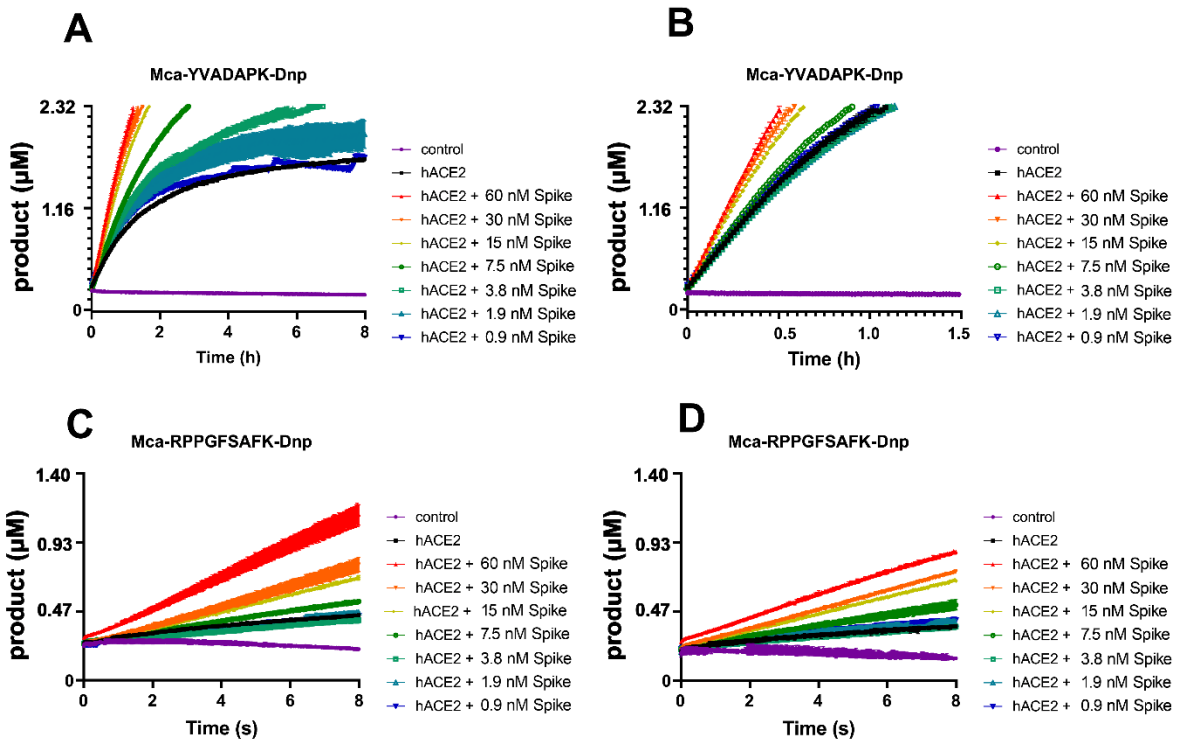
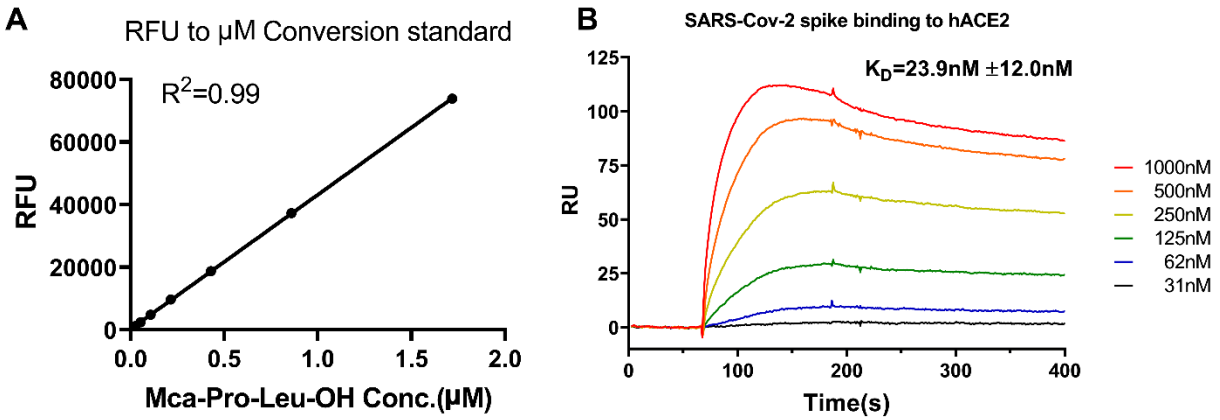
Supplementary figure 1 SARS-CoV-2 spike protein enhanced ACE2 cleavage of fluorogenic caspase-1 substrate and bradykinin analog in a concentration dependent manner with increased concentration of NaCl in the assay buffer. A) and C) Kinetic reading of the hydrolysis of Mca-YVADAPK-Dnp(20μM) and Mca-RPPGFSAFK-Dnp (20μM) in the presence of SARS-CoV-2 spike protein at indicated final concentrations in the enzymatic assays with 0.3M NaCl. The maximum reading is limited to 100000 RFU on Synergy H1 plate reader. RFU was converted to product concentrations with 1μM equal to 42942 RFU based on the calibration standard. B) and D) Kinetic reading of the hydrolysis of Mca-YVADAPK-Dnp(20μM) and Mca-RPPGFSAFK-Dnp (20μM) in the presence of SARS-CoV-2 spike protein at indicated final concentrations in the enzymatic assays with 1.0M NaCl.



Supplementary figure 2 A) Calibration of Synergy H1 plate reader with fluorescent Mca-Pro-Leu-OH peptide to obtain relative fluorescent unit to molarity conversion factor. All readings were carried out in 110 ul of enzymatic assay buffers with various concentrations of Mca-Pro-Leu-OH peptide. B)The high affinity binding of purified SARS-CoV-2 spike protein to human ACE2. The SPR sensorgrams displayed the binding between soluble SARS-CoV-2 spike and immobilized ACE2.



Supplementary figure 3 Competition of Bradykinin(BK), des-Arg9-BK, and Ang II peptide with Mca-RPPGFSAFK-Dnp (10μM) for ACE2 hydrolysis in the presence(A) and absence (B) of SARS-CoV-2 RBD protein. A) Comparison of ACE2 hydrolysis of Mca-RPPGFSAFK-Dnp in the presence of SARS-CoV-2 RBD and competitive substrate at time 1h. The pairwise p-value statistics were calculated between (hACE2 + SARS-CoV-2 RBD) and its addition of corresponding concentrations of competitive peptides. B) Comparison of ACE2 hydrolysis of Mca- RPPGFSAFK-Dnp in the absence of SARS-CoV-2 RBD at time 1h. The pairwise p-value statistics were calculated between hACE2 and its addition of corresponding concentrations of competitive peptides. C) and D) Protease inhibitors AEBSF, pepstatin A and leupeptin (40μM)could not inhibit ACE2 activity or block the enhancement of ACE2 activity mediated by SARS-CoV-2 spike binding (C) and SARS-CoV-2 RBD protein binding (D).