

Supporting Information for the Paper “A Phage Display-Derived Peptide for the Specific Binding of SARS-CoV-2”

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Figure S1: Mass spectrometric characterization of peptides

Figure S1a-f respectively presents the mass spectra data of peptide 1-6.

Figure S1a.

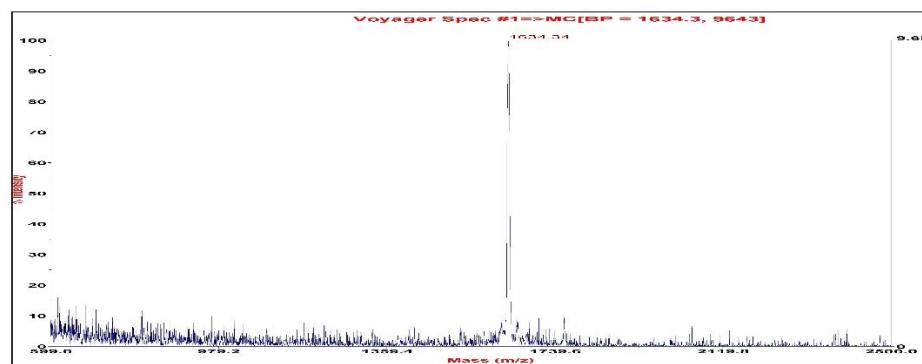


Fig S1b.

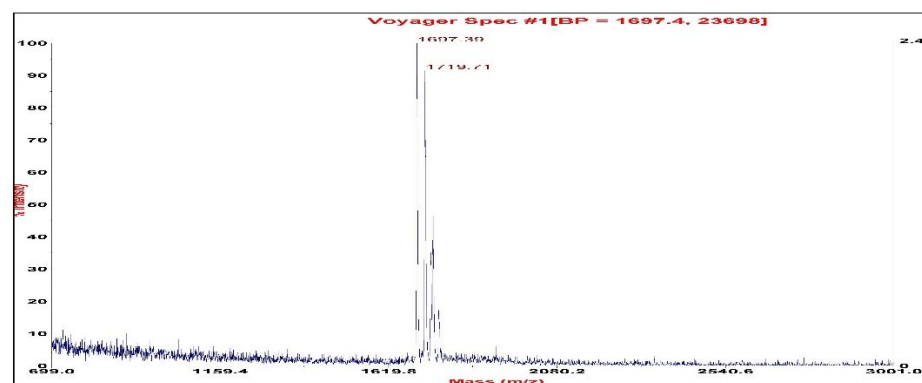


Fig S1c.

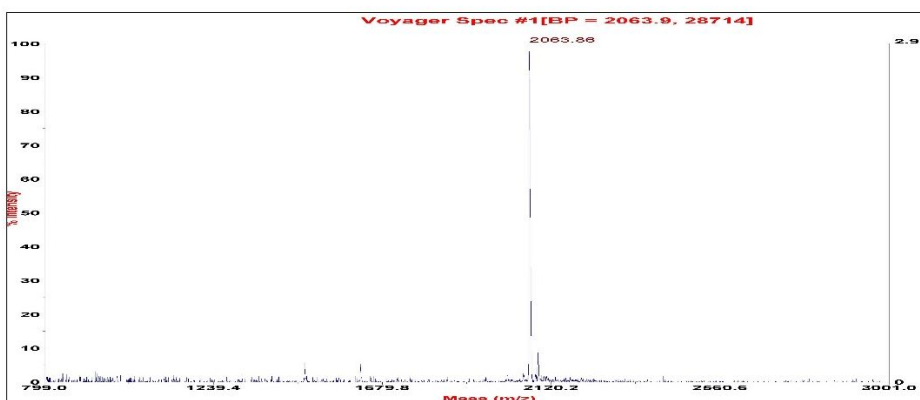


Fig S1d.

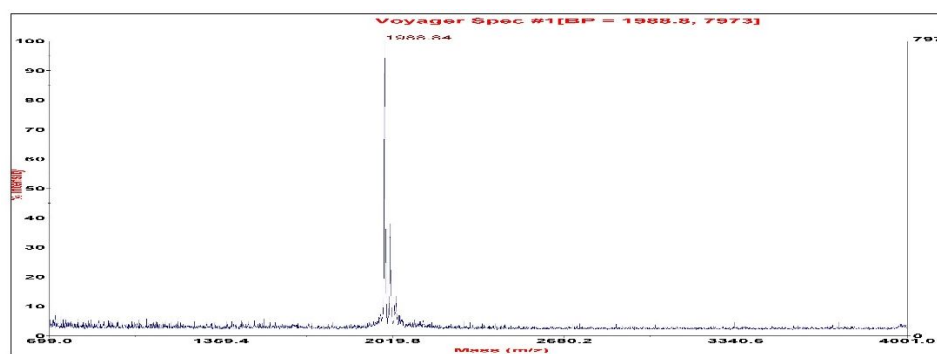


Fig S1e

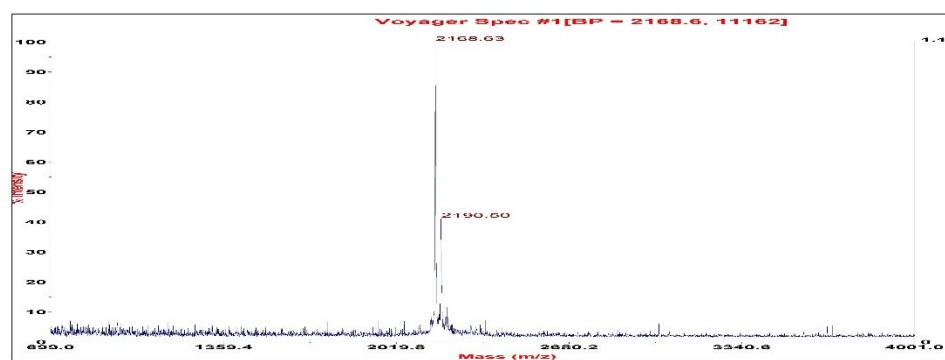


Fig S1f.

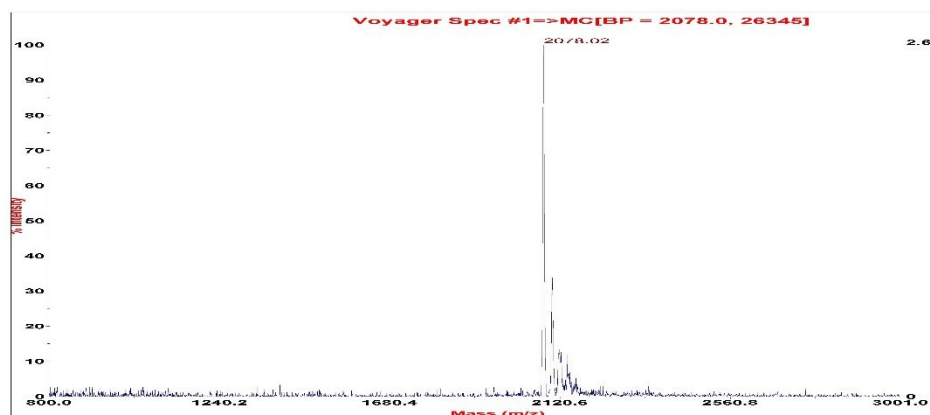


Figure S2: Binding curve of SARS-CoV-2 RBD to peptide 1

SARS-CoV-2 RBD was loaded on the Biacore Sensor Chip NTA via His-tag expressed at N-terminus of RBD protein. The synthesized peptide 1 was running through the chip, and the binding curves were recorded.

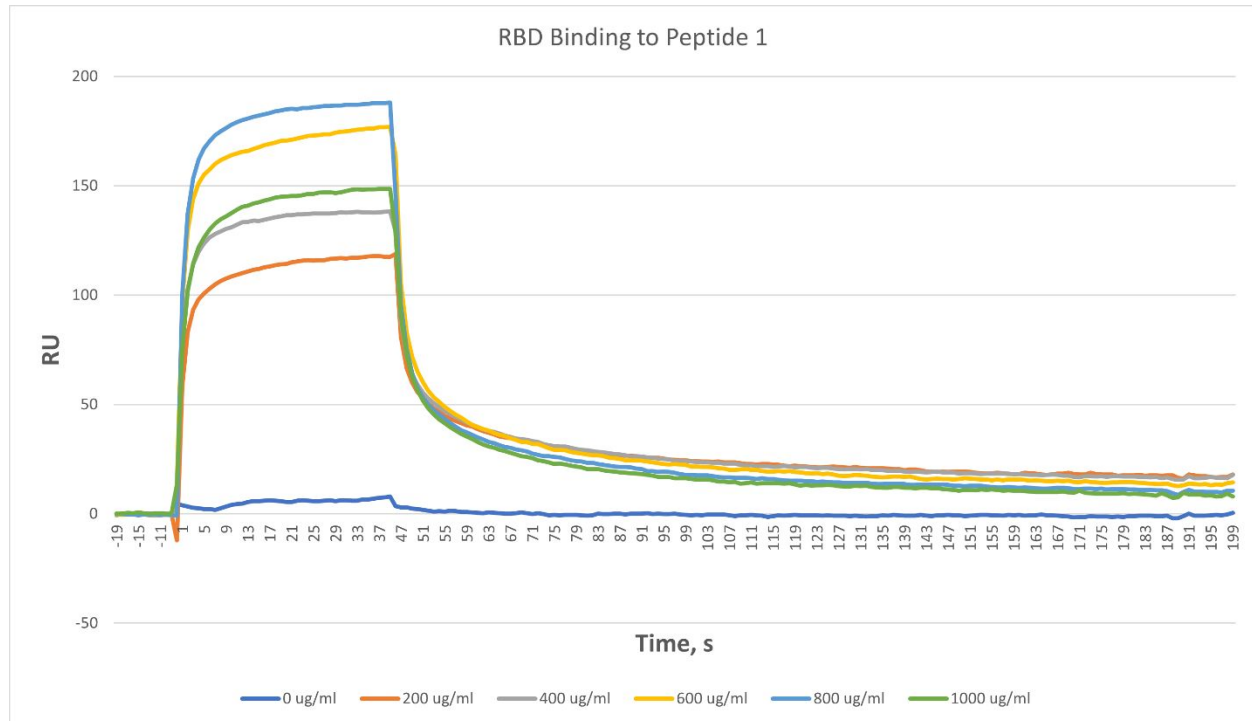


Figure S3: SARS-CoV-2 specific gold nanoparticle counts under TEM

Au-NP labeled SARS-CoV-2 spike specific antibody bound virus particles were counted under TEM, four fields were counted for each sample.

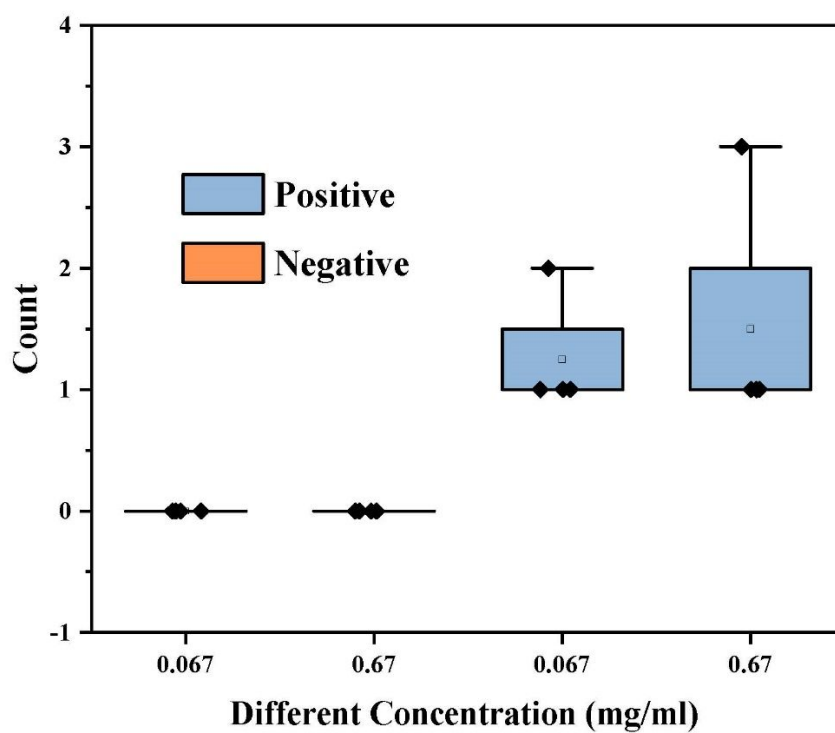


Figure S4: Peptide-SARS-CoV-2 beads assay

(**Figure S4a**) Scheme of the peptide sandwich assay. Magnetic beads (10 μ L at 10 mg/mL) were conjugated with Biotinylated peptide 1 (10 μ L at 2 mg/mL), and incubated at 30 min. After washing with PBS-T for three times, 10 μ L inactivated SARS-CoV-2 virus (1.6×10^5 TCID₅₀ per mL) or Influenza virus (1.6×10^5 CEID₅₀ per mL) was applied and incubated for 20 min. After washing away the free and non-specific bound viruses by PBS-T, the magnetic beads were blocked with 5% BSA, and AuNP-labeled antibodies were used to bind the virus, and the virus-bound beads were heated to release the Au-Antibody bound viruses. (**Figure S4b**) Tubes showing the heat-released Au-Ab bound SARS-CoV-2 (left) or influenza virus (right).

