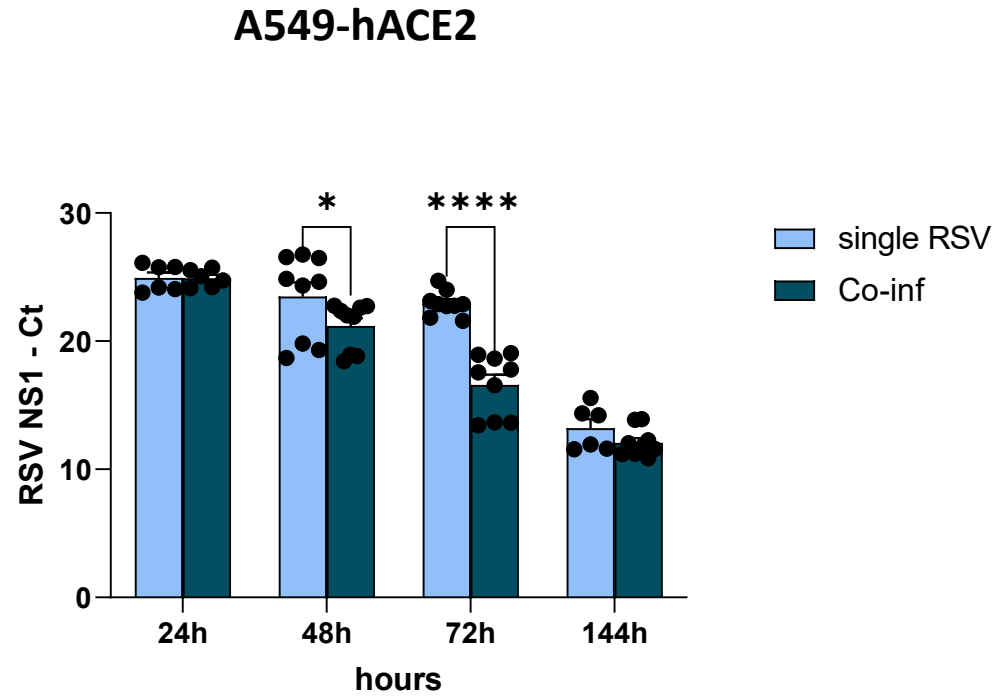
SARS-CoV-2 N2 (F 5'-GCTGCAACTGTGCTACAACT-3'; R 5' TGAAGTGTGCGACTACGTG-3') IDT, IA USA

RSV N (F 5'-GGGAGAGGTAGCTCCAGAATACAGGC-3'; R 5'-AAGACCAGATCTATCCCCTGCTGC -3') Sigma Aldrich, MO, USA

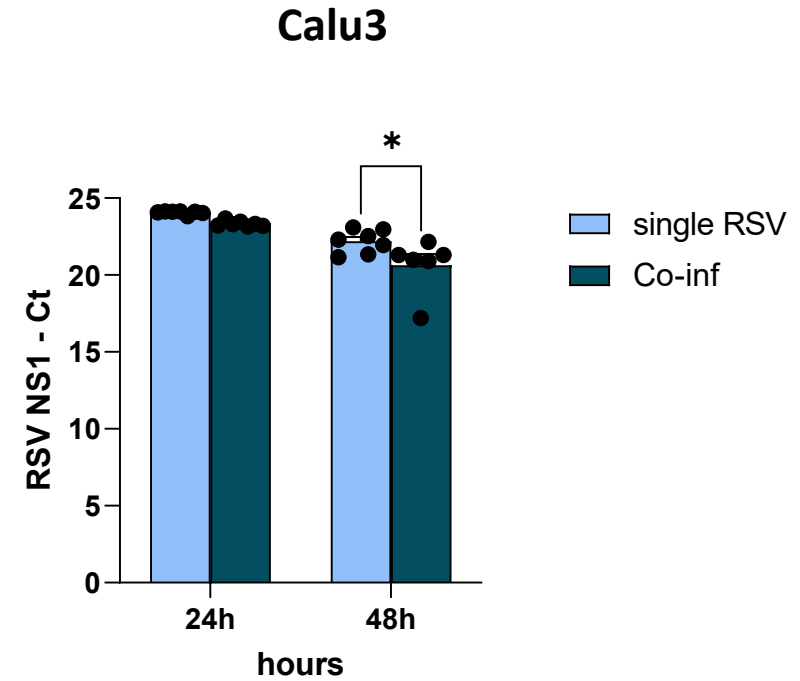
RSV NS1 (F 5'-GCAAATACAAAAATGGCTCTTAGC -3'; R 5'-ACTATCTCTGTGCTCCGTTG -3') Sigma Aldrich, MO, USA

# Supplementary Figure S1

A



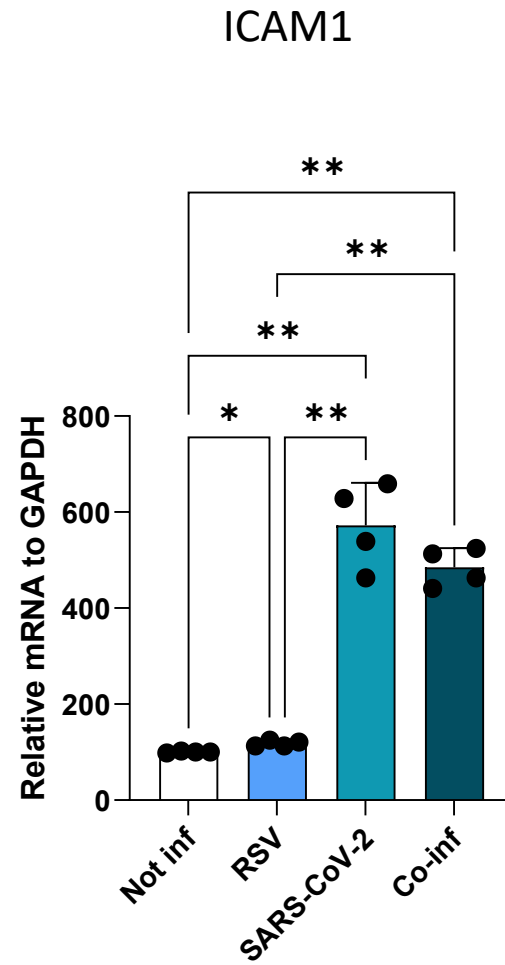
B



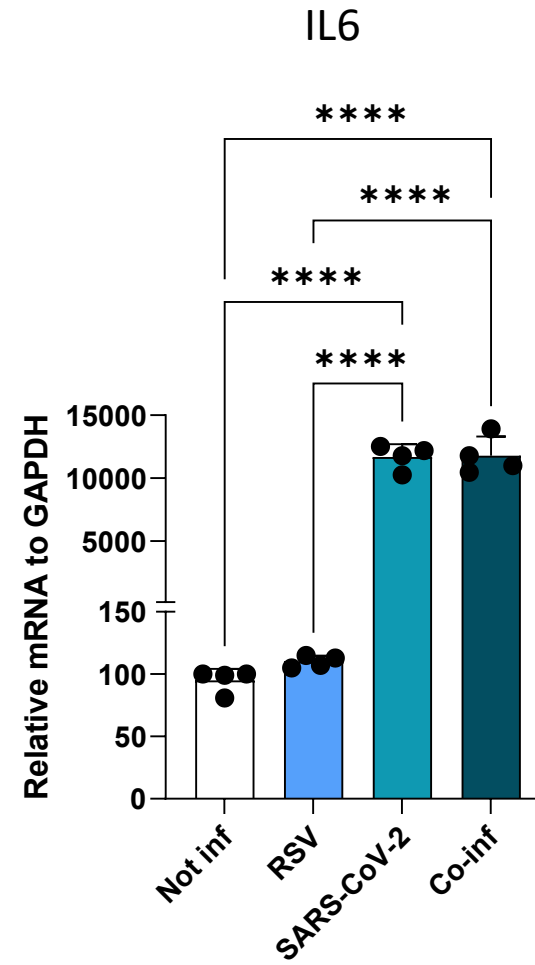
**Supplementary Figure S1. Assessment of *in vitro* RSV viral replication overtime in single and co-infected cells and in Calu3 cell line. A)** RSV viral replication was assessed by real-time PCR in single infection and co-infected conditions overtime within 144 hpi. Significant differences between groups are indicated by \* (ANOVA post hoc Tukey test, p values adjusted for multiple comparisons). Mean values±SEM are reported. \*\*\*p<0.001, \*\*\*\*p<0.0001. **B)** RSV viral replication was assessed by real-time PCR in single infection and co-infected conditions in Calu3 cell line. Significant differences between groups are indicated by \* (ANOVA post hoc Tukey test, p values adjusted for multiple comparisons). Mean values±SEM are reported. \*p<0.05.

# Supplementary Figure S2

A



B



**Supplementary Figure S2. ICAM1 and IL6 mRNA expression analyses in Calu3 cell line.** Histograms representing mRNA expression of ICAM1 (A) and IL6 (B) mRNA expression. Significant differences between groups are indicated by \* (ANOVA post hoc Tukey test, p values adjusted for multiple comparisons). Mean values are reported. \*  $p < 0.05$ , \*\* $p < 0.01$ , \*\*\*\* $p < 0.0001$ .