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Supplemental Information

Human iPSC-Derived Cardiomyocytes Are Susceptible to SARS-CoV-2 Infection

Arun Sharma, Gustavo Garcia Jr., Yizhou Wang, Jasmine T. Plummer, Kouki Morizono, Vaithilingaraja Arumugaswami, and Clive N. Svendsen

SUPPLEMENTAL INFORMATION

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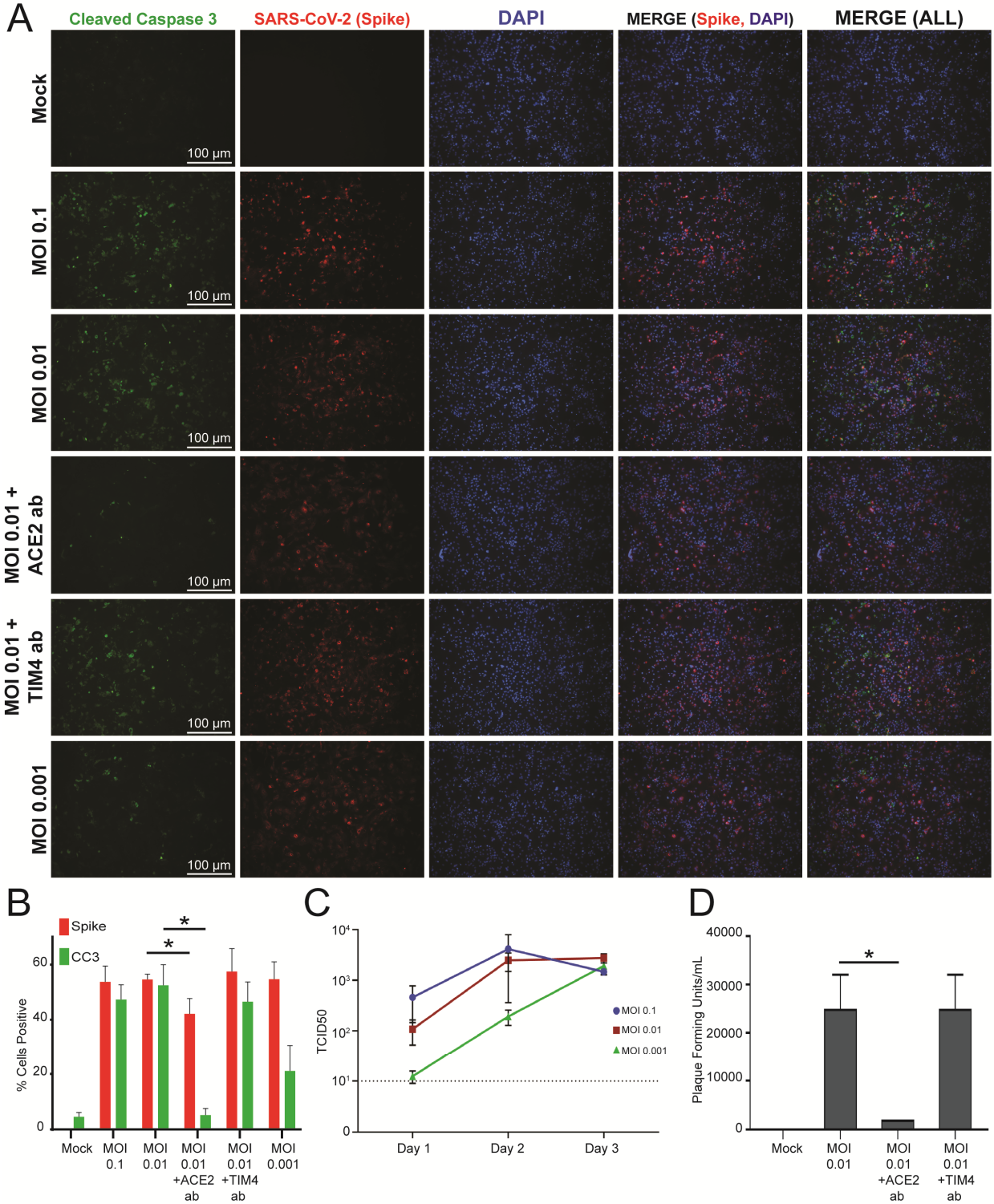
SUPPLEMENTAL FIGURES



Supplemental Figure 1: SARS-CoV-2 demonstrates dose-dependent infectivity on hiPSC-CMs, blunted by ACE2 antibody treatment. (Related to Figure 1). A) Immunofluorescence of infected hiPSC-CMs stained for apoptosis marker cleaved caspase-3 and SARS-CoV-2 spike protein. DAPI marks cell nuclei. Cells infected with SARS-CoV-2 for 3 days with MOI ranging from 0.001 to 0.1 exhibit viral protein expression and apoptosis. However, pre-treatment of infected hiPSC-CMs with ACE2 antibody significantly blunts spike protein and cleaved caspase-3 expression, suggesting the criticality of ACE2 in viral internalization. TIM4 antibody serves as a non-specific control. **B)** Quantification of immunofluorescence results. N=5 images quantified for each condition. DAPI was used to mark live cells for counting. * indicates $p<0.05$. **C)** Viral infection kinetics timecourse using supernatant from infected hiPSC-CMs after 24-72 hours of SARS-CoV-2 infection confirms active viral production. $TCID_{50}$ (Median Tissue Culture Infectious Dose) determined per 25 microliters of supernatant. Dotted horizontal line shows detection limit. Uninfected samples did not have detectible viral load. **D)** Viral plaque assays conducted using supernatant from infected hiPSC-CMs after 72 hours of SARS-CoV-2 infection confirms active viral production, but blunted by ACE2 antibody treatment. * indicates $p<0.05$