

convalescent plasma

Ling Wang^{1,2}, Juan Zhao^{1,2}, Lam N.T. Nguyen^{1,2}, James L. Adkins¹, Madison Schank^{1,2}, Sushant Khanal^{1,2}, Lam N. Nguyen^{1,2}, Xindi Dang^{1,2}, Dechao Cao^{1,2}, Bal Krishna Chand Thakuri^{1,2}, Zeyuan Lu¹, Jinyu Zhang^{1,2}, Yi Zhang¹, Xiao Y. Wu^{1,2}, Mohamed El Gazzar^{1,2}, Shunbin Ning^{1,2}, Jonathan P. Moorman^{1,2,3}, and **Zhi Q. Yao^{1,2,3}

¹Center of Excellence for Inflammation, Infectious Disease and Immunity, James H. Quillen College of Medicine, East Tennessee State University, Johnson City, Tennessee 37614

²Division of Infectious, Inflammatory and Immunologic Diseases, Department of Internal Medicine, Quillen College of Medicine, ETSU, Johnson City, Tennessee 37614

³Hepatitis (HCV/HBV/HIV) Program, James H. Quillen VA Medical Center, Department of Veterans Affairs, Johnson City, Tennessee 37614

Running title: COVID-19 convalescent plasma blocking cell-cell fusion

**Corresponding author: Zhi Q. Yao, M.D., Ph.D.

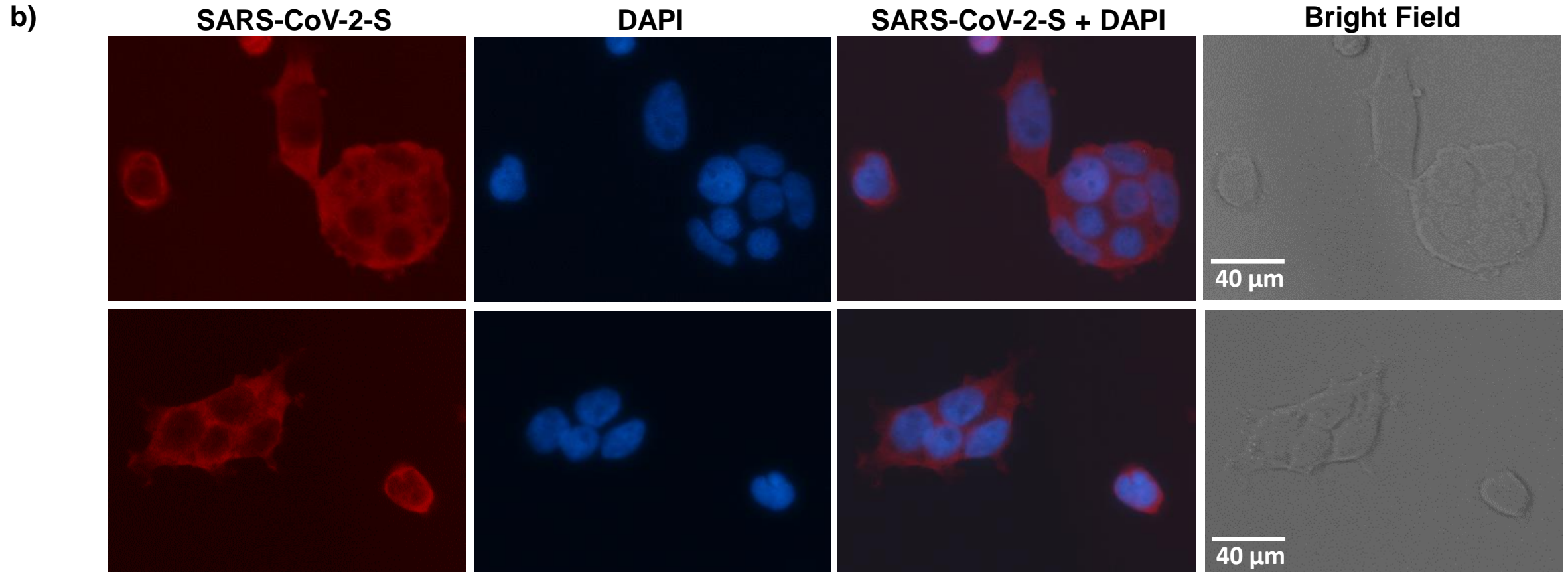
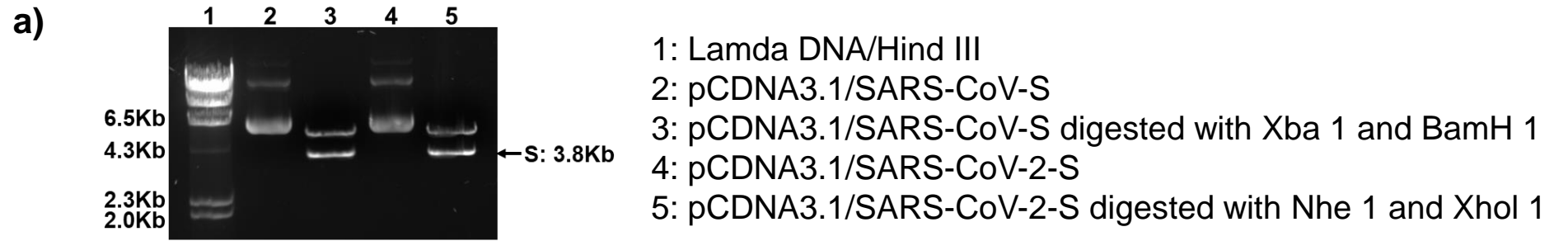
Director, Center of Excellence for HIV/AIDS Care,

Quillen College of Medicine, East Tennessee State University,

Johnson City, TN 37614

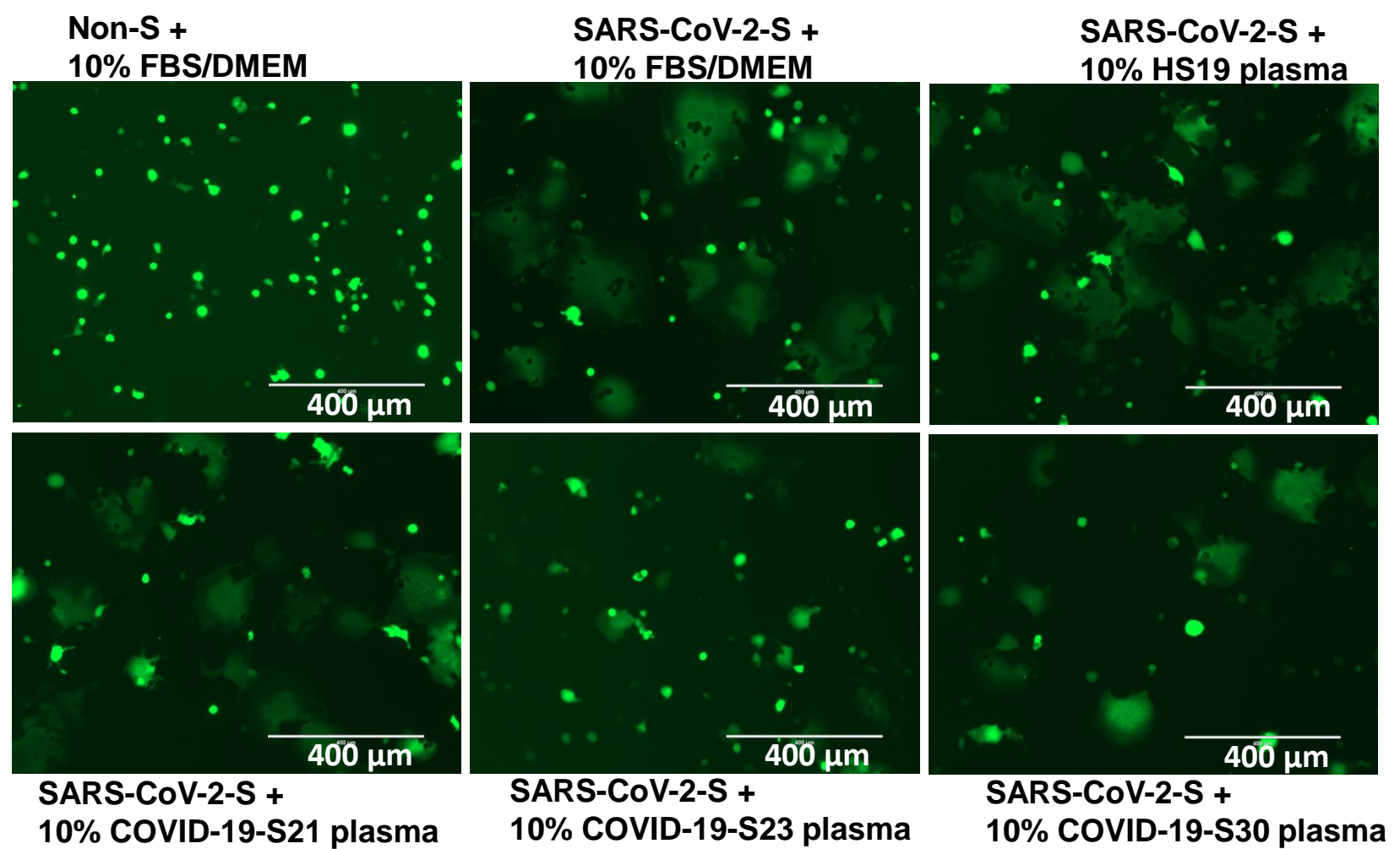
Tel: 423-439-8029; Fax: 423-439-7010; E-mail: yao@etsu.edu

Supplementary Figure S1

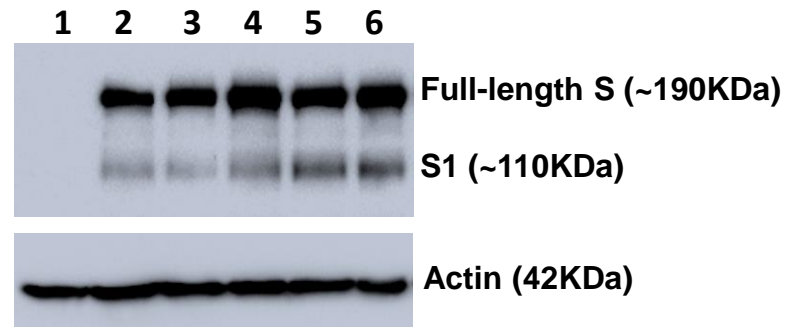


Supplementary Figure S2

a)



b)



- 1: 293T transfected with GFP plasmid + 293T/ACE2 cells
- 2: 293T transfected with GFP and pCDNA3.1-SARS2-S plasmids + 293T/ACE2 cells
- 3: 293T transfected with GFP and pCDNA3.1-SARS2-S plasmids + 293T/ACE2 cells + 10% HS19 plasma
- 4: 293T transfected with GFP and pCDNA3.1-SARS2-S plasmids + 293T/ACE2 cells + 10% S21 plasma
- 5: 293T transfected with GFP and pCDNA3.1-SARS2-S plasmids + 293T/ACE2 cells + 10% S23 plasma
- 6: 293T transfected with GFP and pCDNA3.1-SARS2-S plasmids + 293T/ACE2 cells + 10% S30 plasma

**Supplementary
Figure S3**

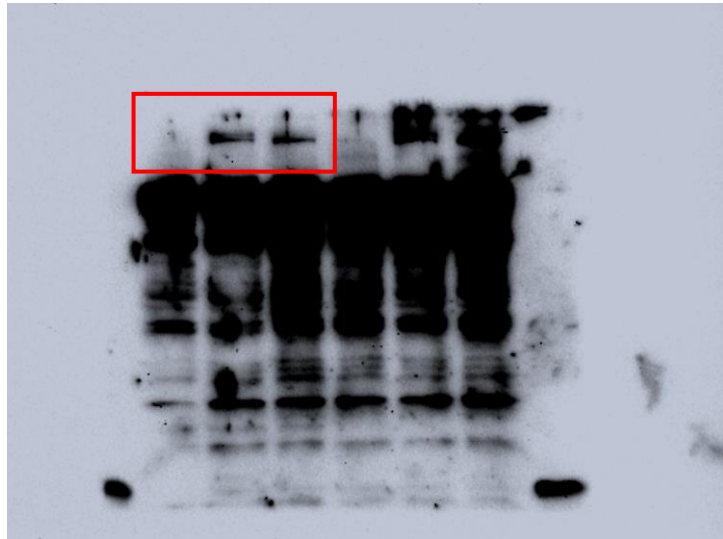


Fig. 2a: C9-S

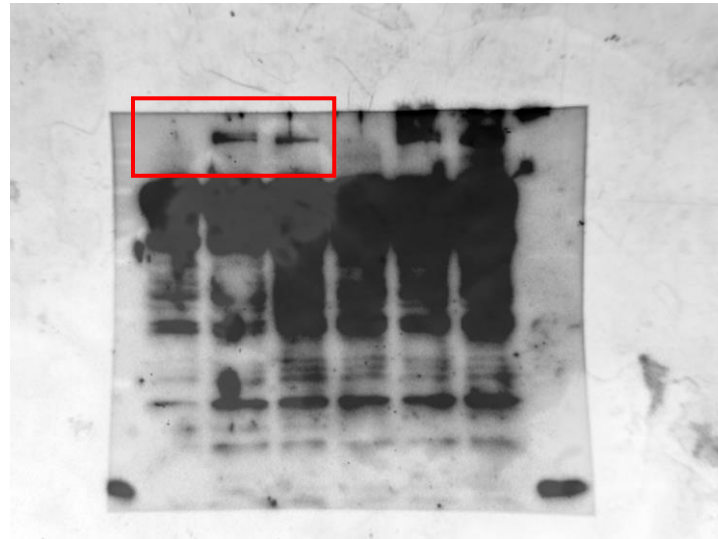


Fig. 2a: C9-S
Merged with Bright Field Image

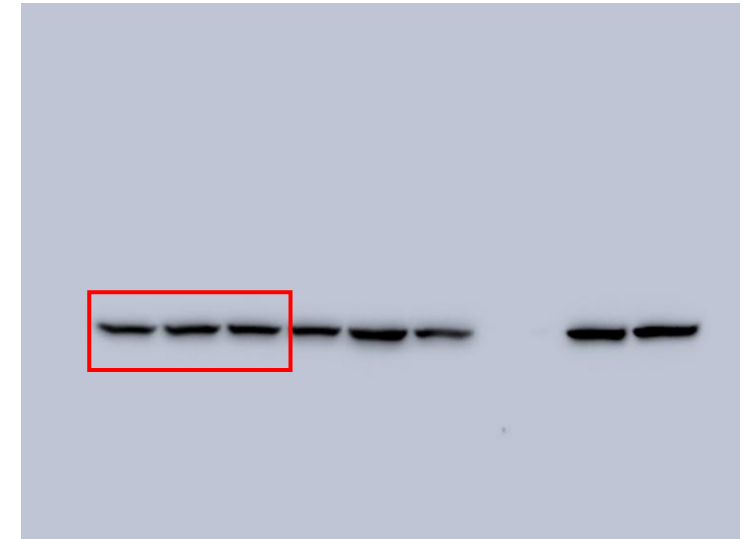


Fig. 2a: Actin

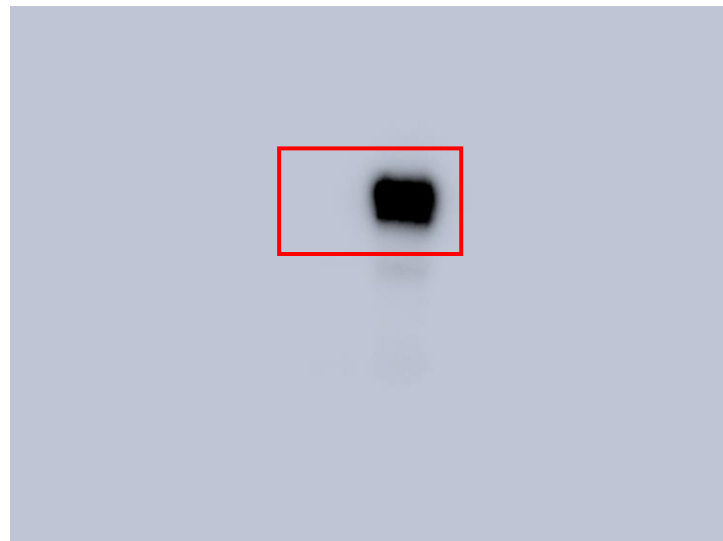


Fig. 2b: Myc-ACE2

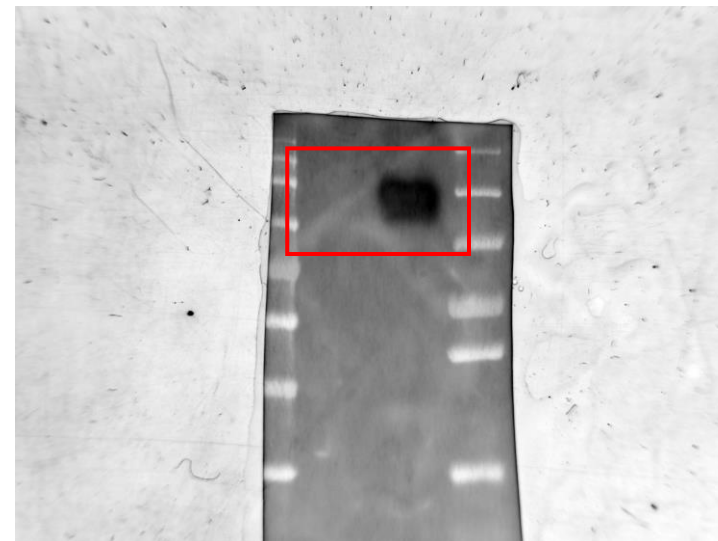


Fig. 2b: Myc-ACE2
Merged with Bright Field Image



Fig. 2b: Actin

Supplementary Figure S4

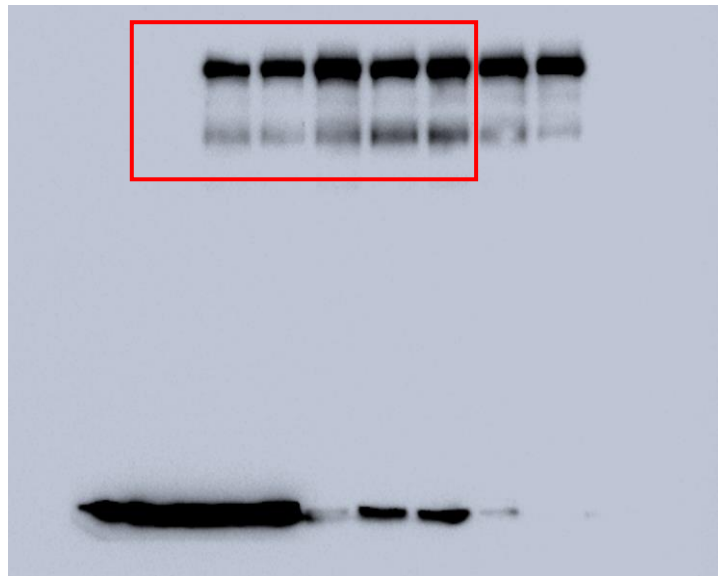


Fig. S2b: Full-length S and S1

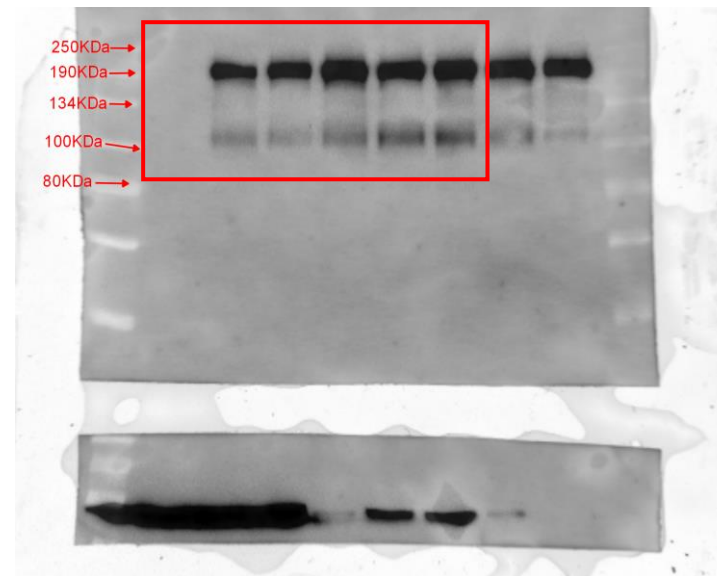


Fig. S2b: Full-length S and S1
Merged with Bright Field Image

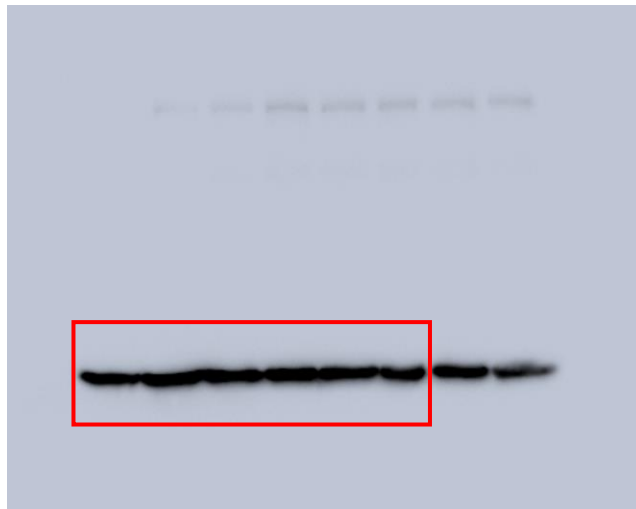


Fig. S2b: Actin

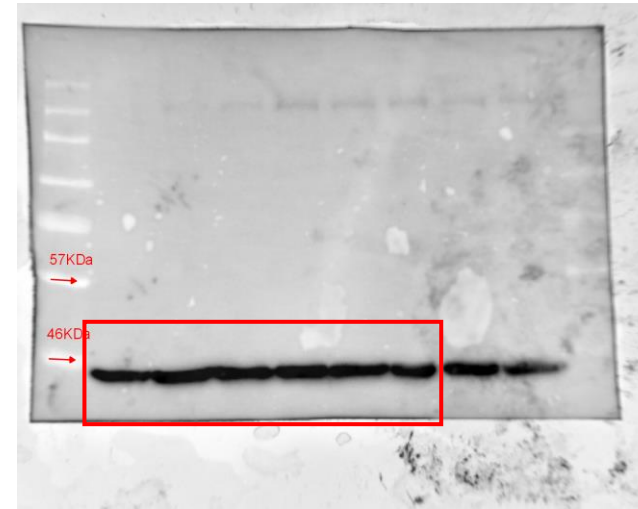


Fig. S2b: Actin
Merged with Bright Field Image

Supplementary Figure Legends

Figure S1. a) Restriction enzyme digestion of SARS-CoV-2-S and SARS-CoV-S plasmids. **b)** Immunofluorescence assays to check SARS-CoV-2-S expression on cell surface.

Figure S2. a) The COVID-19 convalescent plasma with high titers of NAbs blocks SARS-CoV-2-S-mediated cell-cell fusions. **b)** Western blot analysis of expression of full-length S protein and S1 protein (Cleaved band). The two blot images were cropped from the same gel.

Figure S3. Original Western blot images for **Figure 2a** and **2b**. The images for **Figure 2a-actin** and **Figure 2b-actin** were from one same original full-length membrane. Because there were very dominant actin bands without any other nonspecific bands on the membrane, we did not capture bright field image for the membrane.

Figure S4. Original Western blot images for **Figure S2b**.