Figure 1

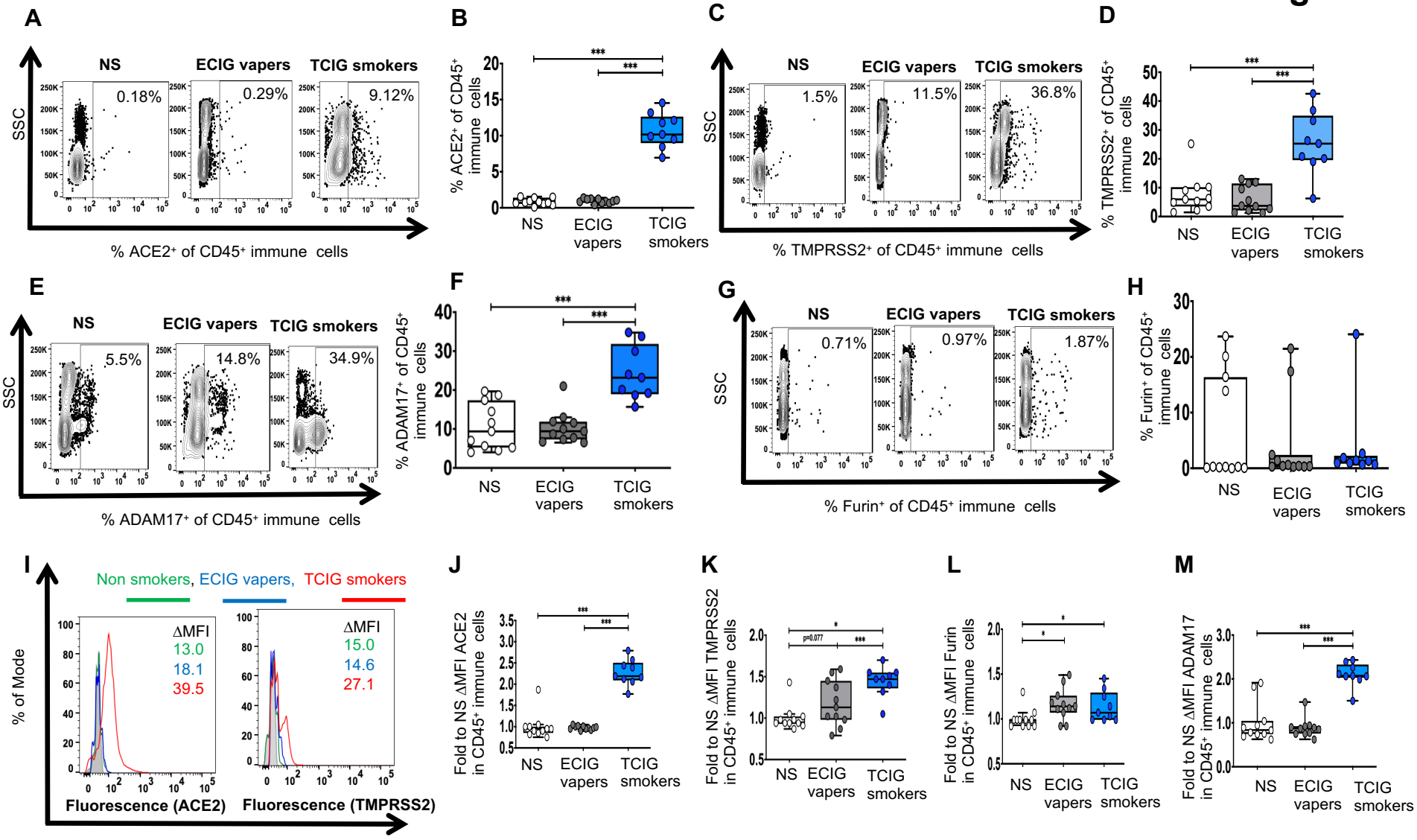
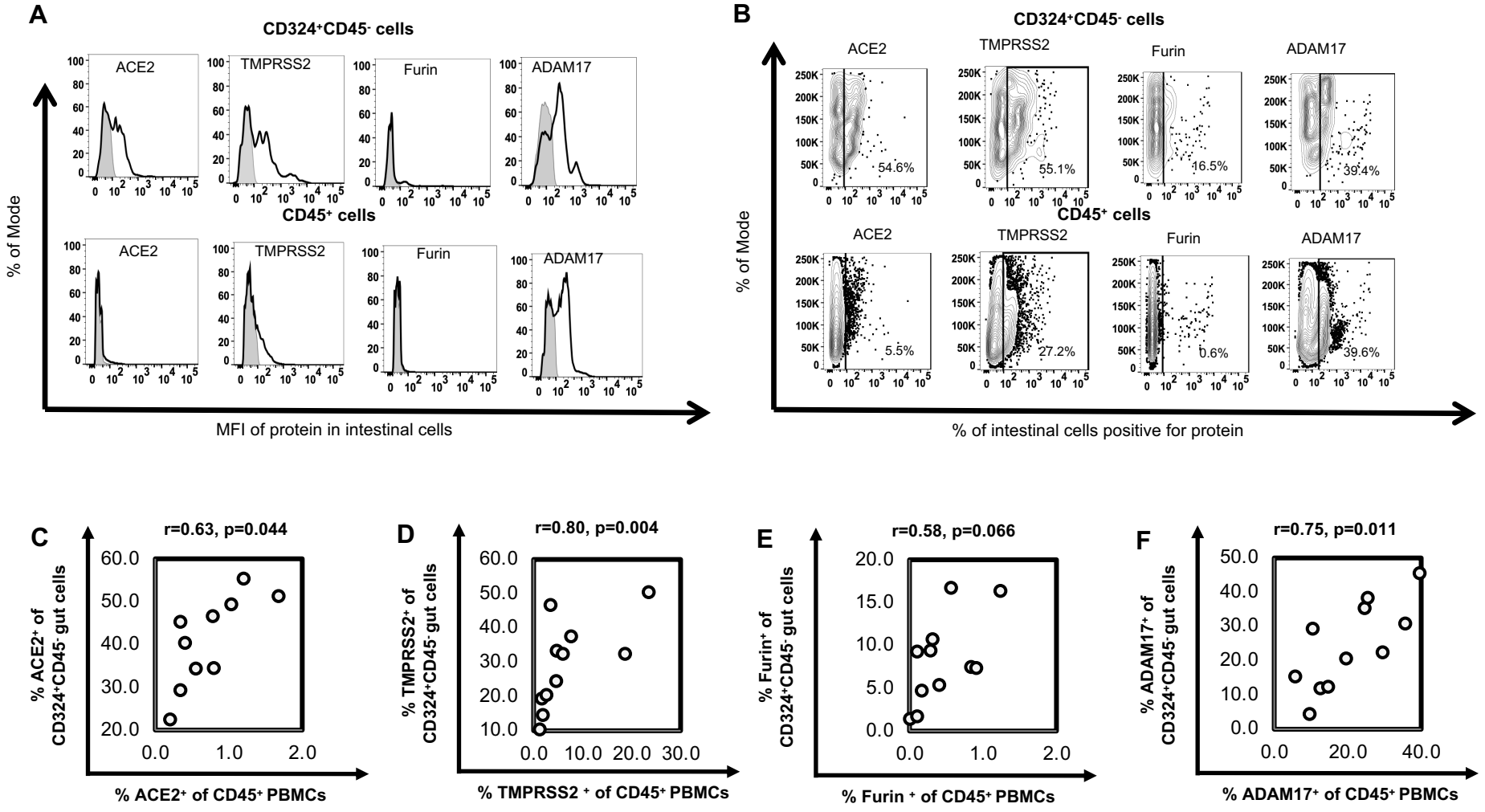

A
NS
ECIG vapers
TCIG smokers
0.18%
0.29%
9.12%
SSC
% ACE2+ of CD45+ immune cells
B
% ACE2+ of CD45+ immune cells
NS
ECIG vapers
TCIG smokers
C
1.5%
11.5%
36.8%
% TMPRSS2+ of CD45+ immune cells
D
% TMPRSS2+ of CD45+ immune cells
E
5.5%
14.8%
34.9%
% ADAM17+ of CD45+ immune cells
F
% ADAM17+ of CD45+ immune cells
G
0.71%
0.97%
1.87%
% Furin+ of CD45+ immune cells
H
% Furin+ of CD45+ immune cells
I
Non smokers, ECIG vapers, TCIG smokers
% of Mode
ΔMFI
13.0
18.1
39.5
15.0
14.6
27.1
Fluorescence (ACE2)
Fluorescence (TMPRSS2)
J
Fold to NS ΔMFI ACE2 in CD45+ immune cells
K
Fold to NS ΔMFI TMPRSS2 in CD45+ immune cells
p=0.077
L
Fold to NS ΔMFI Furin in CD45+ immune cells
M
Fold to NS ΔMFI ADAM17 in CD45+ immune cells

Figure 2


A
CD324+CD45- cells
ACE2
TMPRSS2
Furin
ADAM17
CD45+ cells
% of Mode
MFI of protein in intestinal cells
B
CD324+CD45- cells
54.6%
55.1%
16.5%
39.4%
CD45+ cells
5.5%
27.2%
0.6%
39.6%
% of Mode
% of intestinal cells positive for protein
C
r=0.63, p=0.044
% ACE2+ of CD324+CD45- gut cells
% ACE2+ of CD45+ PBMCs
D
r=0.80, p=0.004
% TMPRSS2+ of CD324+CD45- gut cells
% TMPRSS2 + of CD45+ PBMCs
E
r=0.58, p=0.066
% Furin+ of CD324+CD45- gut cells
% Furin + of CD45+ PBMCs
F
r=0.75, p=0.011
% ADAM17+ of CD324+CD45- gut cells
% ADAM17+ of CD45+ PBMCs

Supplementary Figure Legends

Supplementary Figure 1: Protein levels of ACE2 and endogenous proteases that contribute to SARS-CoV-2 pathogenesis in CD45$^+$ immune cells among groups. A-H, Flow cytometry was used to determine membrane protein levels of ACE2, TMPRSS2, furin, and ADAM17. Fluorescence intensity of a positive cell population was compared to a negative cell population (fluorescence minus one negative control for staining) (∆MFI). The compared groups were nonsmokers (NS, white), electronic-cigarette vapers (ECIG-vapers, light grey) and tobacco cigarette smokers (TCIG-smokers, light blue). Representative data of percentage of immune (CD45$^+$) cells that had positive staining for each protein between compared groups are shown for ACE2 (**A**), TMPRSS2 (**C**), ADAM17 (**E**), furin (**G**). Summary of data for ACE2 (**B**) TMPRSS2 (**D**), ADAM17 (**F**), furin (**H**) are shown. **I.** Representative data of ∆MFI for ACE2 and TMPRSS2 in immune (CD45$^+$) cells. Summary of ∆MFI data for ACE2 (**J**) TMPRSS2 (**K**), furin (**L**), ADAM17 (**M**) are shown. Mann Whitney test was used to compare 2 groups (*$p < 0{\cdot}05$, **$p < 0{\cdot}01$, ***$p < 0{\cdot}001$).

Supplementary Figure 2: Protein levels of ACE2 and endogenous proteases that contribute to SARS-CoV-2 pathogenesis in gut epithelial cells are associated with respective protein levels in CD45$^+$ blood immune cells within the same person. A, B. Gut epithelial and immune cells were isolated from colon biopsies of healthy participants who underwent screening colonoscopy (n=11) as described in methods. Flow cytometry was used to determine membrane protein levels of ACE2, TMPRSS2, furin,

and ADAM17 in peripheral blood mononuclear $CD45^+$ blood immune cells (PBMCs), gut $CD324^+$ $CD45^-$ epithelial and gut $CD45^+$ immune cells. Fluorescence intensity of a positive cell population was compared to a negative cell population (fluorescence minus one negative control for staining) (ΔMFI, shown in light grey). **A.** Representative data of ΔMFI for ACE2, TMPRSS2, furin and ADAM17 in gut epithelial and immune ($CD45^+$) cells. **B.** Representative data of percentage of gut epithelial and immune ($CD45^+$) cells that had positive staining for each protein. **C.** Scatter plots of protein levels of ACE2 in PBMCs (% of $ACE2^+$ PBMCs, x axis) against protein levels of ACE2 in gut epithelial cells (% of $ACE2^+$ of $CD324^+CD45^-$ gut cells, y axis)(*n* = 11). The Spearman correlation coefficient was used for all correlations. **D.** Scatter plots of protein levels of TMPRSS2 in PBMCs (% of $TMPRSS2^+$ PBMCs, x axis) against protein levels of TMPRSS2 in gut epithelial cells (% of $TMPRSS2^+$ of $CD324^+CD45^-$ gut cells, y axis)(*n* = 11). **E.** Scatter plots of protein levels of furin in PBMCs (% of $furin^+$ PBMCs, x axis) against protein levels of furin in gut epithelial cells (% of $furin^+$ of $CD324^+CD45^-$ gut cells, y axis)(*n* = 11). **F.** Scatter plots of protein levels of ADAM17 in PBMCs (% of $ADAM17^+$ PBMCs, x axis) against protein levels of ADAM17 in gut epithelial cells (% of $ADAM17^+$ of $CD324^+CD45^-$ gut cells, y axis)(*n* = 11).