

Fig. 1A

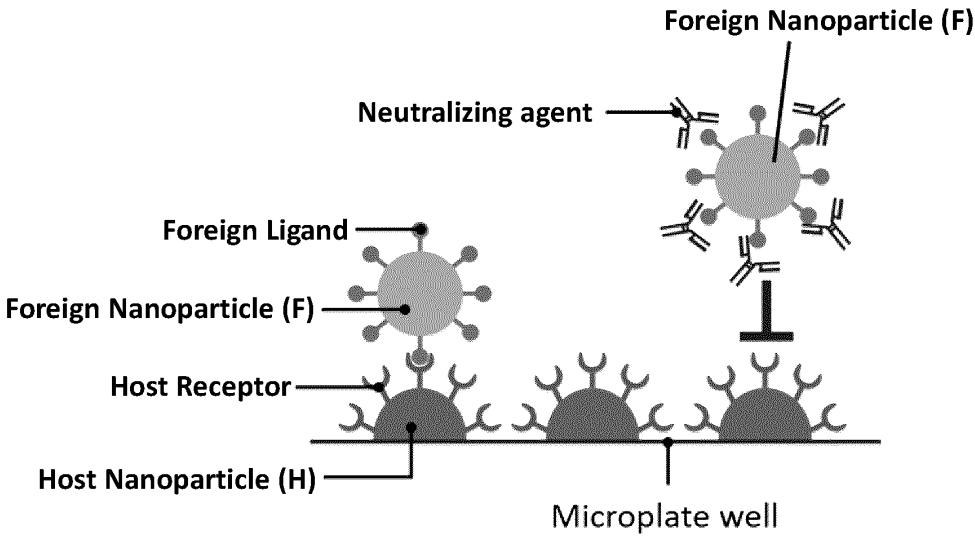


Fig. 1B

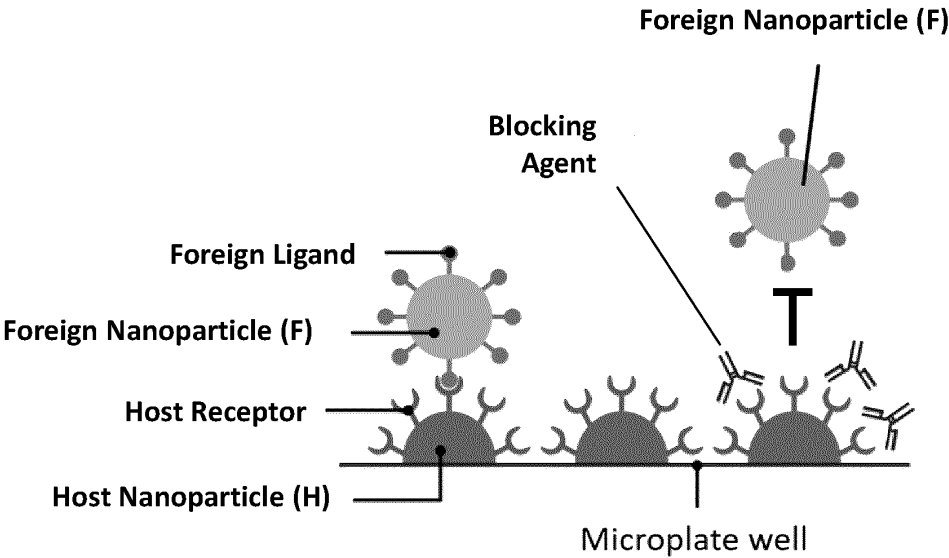
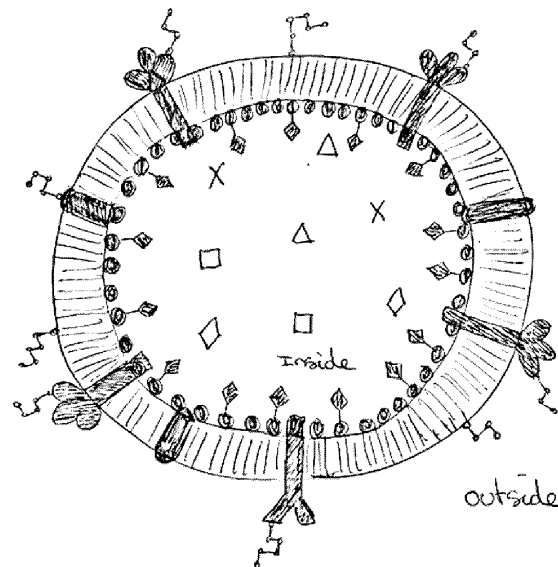


Fig. 2A**Host Nanoparticle (H) – Vesicle Form**

 = plasma membrane

 = receptor from producer cells

 = ionic channel

 = over-expressed receptors

X = proteins from producer cells

□ = proteins from producer cells

△ = over-expressed proteins

● = structural proteins

⋈ = post-translational modifications

◆ = fluorescent protein or luminescent enzyme

Fig. 2B

Host Nanoparticle (H) – Linear/Membrane Form

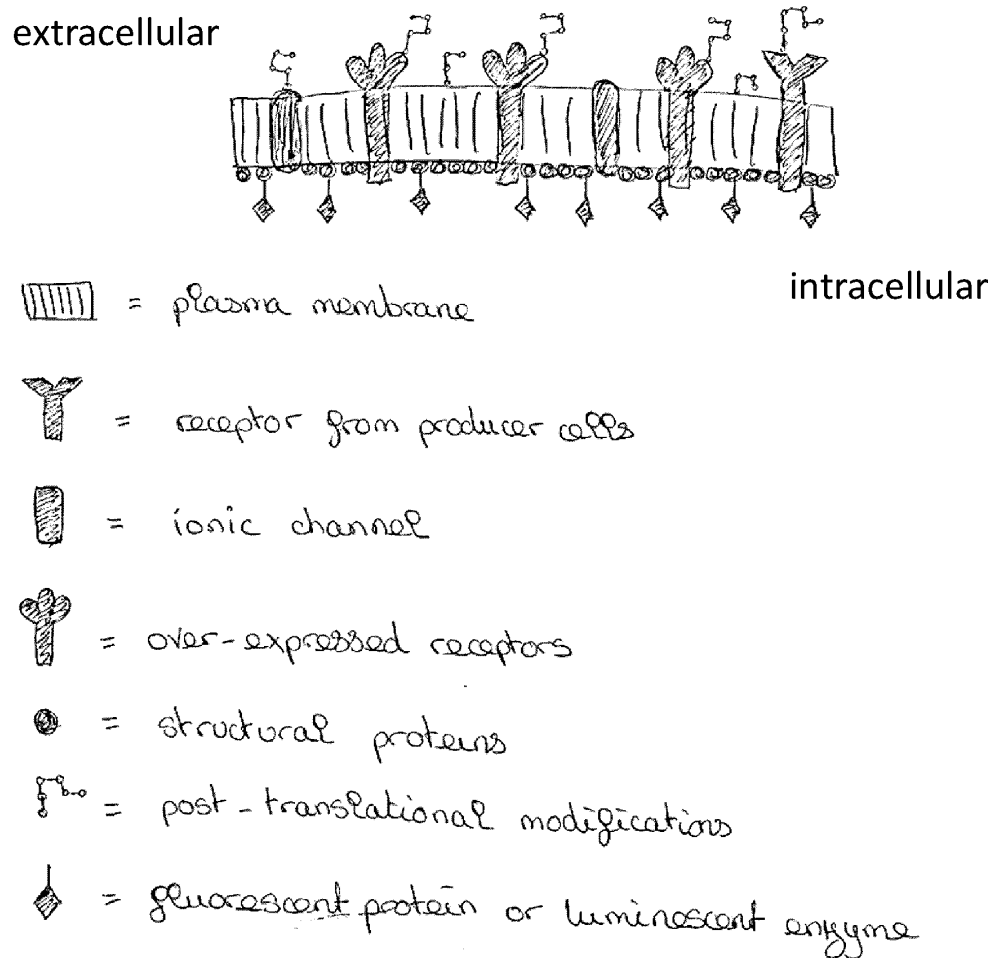
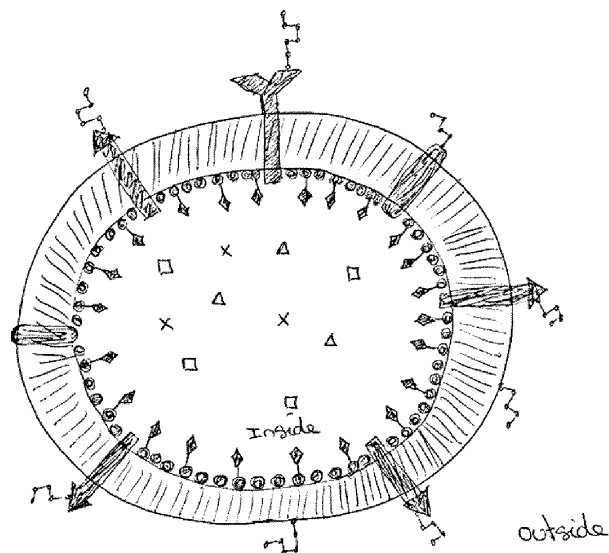


Fig. 3A**Foreign Nanoparticle (F) – Vesicle Form**

 = plasma membrane

 = receptor from producer cells

 = ionic channel

X = proteins from producer cells

□ = proteins from producer cells

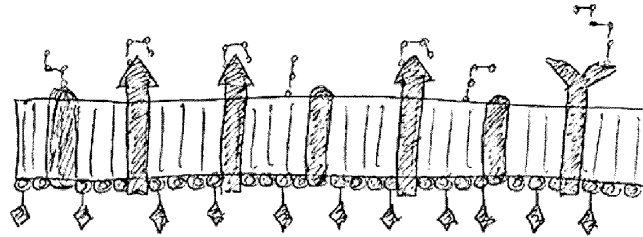
△ = over-expressed proteins

● = structural proteins

 = post-translational modifications

 = fluorescent protein or luminescent enzyme

 = over-expressed Ligand / antigen from pathogen.

Fig. 3B**Foreign Nanoparticle (F) – Linear/Membrane Form**

 = plasma membrane

 = receptor from producer cells

 = ionic channel

 = structural proteins

 = post-translational modifications

 = fluorescent protein or luminescent enzyme

 = over-expressed Ligand / antigen from pathogen.

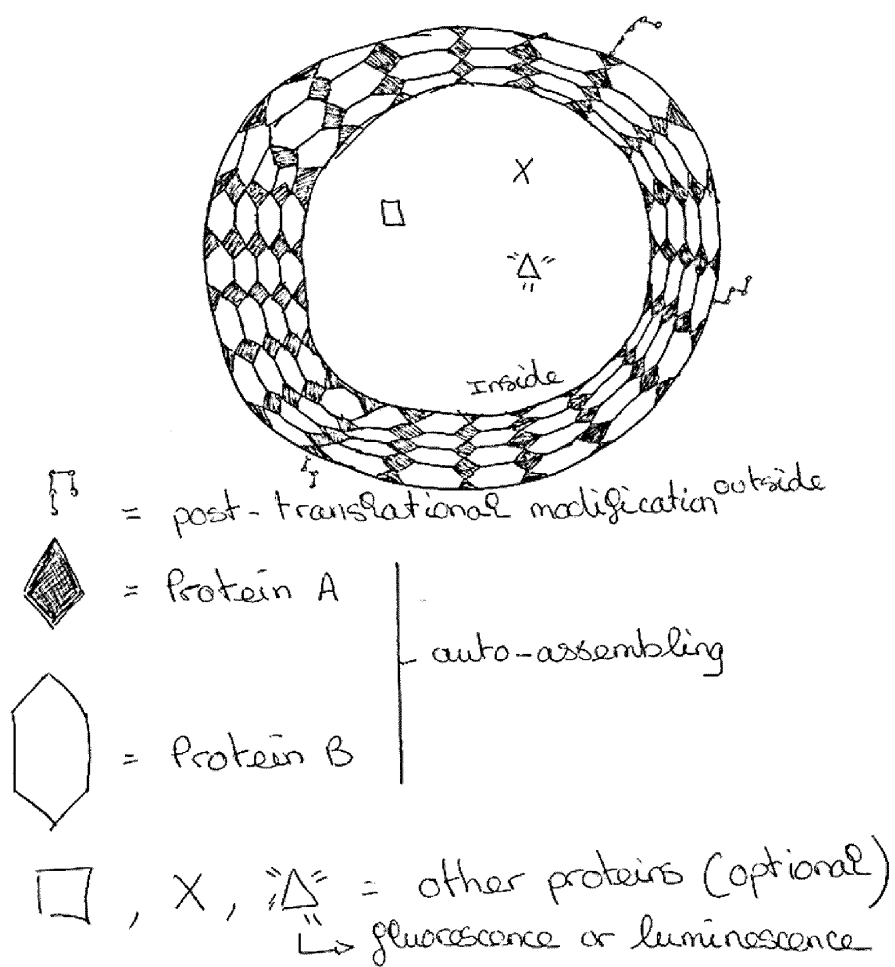
Fig. 3C**Foreign Nanoparticle (F) – Capsid Form**

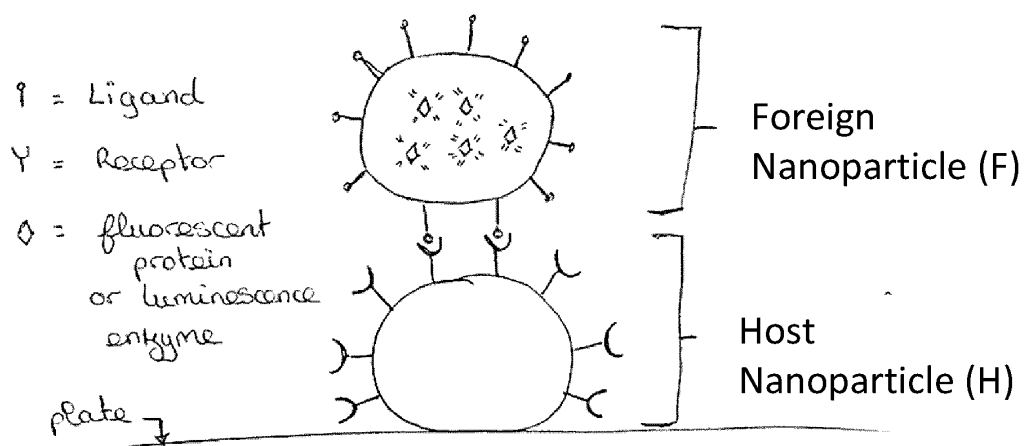
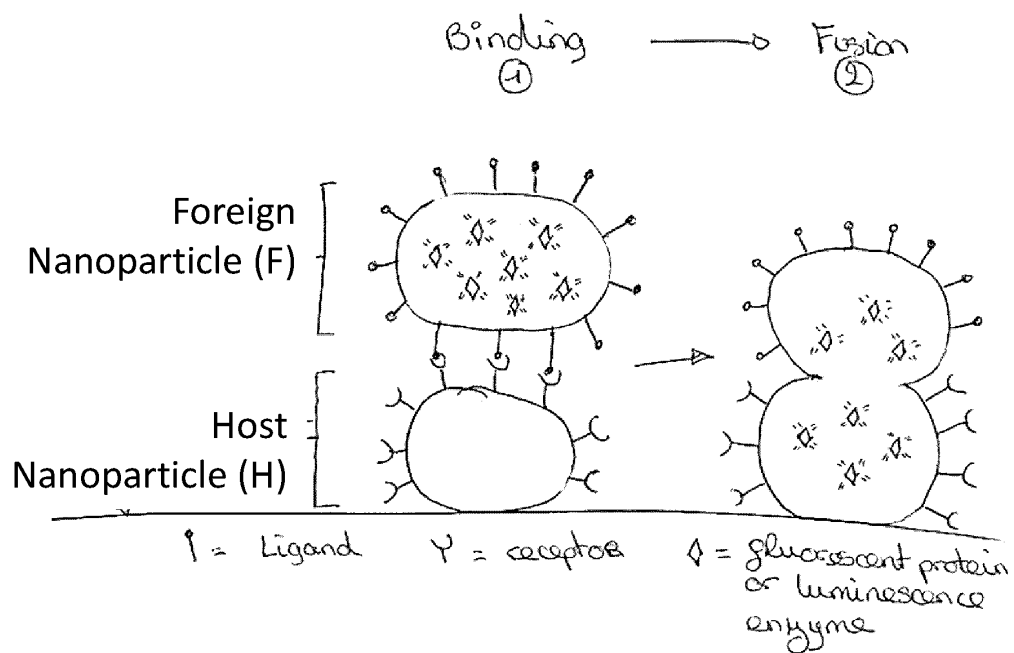
Fig. 4ABinding Model**Fig. 4B**Fusion Model

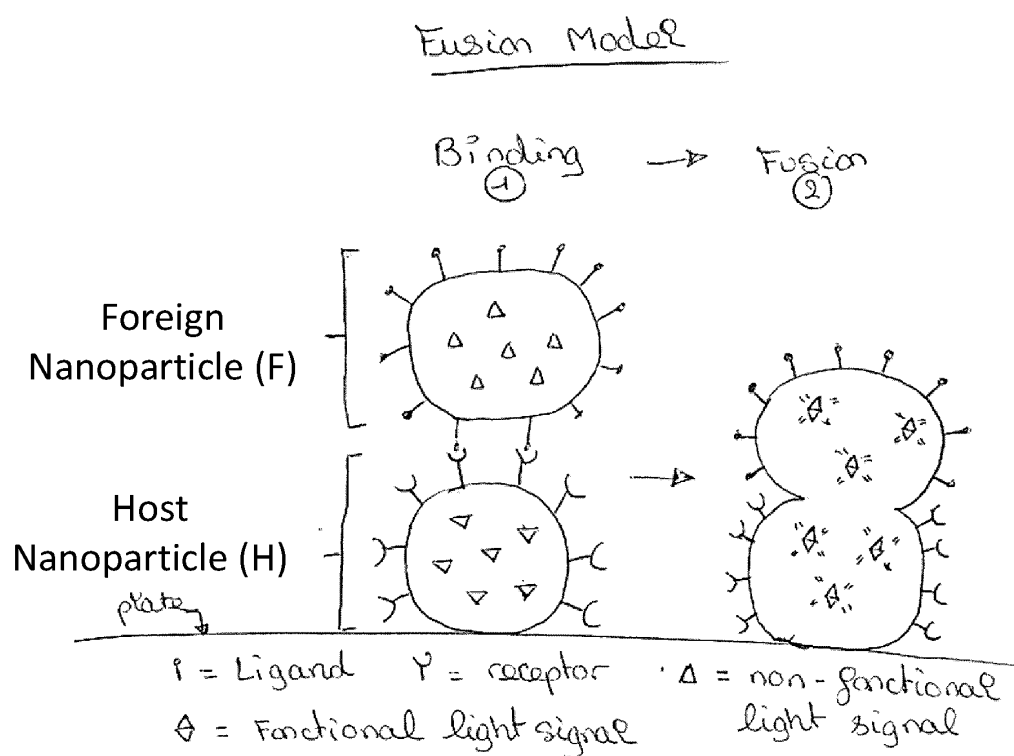
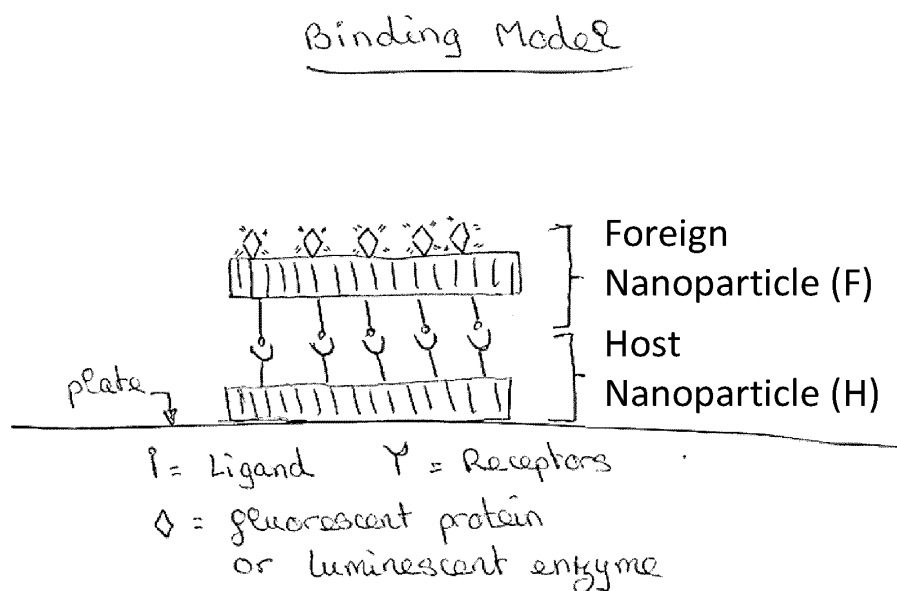
Fig. 4C**Fig. 4D**

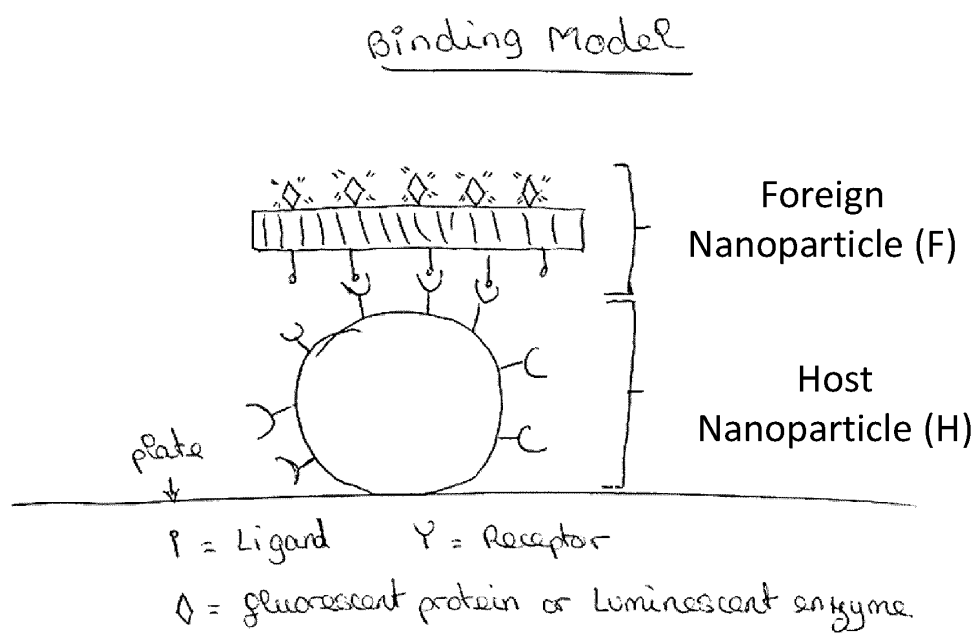
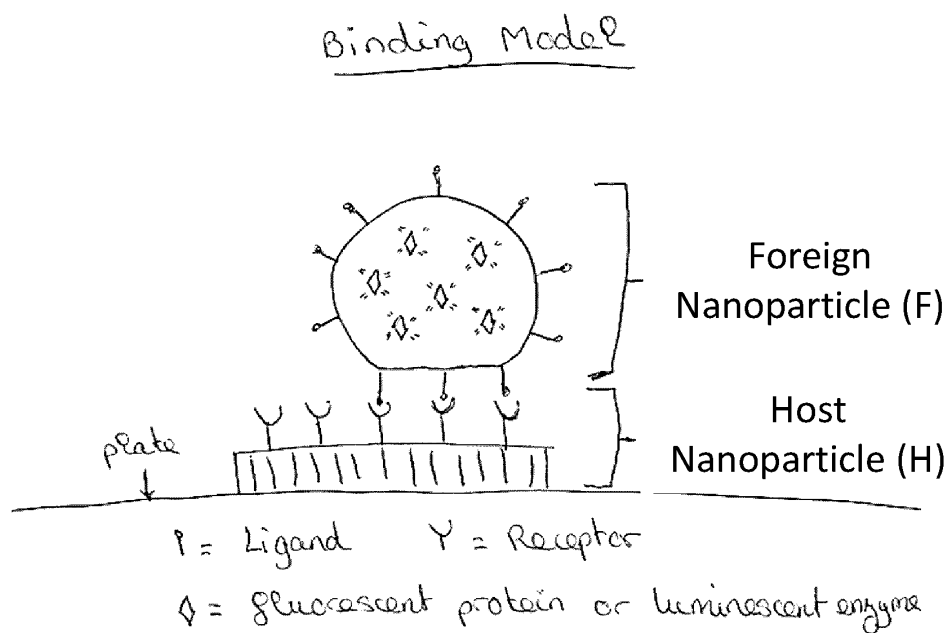
Fig. 4E**Fig. 4F**

Fig. 5A

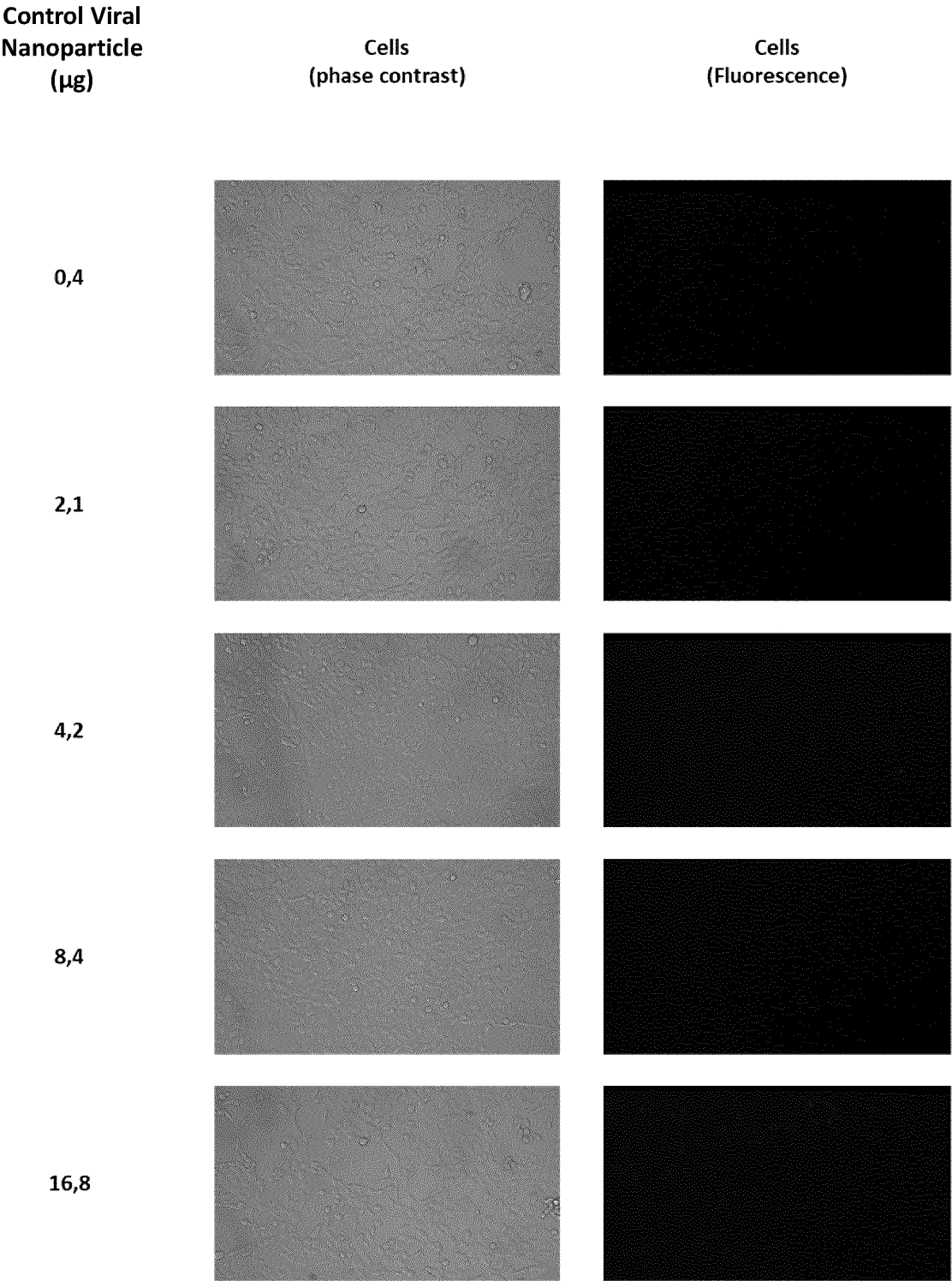


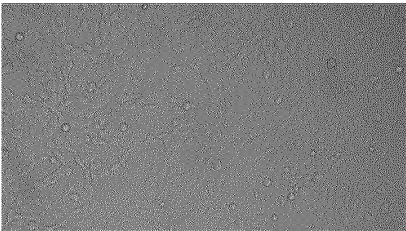
Fig. 5B

**VSV-like Viral
Nanoparticle
(μg)**

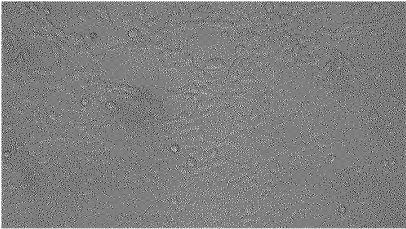
**Cells
(phase contrast)**

**Cells
(Fluorescence)**

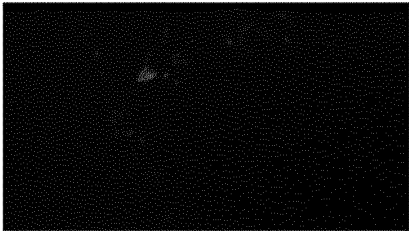
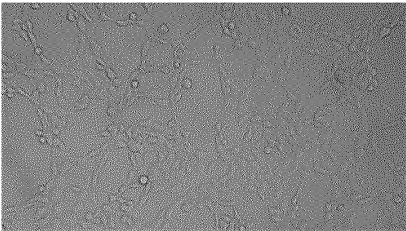
0.44



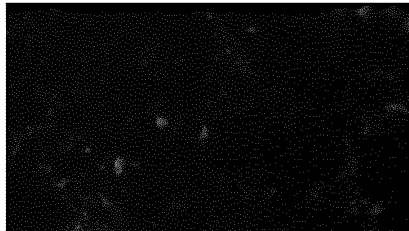
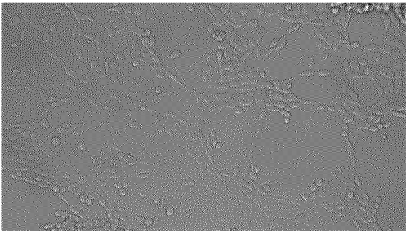
2,2



4,4



8,8



17,6

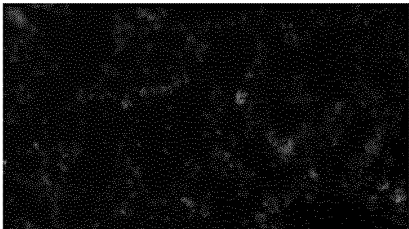
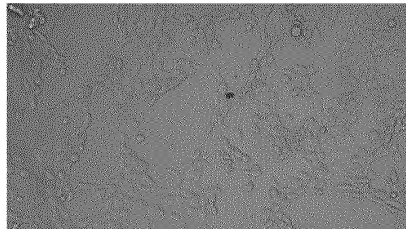


Fig. 5C

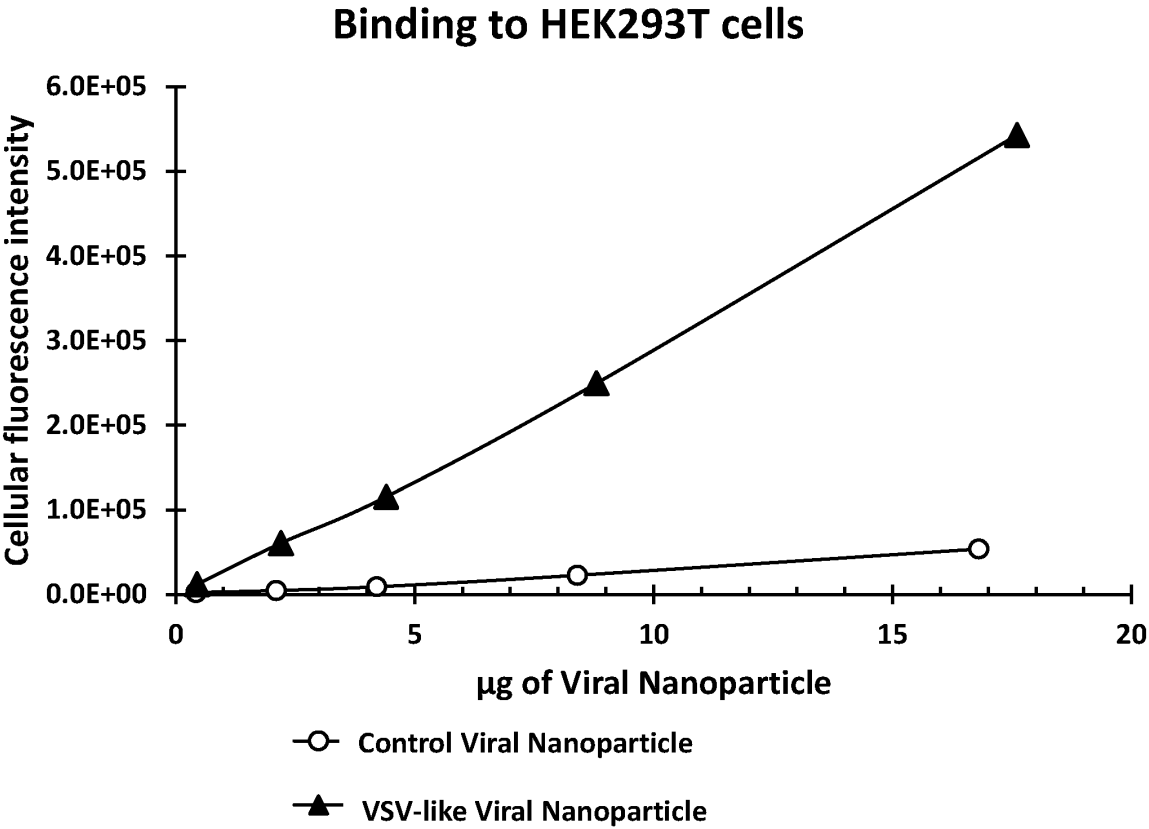


Fig. 6A

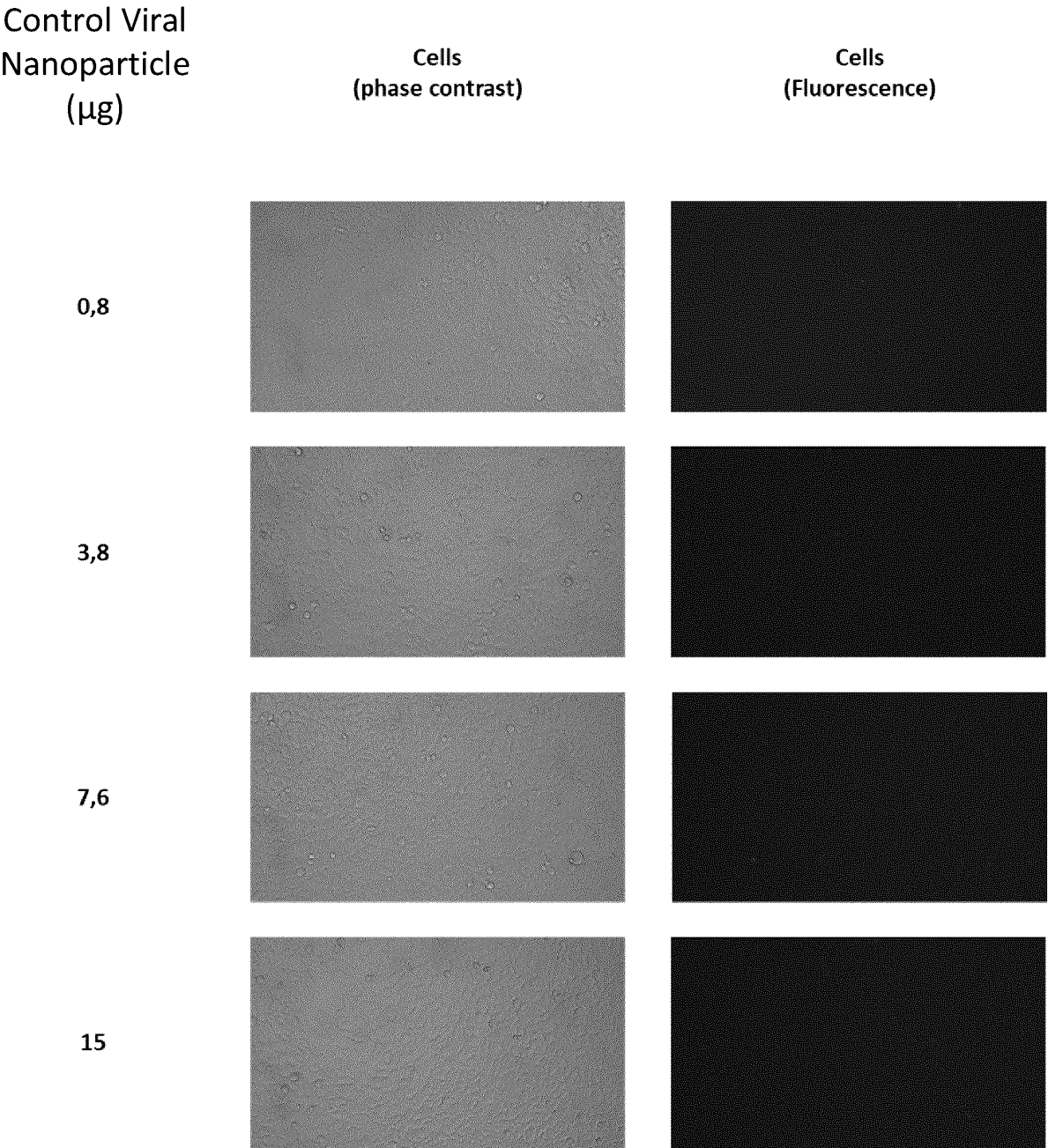


Fig. 6B

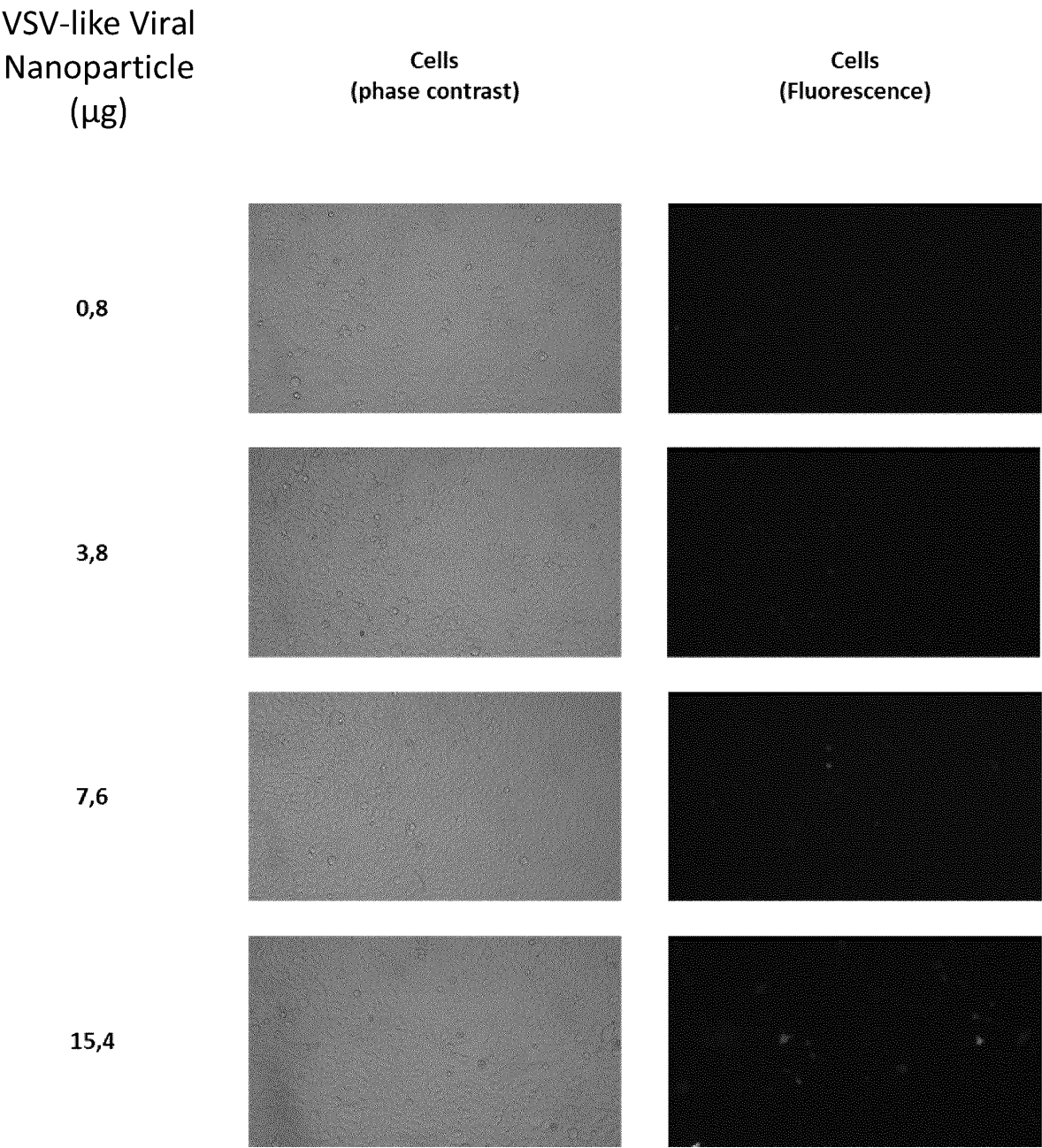


Fig. 6C

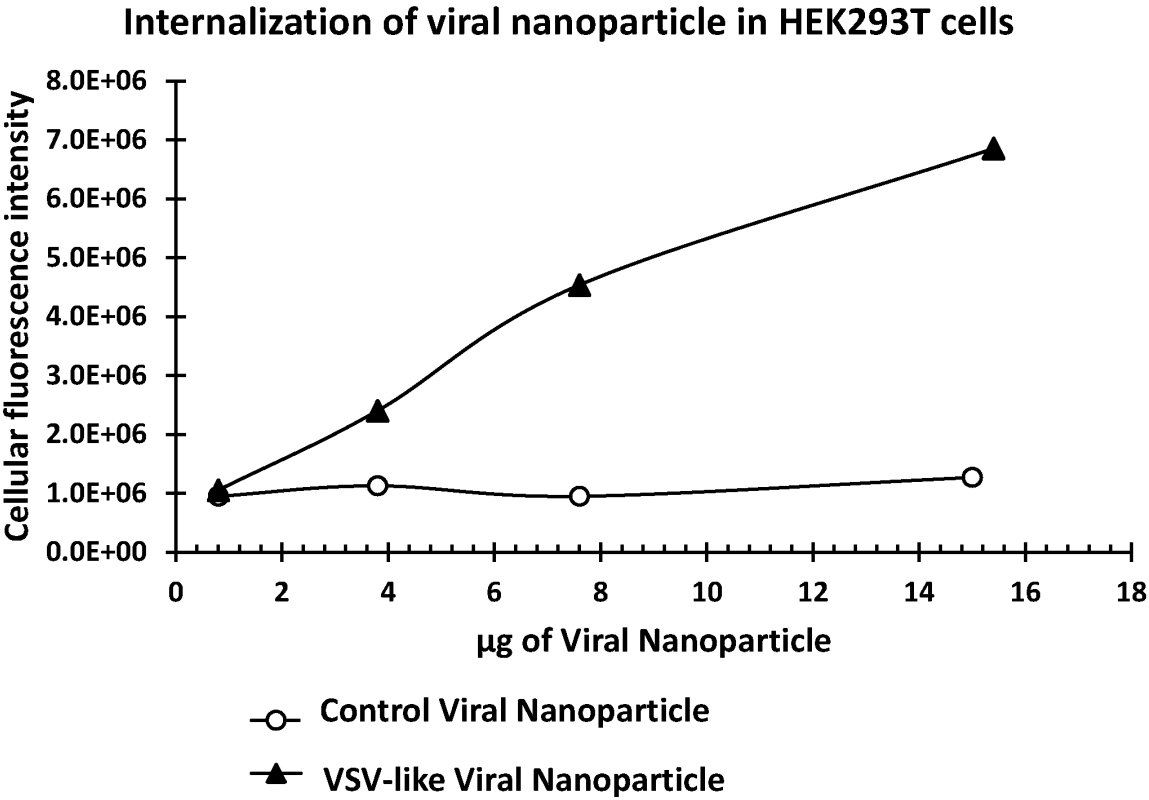


Fig. 7

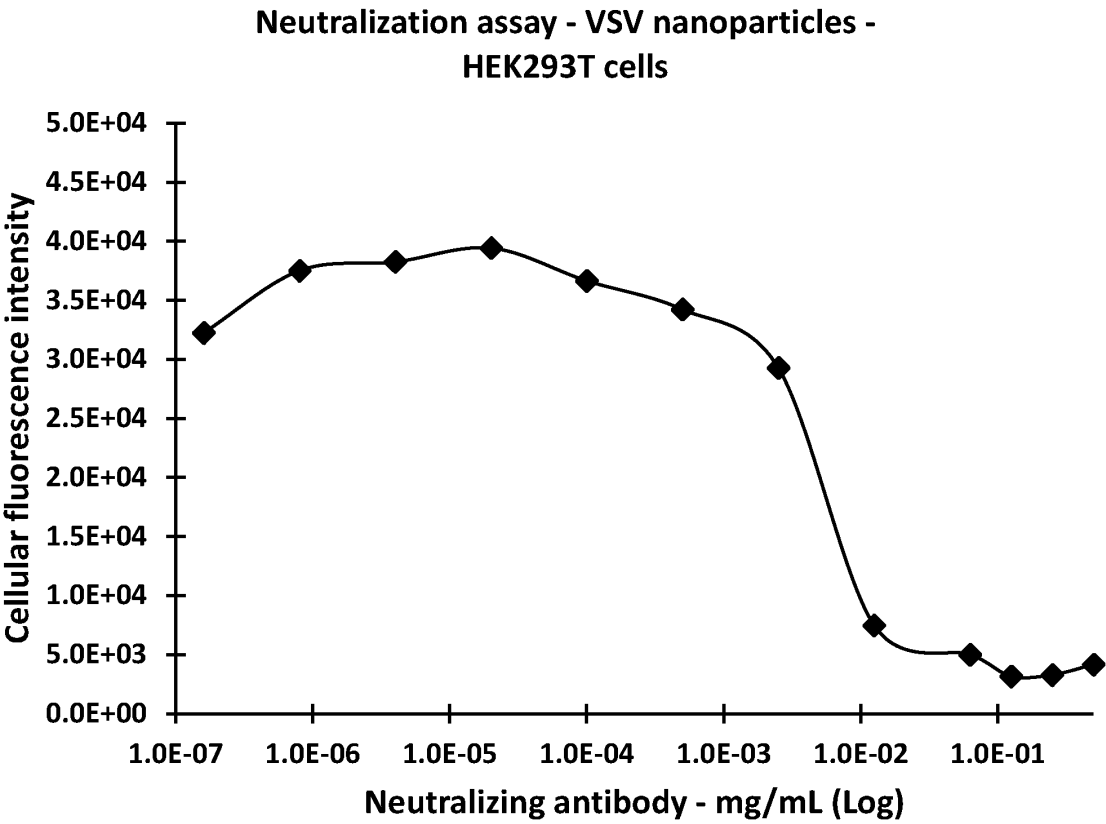


Fig. 8

Neutralization assay - VSV lentiviruses -
HEK293T

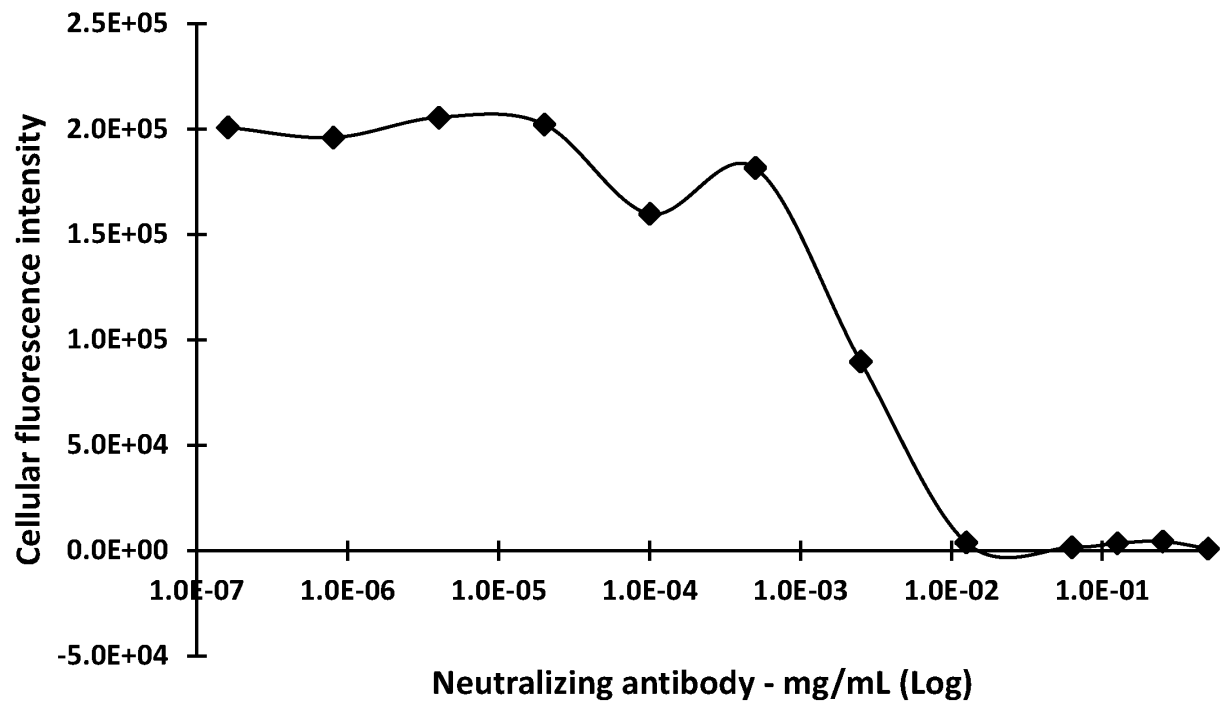


Fig. 9

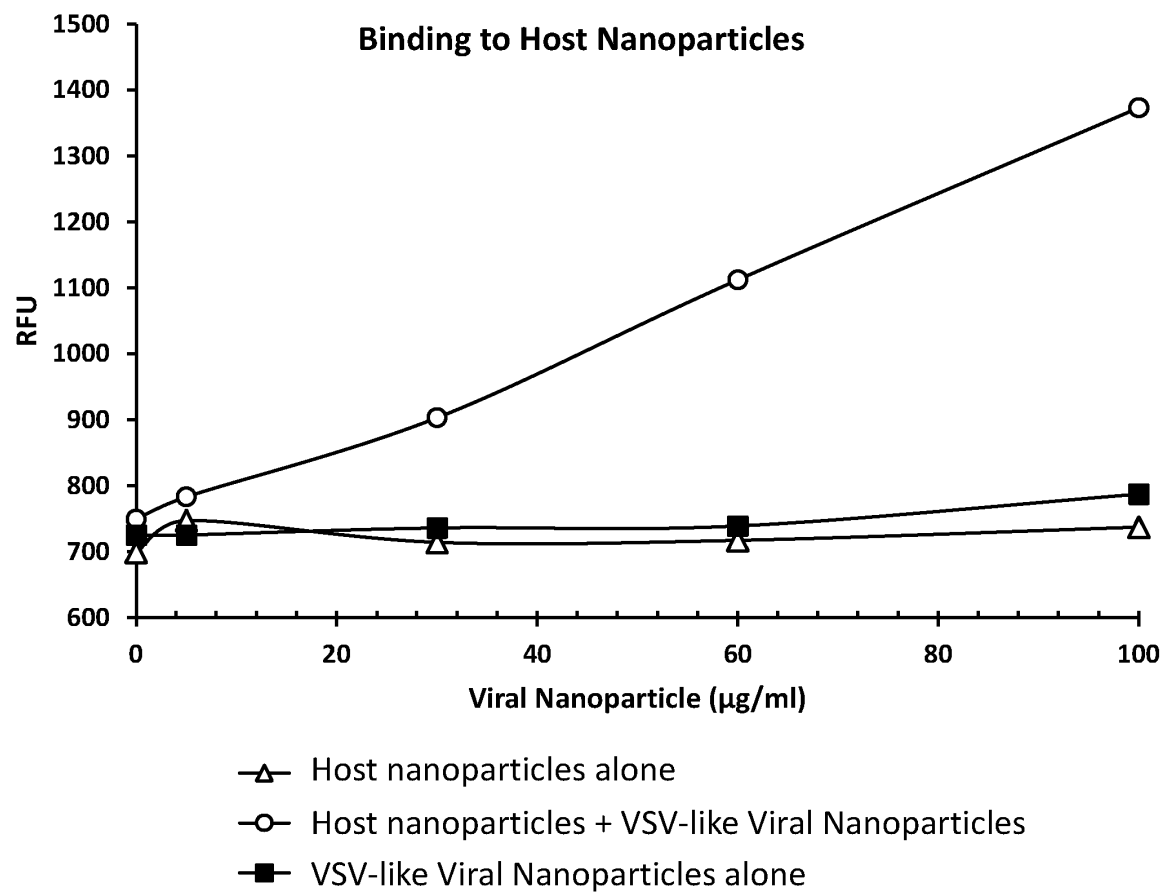


Fig. 10A

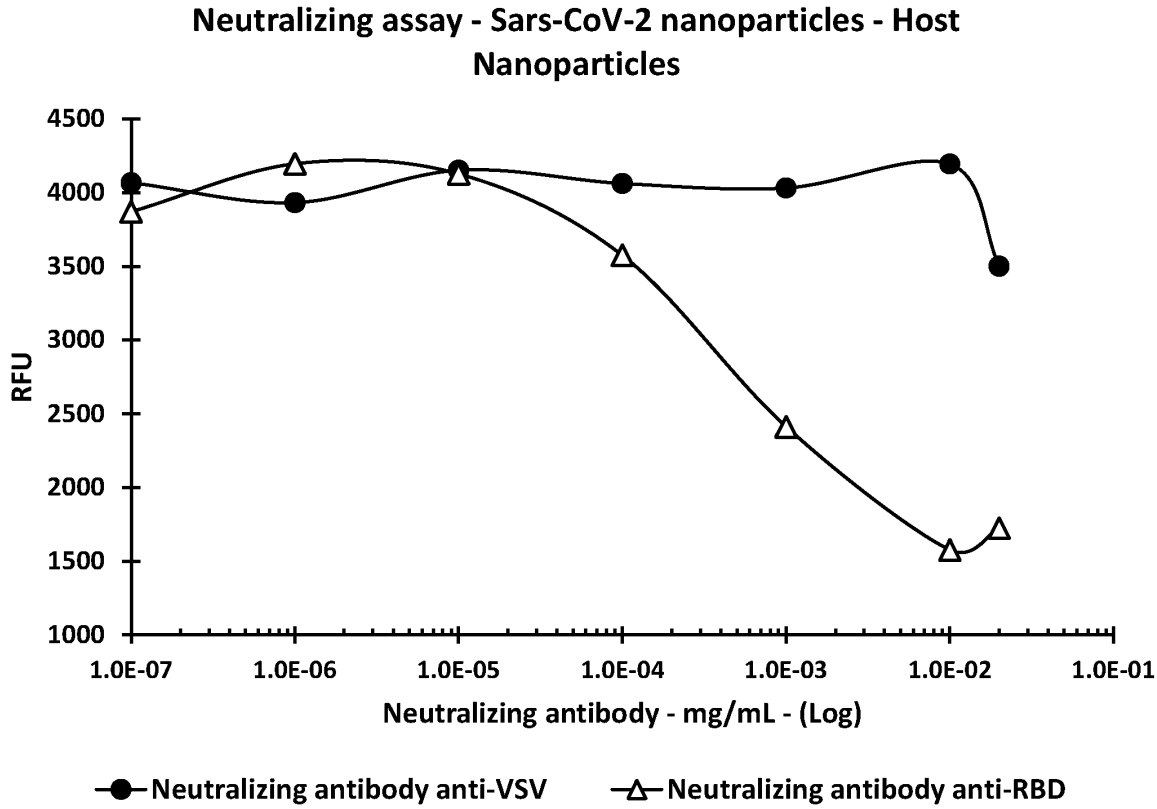


Fig. 10B

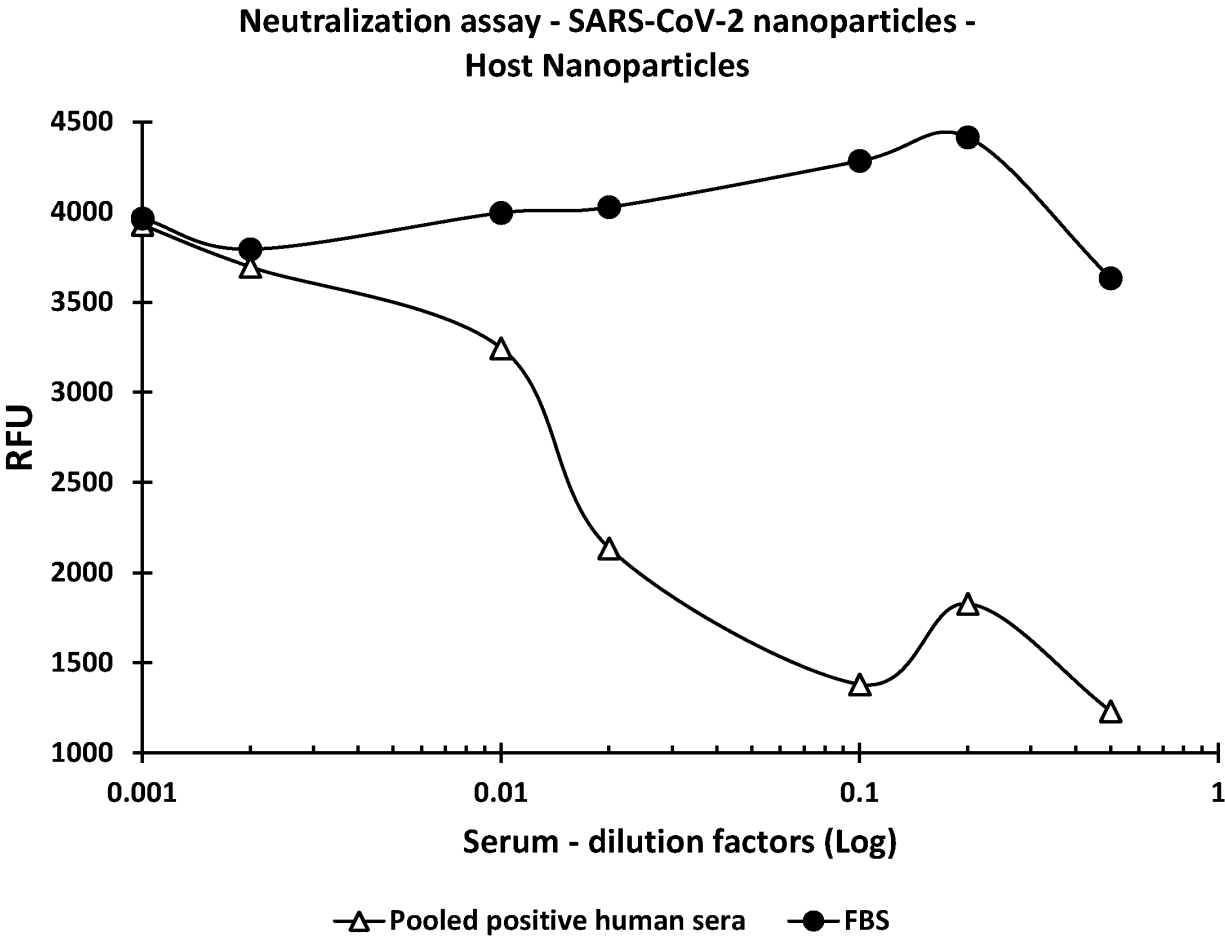


Fig. 10C

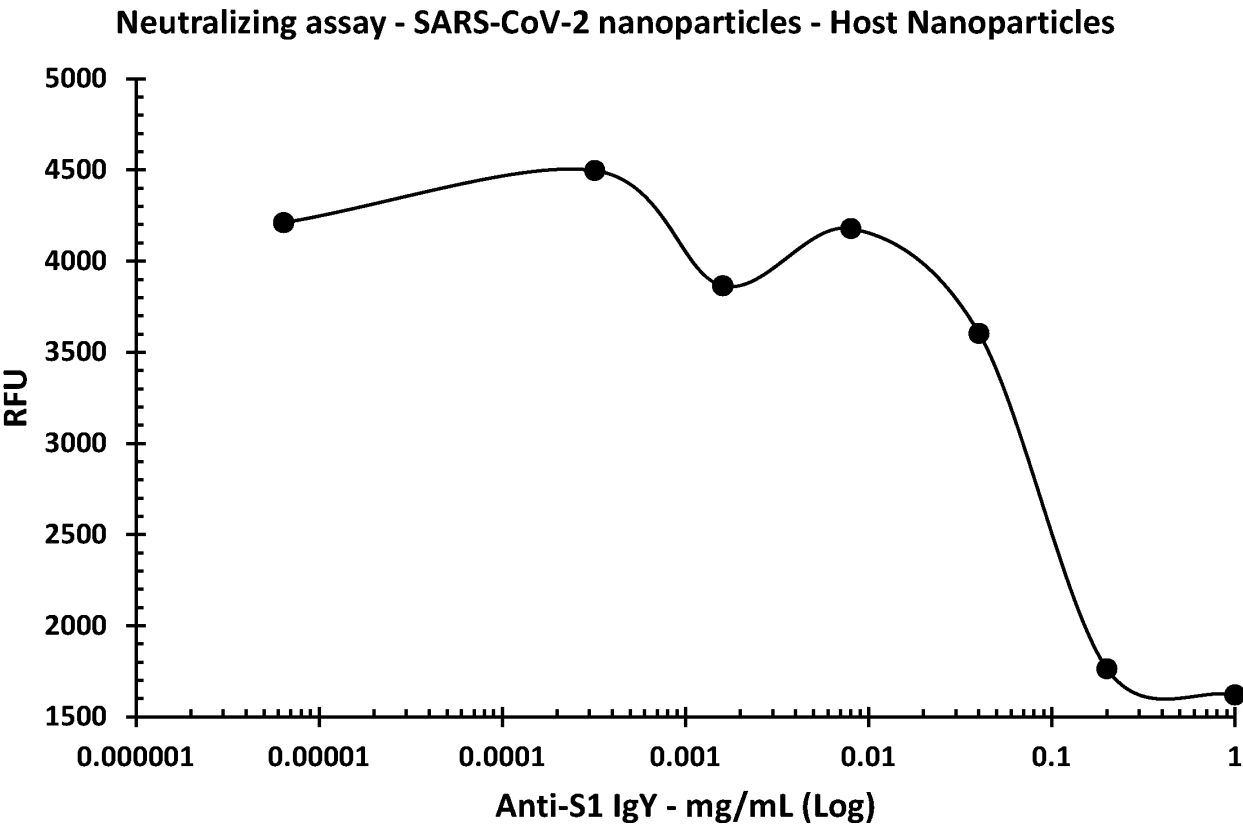


Fig. 10D

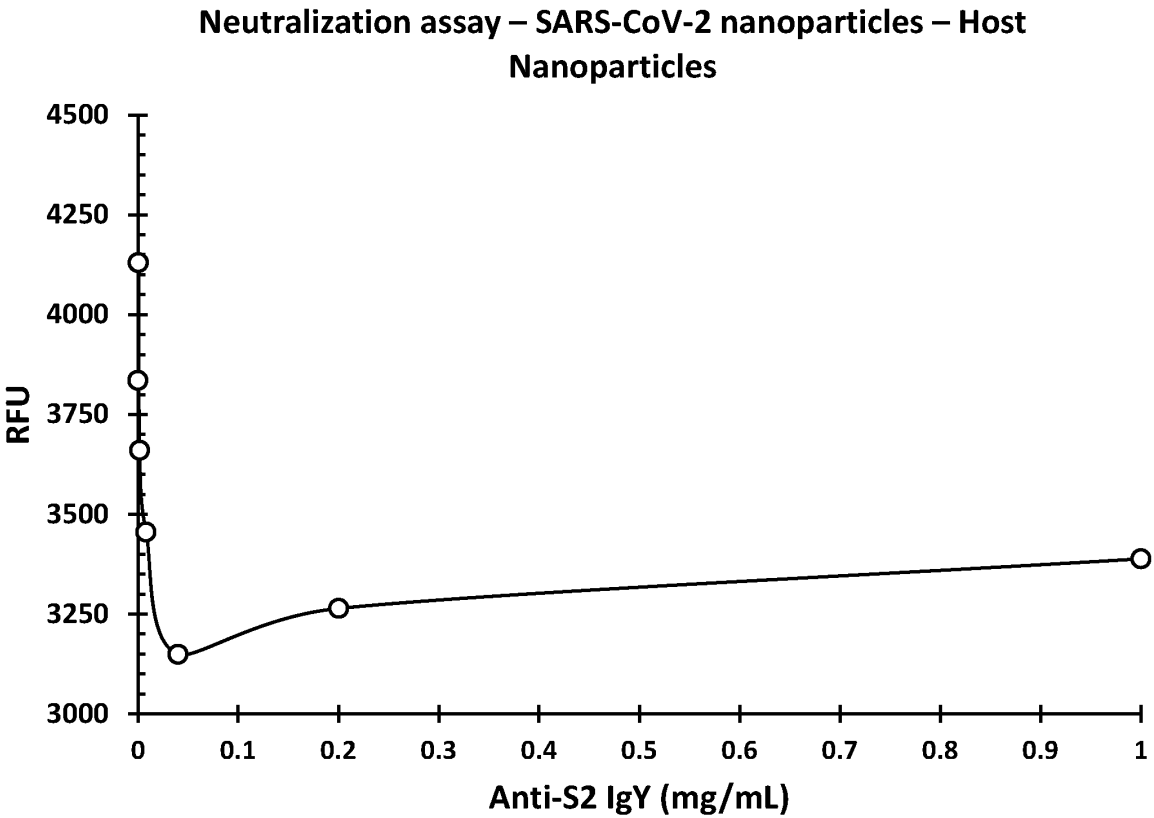


Fig. 11A
Fusion assay - R18-labeled SARS-CoV-2 nanoparticles - ACE2
nanoparticles

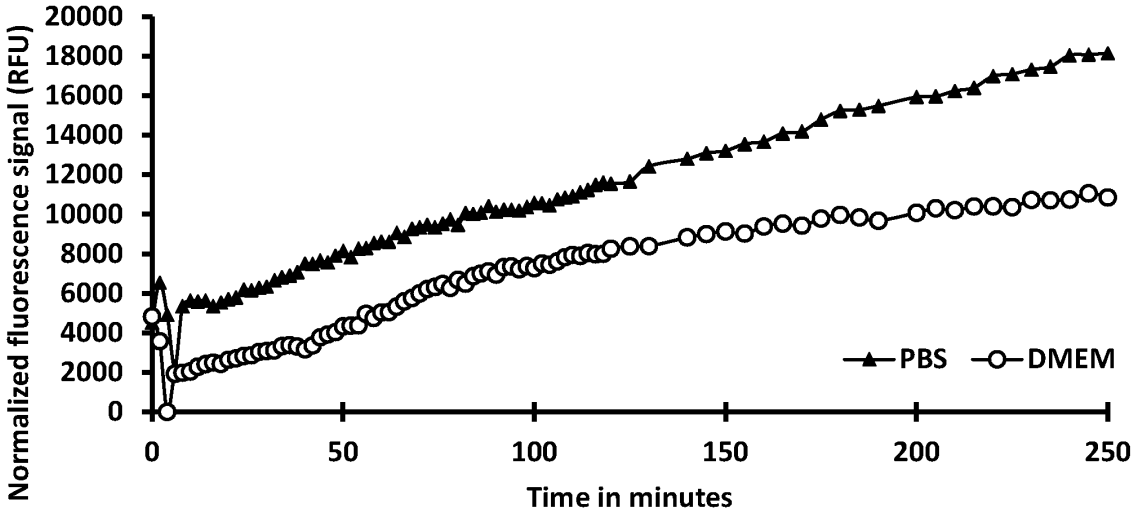


Fig. 11B
Fusion assay - R18-labeled SARS-CoV-2 nanoparticles -
ACE2/TMPRSS2 nanoparticles

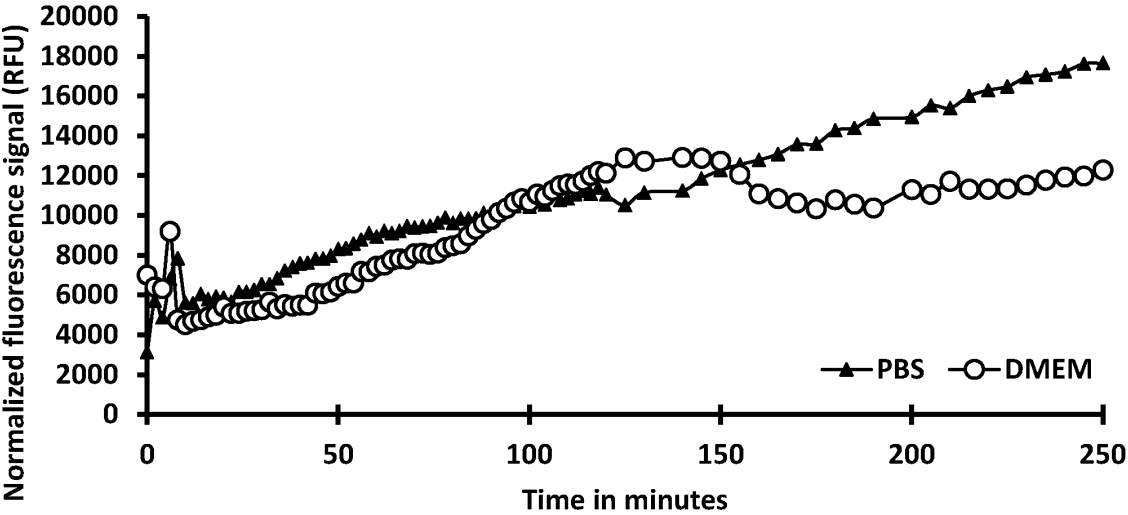


Fig. 12

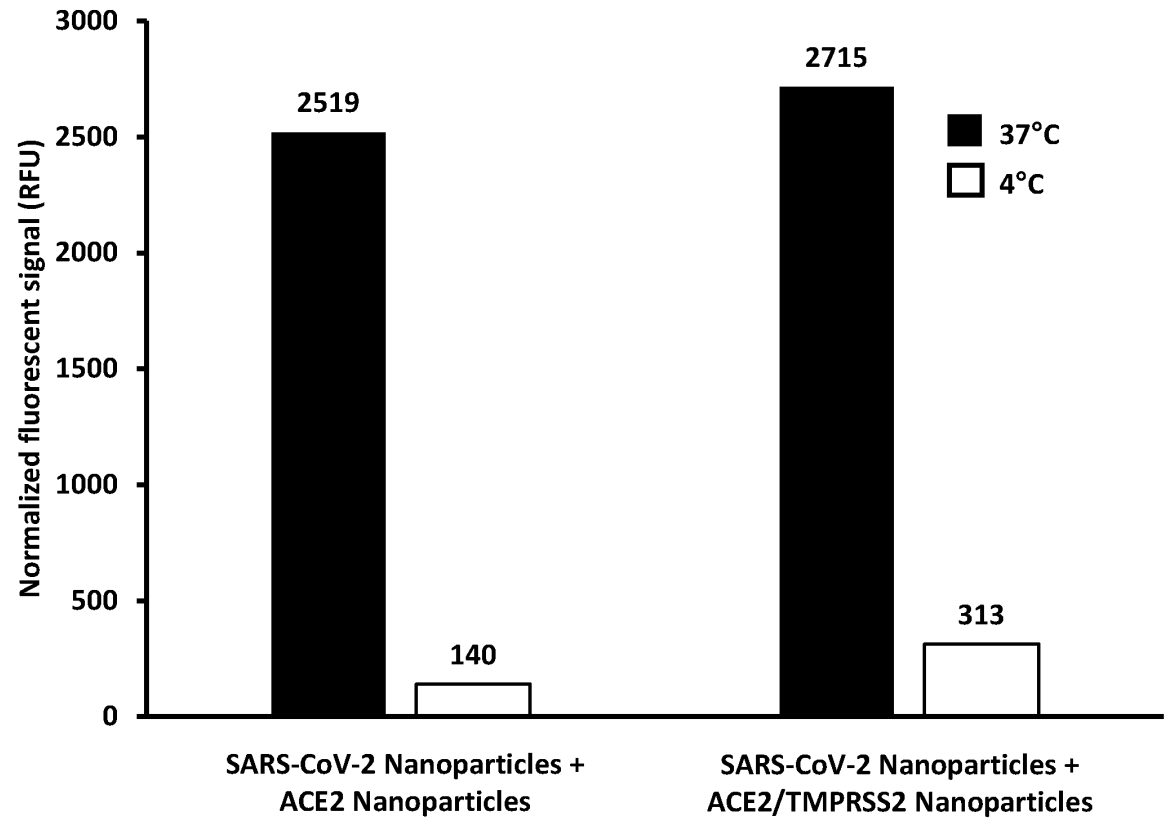


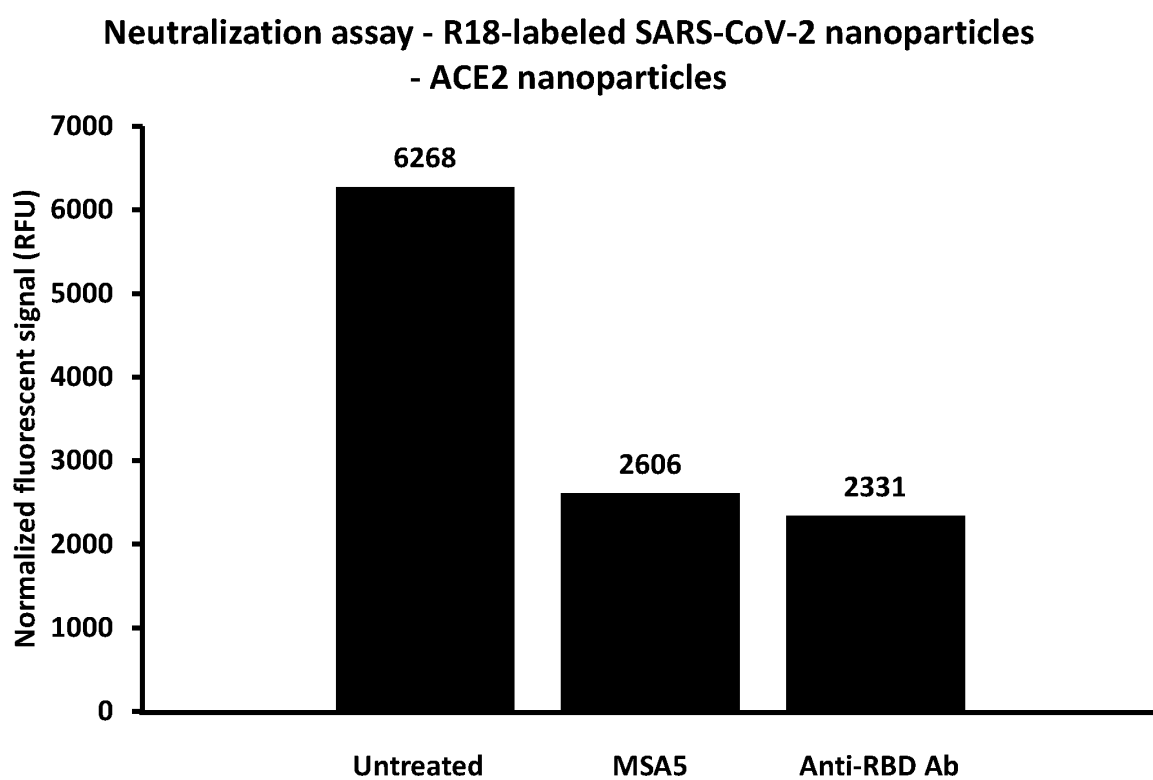
Fig. 13

Fig. 14

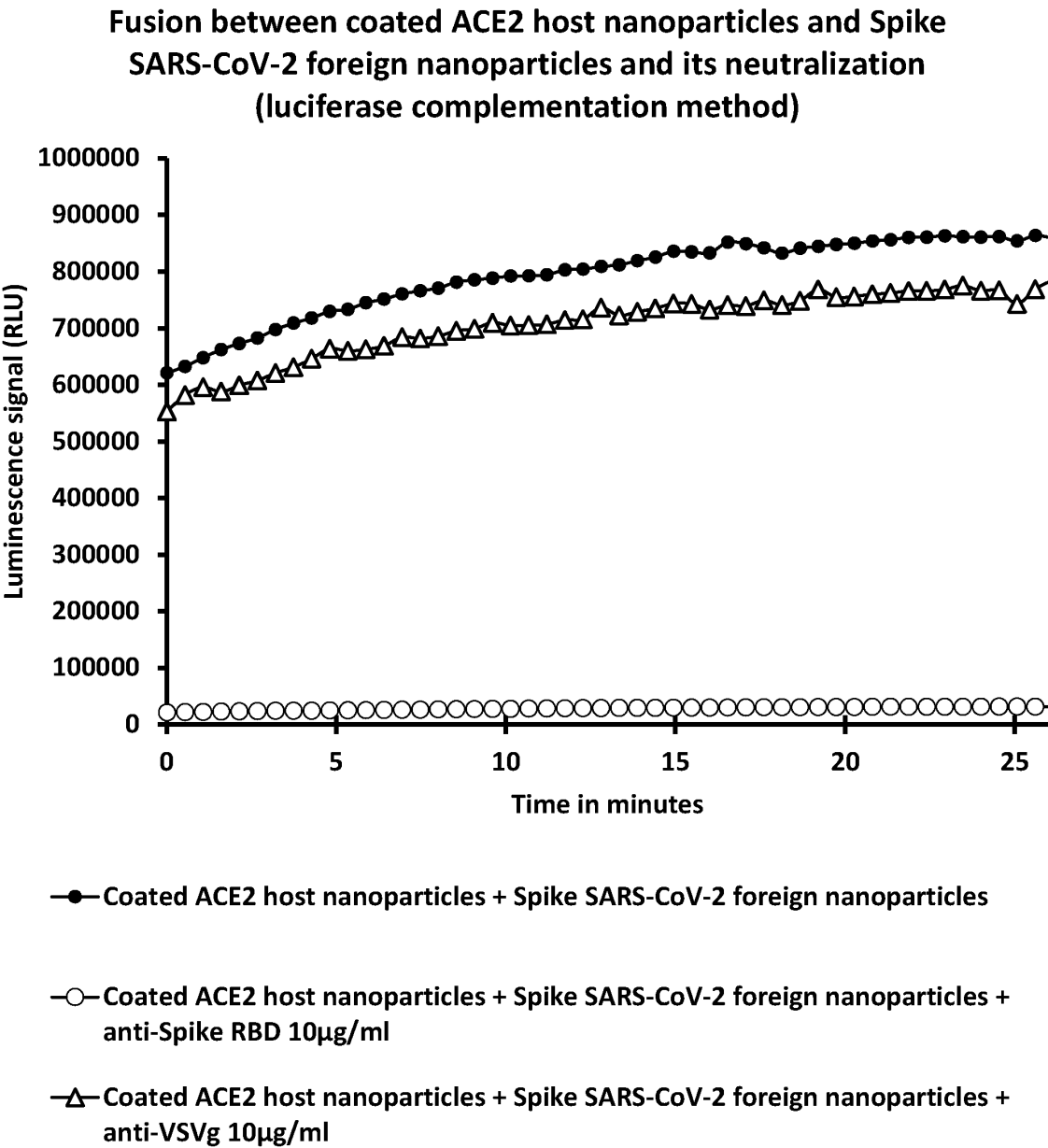


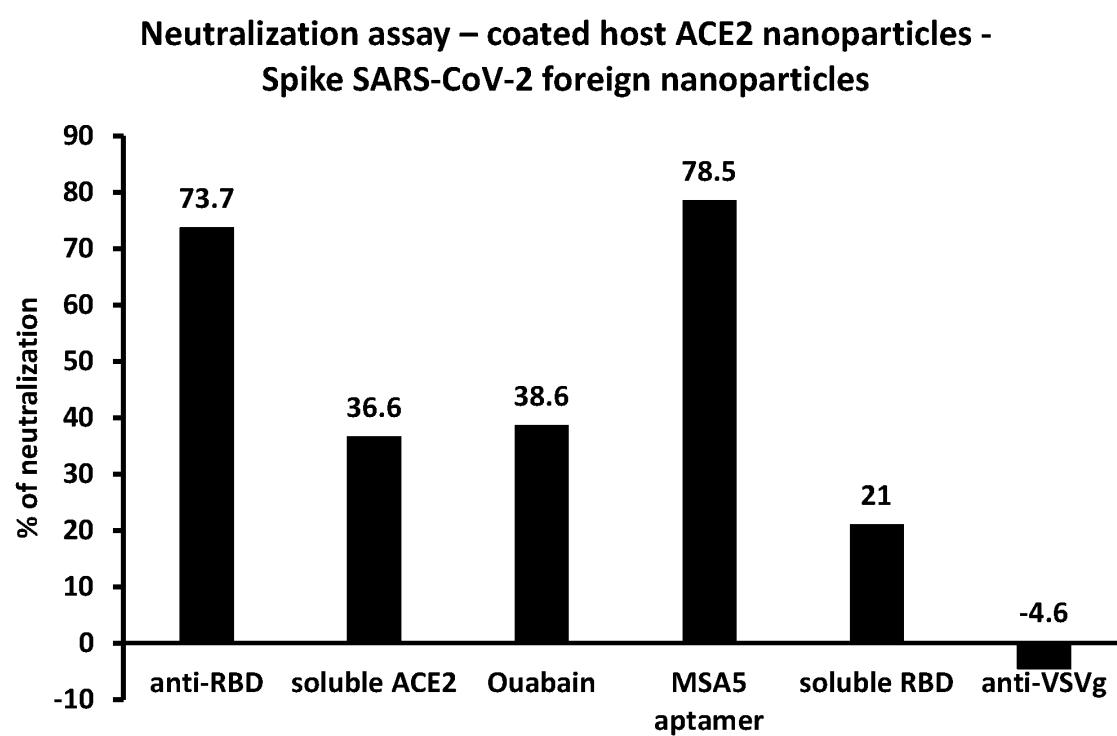
Fig. 15A

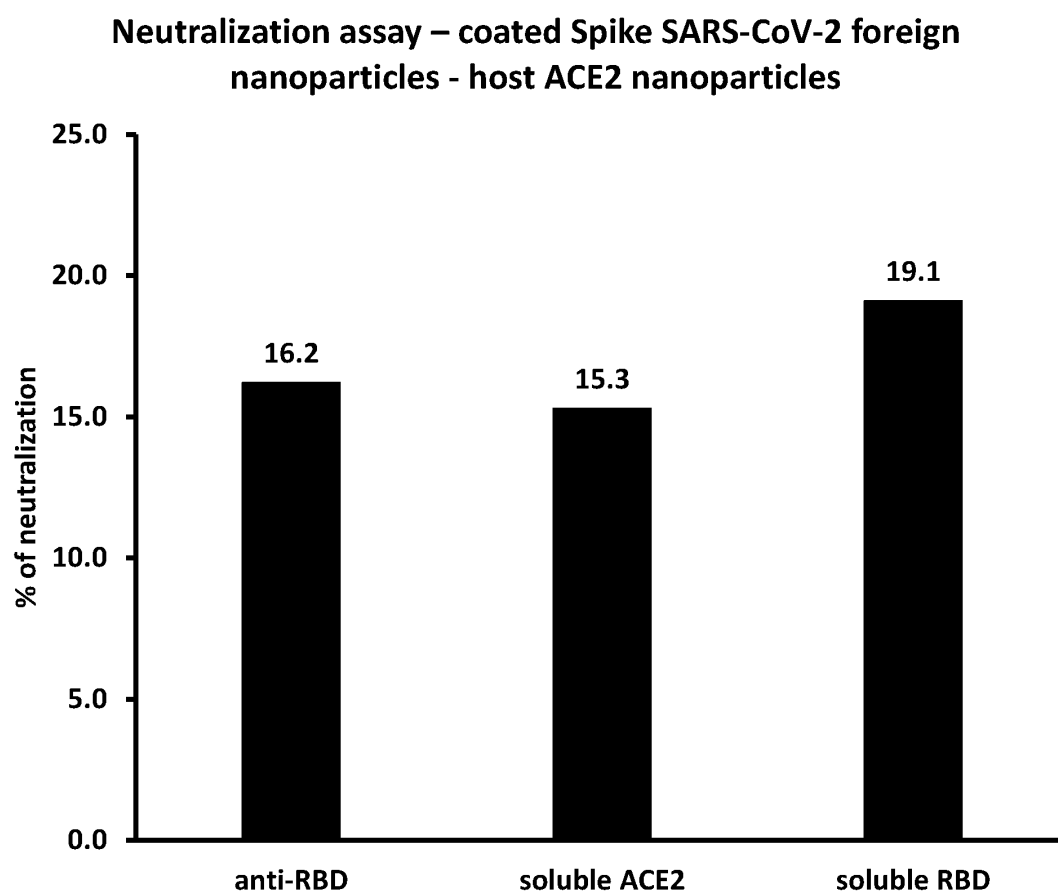
Fig. 15B

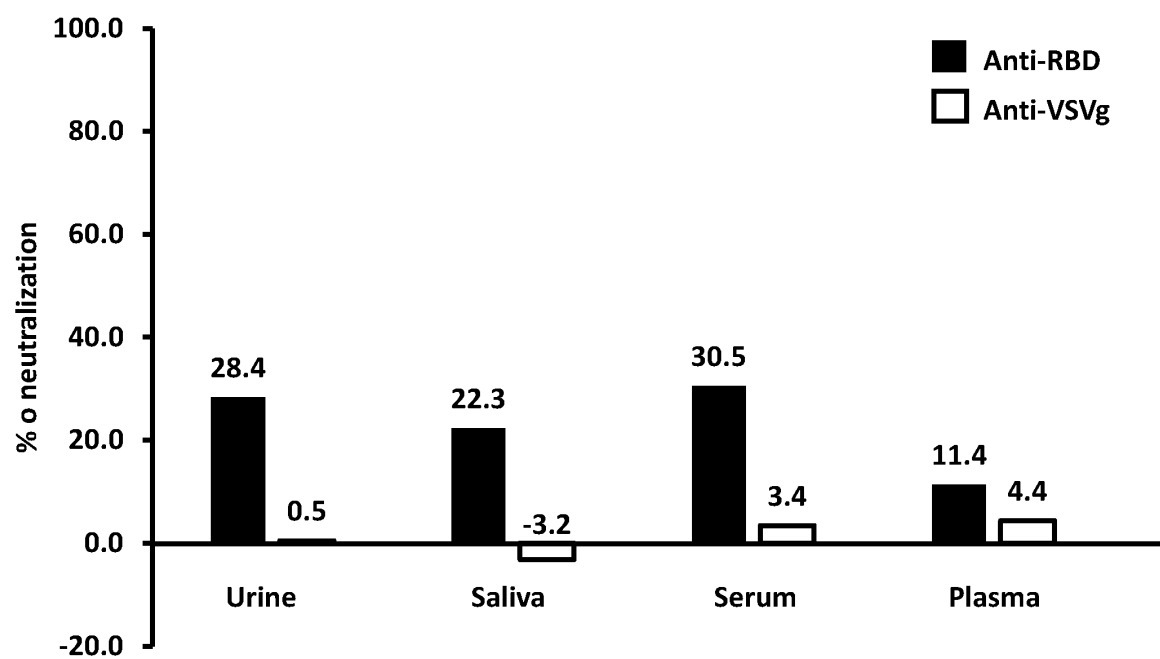
Fig. 16

Fig. 17A

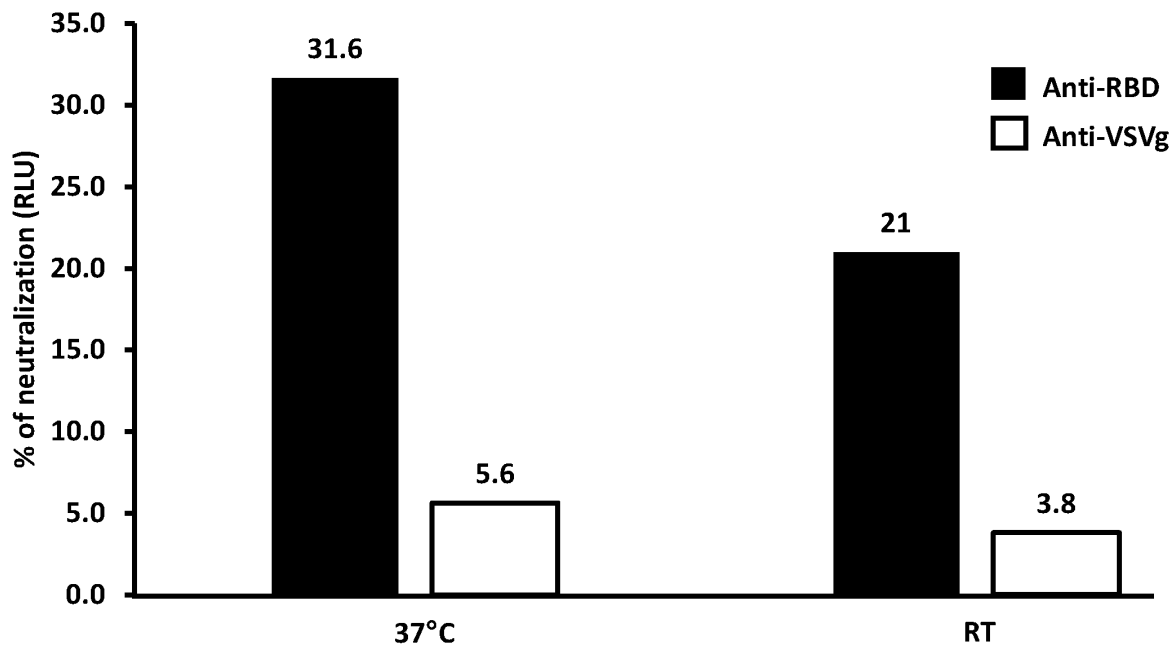


Fig. 17B

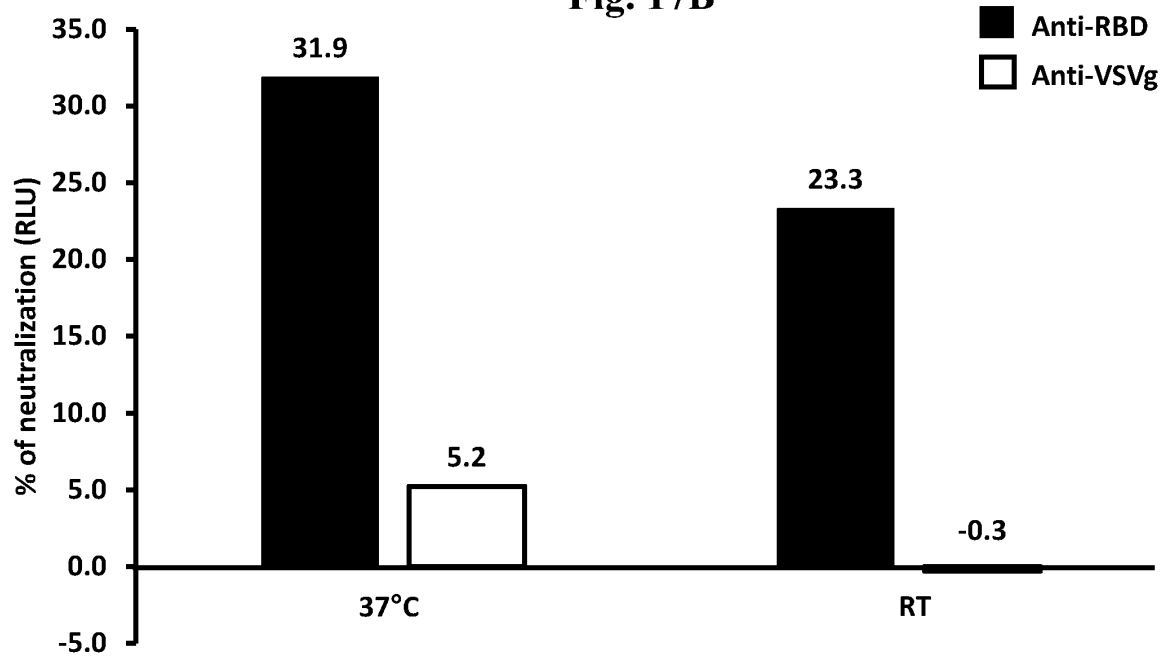


Fig. 17C

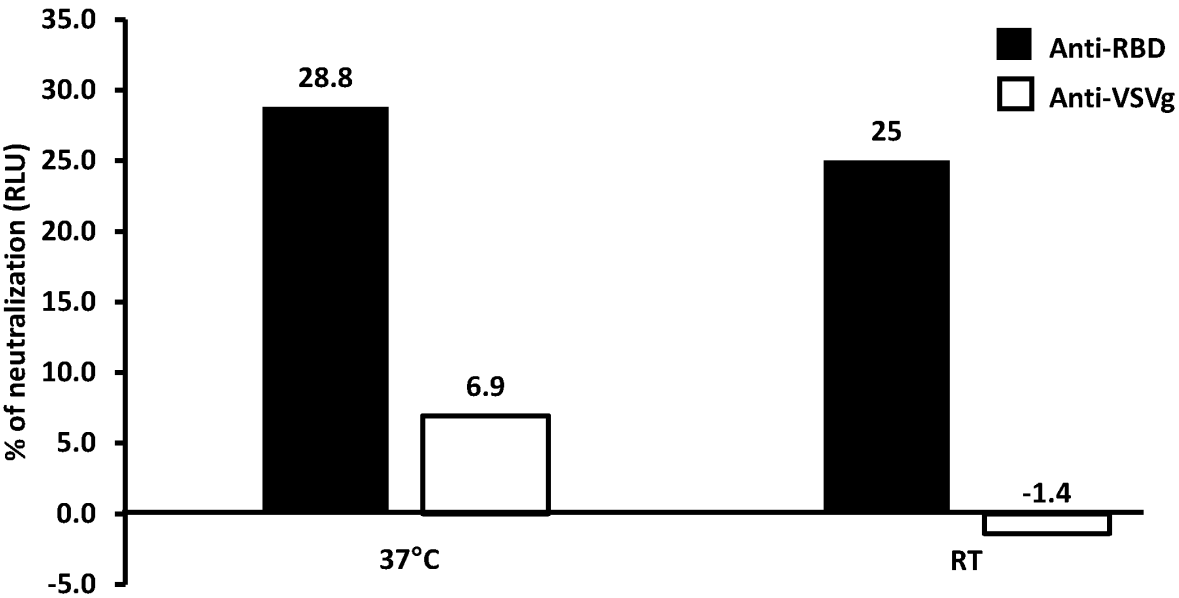


Fig. 17D

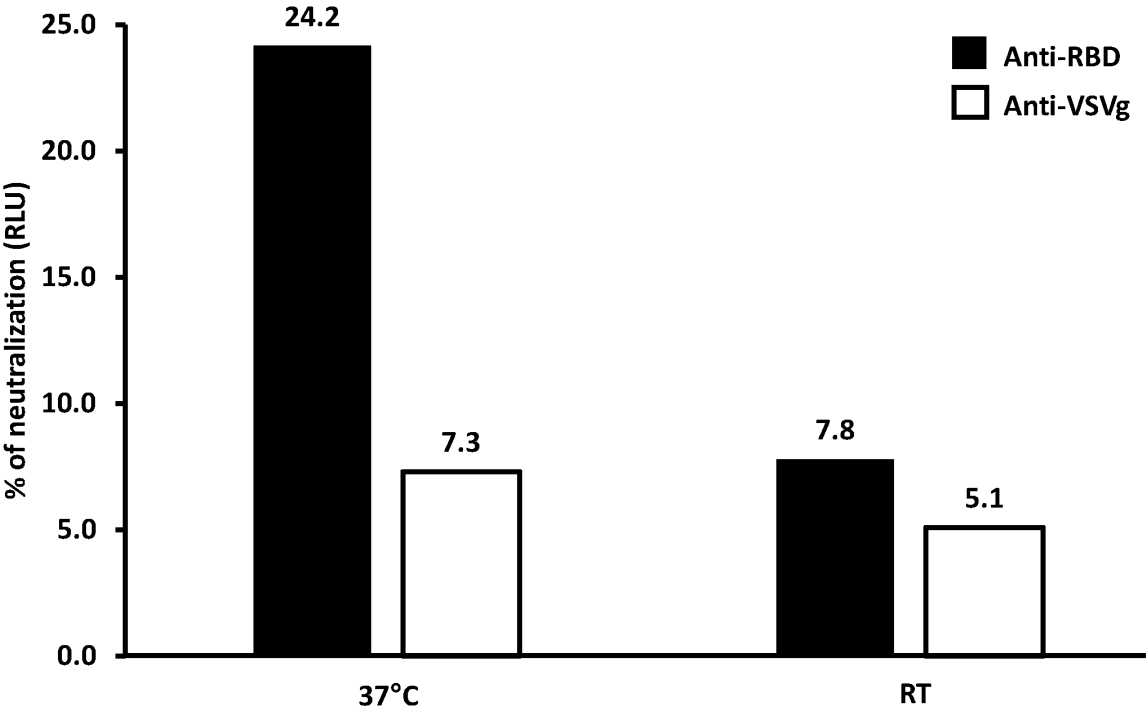


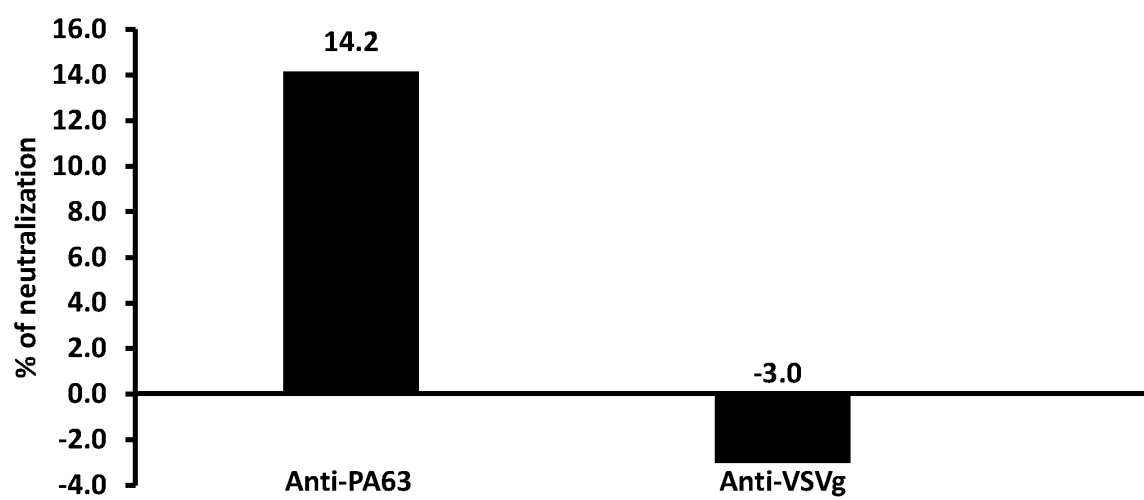
Fig. 18

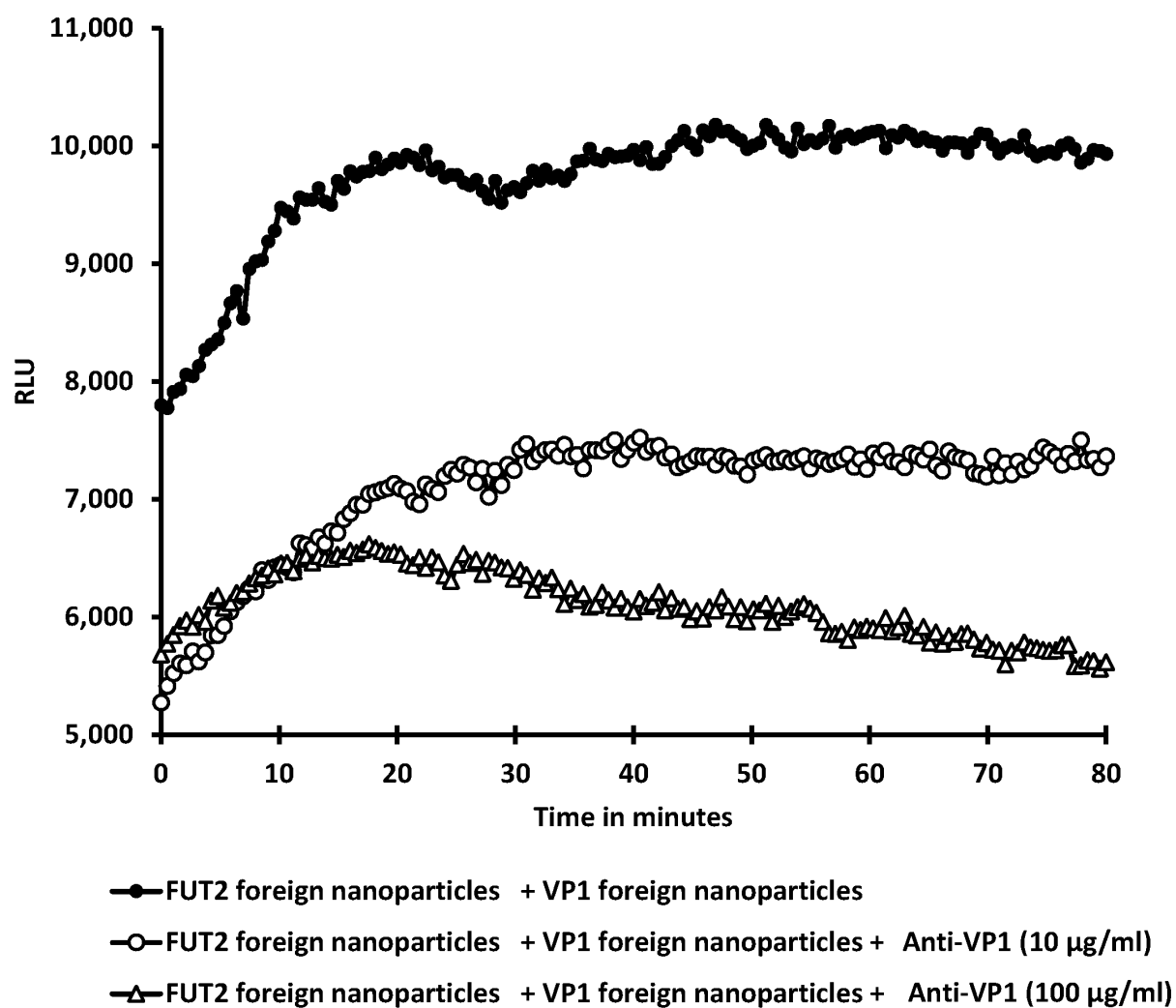
Fig. 19A

Fig. 19B

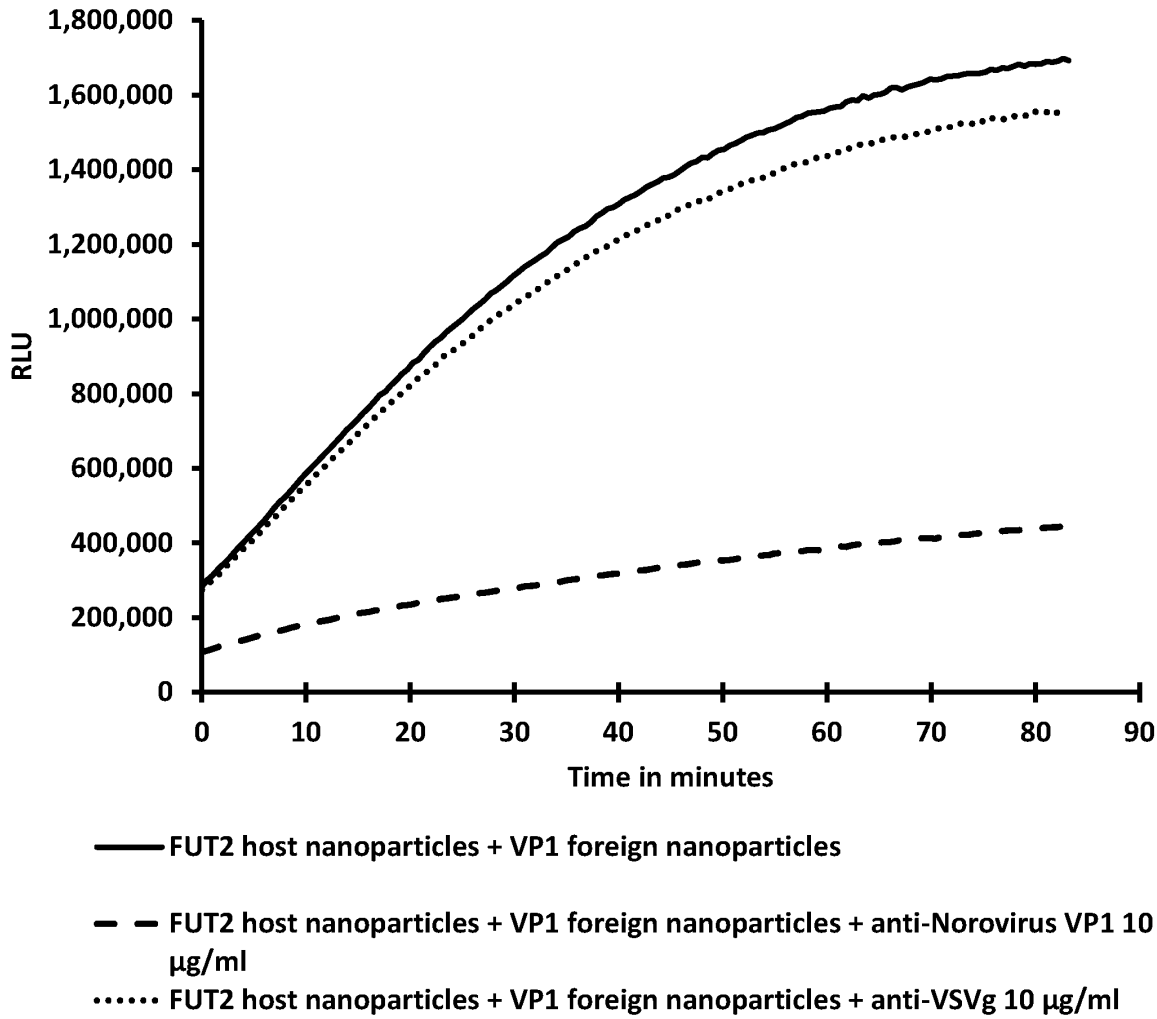


Fig. 20

**Neutralization assay using host and foreign nanoparticles
produced in HeLa cells**

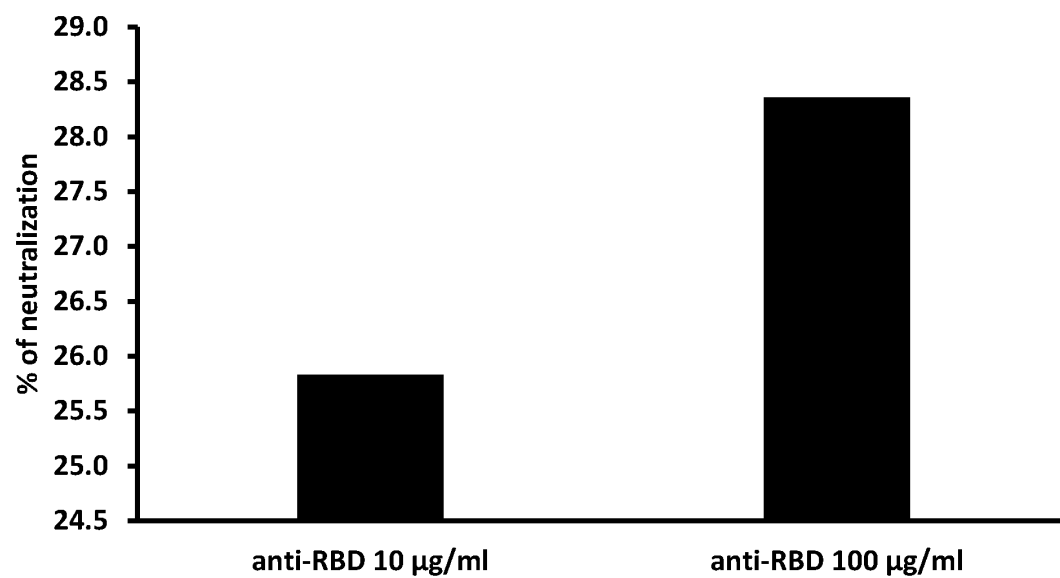
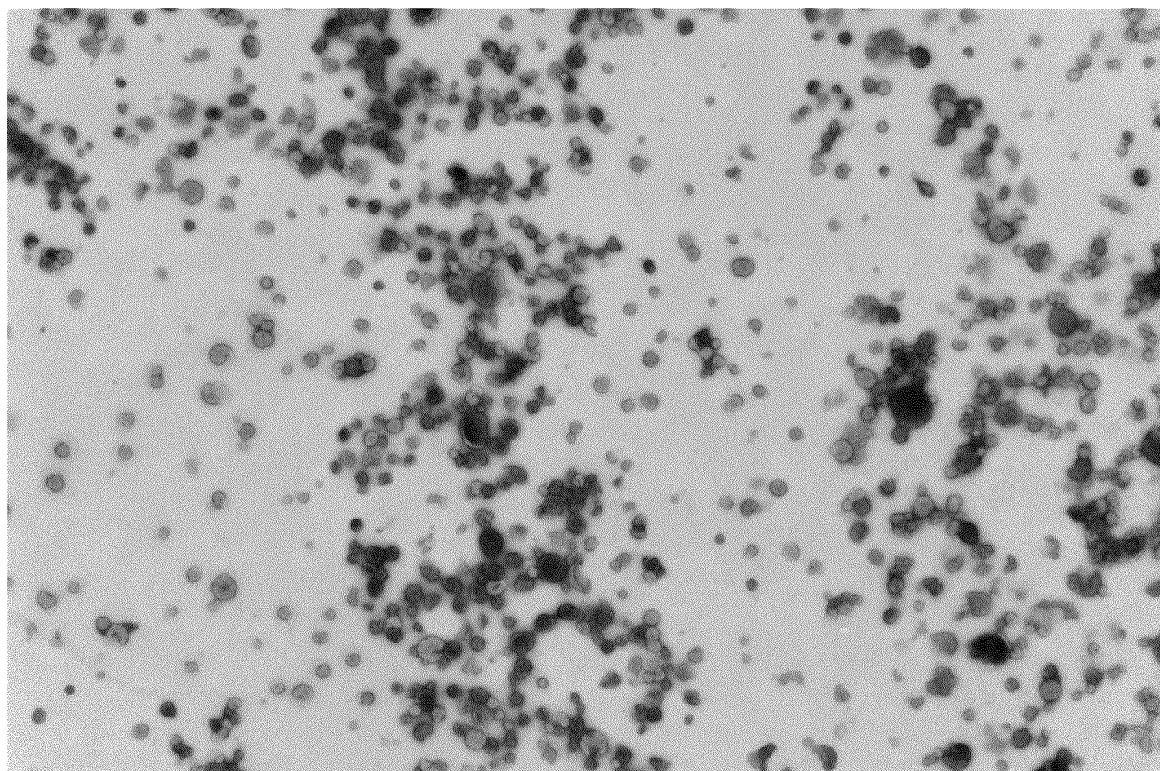


Fig. 21A

Spike-SARS-CoV-2 foreign enveloped nanoparticles



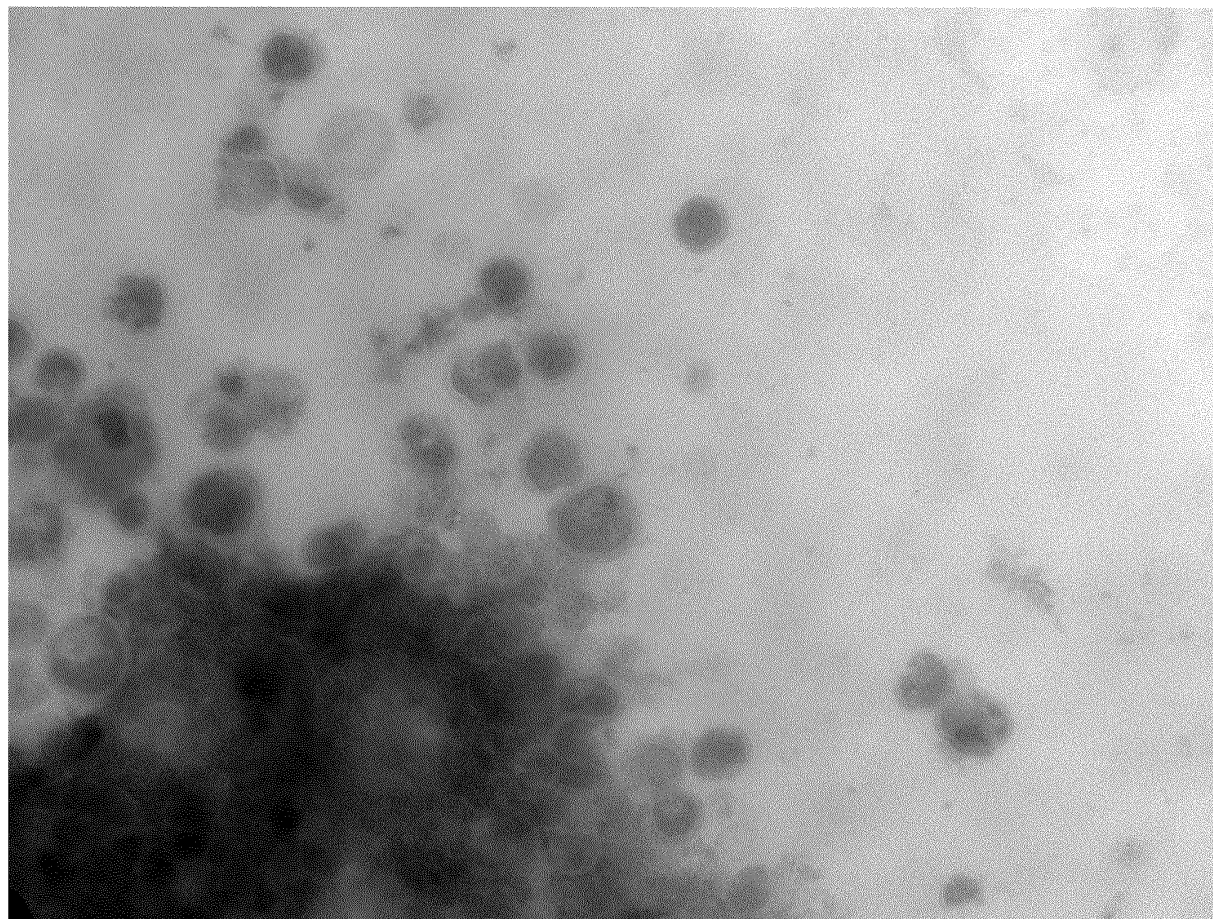
pur EDTA_1_6800X.tif
1A
Cal: 0.002858 um/pix
10:20:39 a 12/22/21

500 nm

HV=80.0kV
Direct Mag: 6800x
X:289.44708 Y: -766.510344
AMT Camera System

Fig. 21B

ACE2 host enveloped nanoparticles



1_1a_23KX.tif

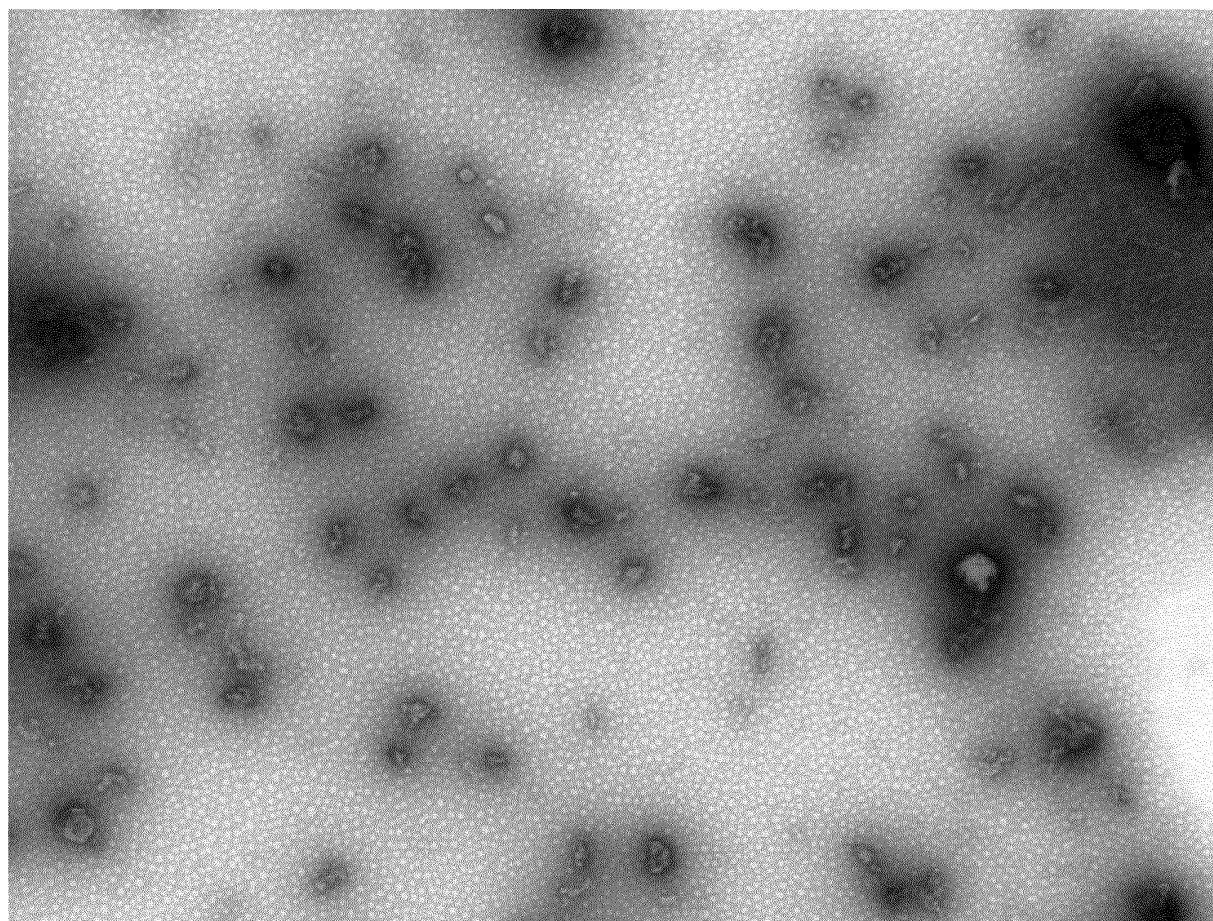
Cal: 0.000786 $\mu\text{m}/\text{pix}$
12:46 2022-12-02

Camera: BIOSPR29, Exposure: 4000 (ms) x 1 std. frames, Gain: 2, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

200 nm
HV=80kV
Direct Mag: 23000 x
AMT Camera System

Fig. 21C

VP1 foreign non-enveloped nanoparticles



C_2_18500X.tif

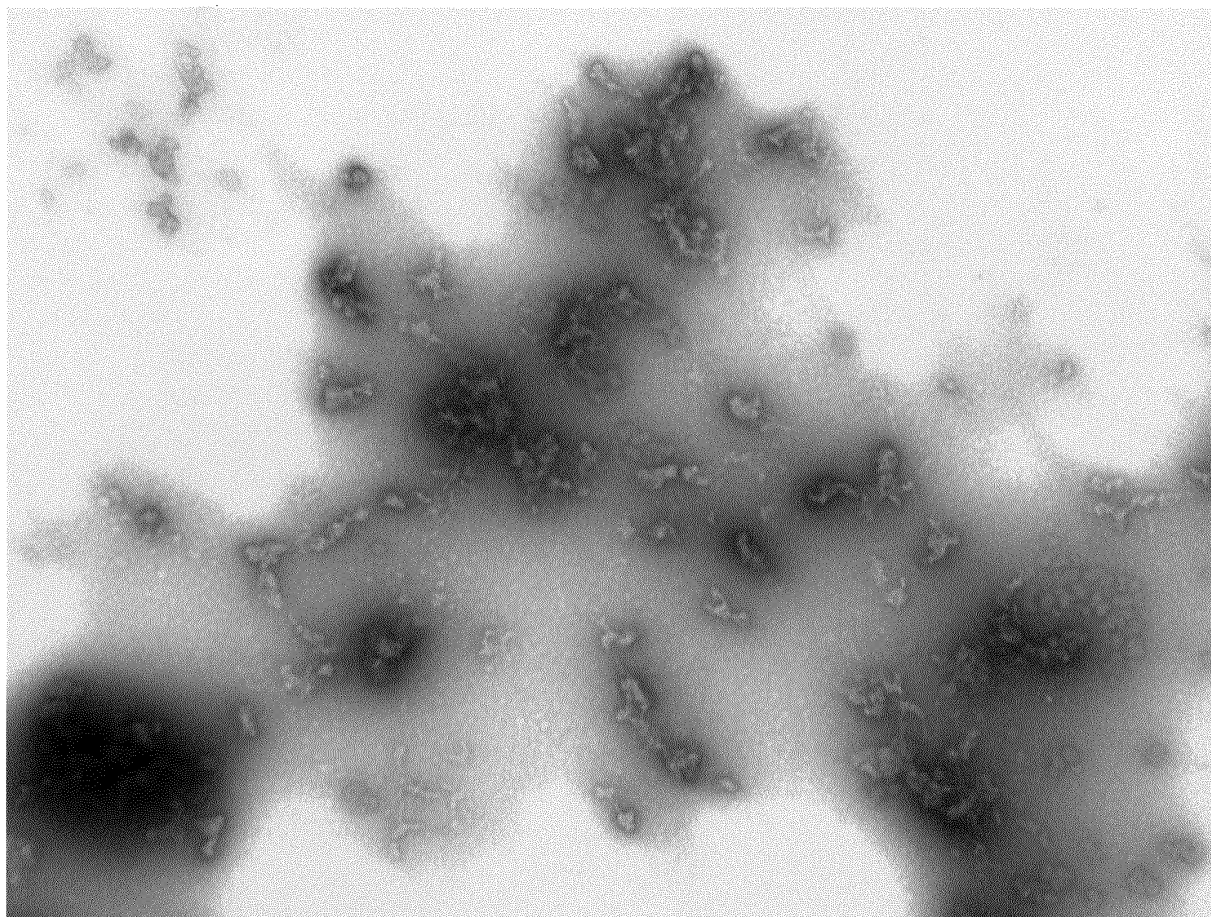
Cal: 0.000978 $\mu\text{m}/\text{pix}$
15:05 2022-12-19

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Gamma: 1.00, No Sharpening, Normal Contrast

400 nm
HV=80kV
Direct Mag: 18500 x
AMT Camera System

Fig. 21D

linearized spike-SARS-CoV-2 foreign enveloped nanoparticles



D_2a_30KX.tif

Cal: 0.000613 $\mu\text{m}/\text{pix}$
15:27 2022-12-19

Camera: BIOSPR29, Exposure: 4000 (ms) x 1 std. frames, Gain: 2, Bin: 1
Gamma: 1.00, No Sharpening, Normal Contrast

200 nm
HV=80kV
Direct Mag: 30000 x
AMT Camera System