

Highly sensitive and selective surface plasmon resonance biosensor for detection of SARS-CoV-2 spike S1 protein

Qiong Wu^a, Wen Wu^a, Fangfang Chen^a, Ping Ren^{b*}

^a Nanomedicine Translational Research Center, China-Japan Union Hospital of Jilin University, 126 Sendai Street, Changchun 130033, Jilin, China

^b Department of Thoracic Surgery, The First Hospital of Jilin University, 71 Xinmin Street, Changchun 130021, Jilin, China

*Corresponding author

Tel.: +86-431-84995312. Fax: +86-431-84995312

* E-mail: rpemail@jlu.edu.cn (P., Ren)

Table of Contents

1. UV-Vis spectra of PDA-AgNPs-Ab₂ nanoconjugates (Figure S1)
2. The repeatability test of the prepared sensor chip (Figure S2)
3. Analysis of S1 protein in a model system of human serum (Table S1)

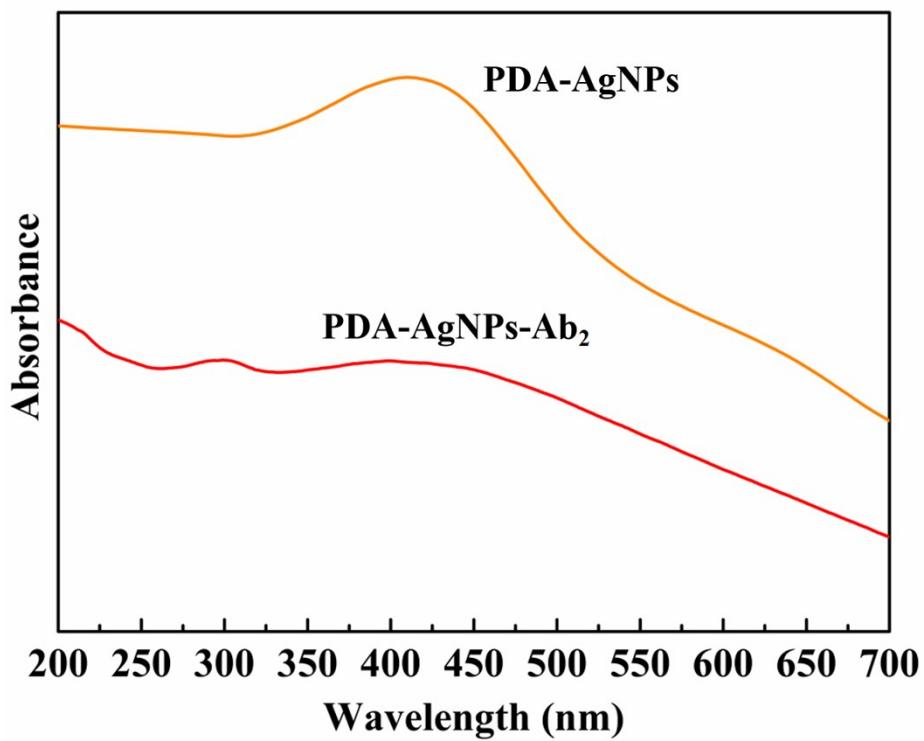


Figure S1 UV-Vis spectra of PDA-AgNPs nanohybrids and PDA-AgNPs-Ab₂ nanoconjugates.

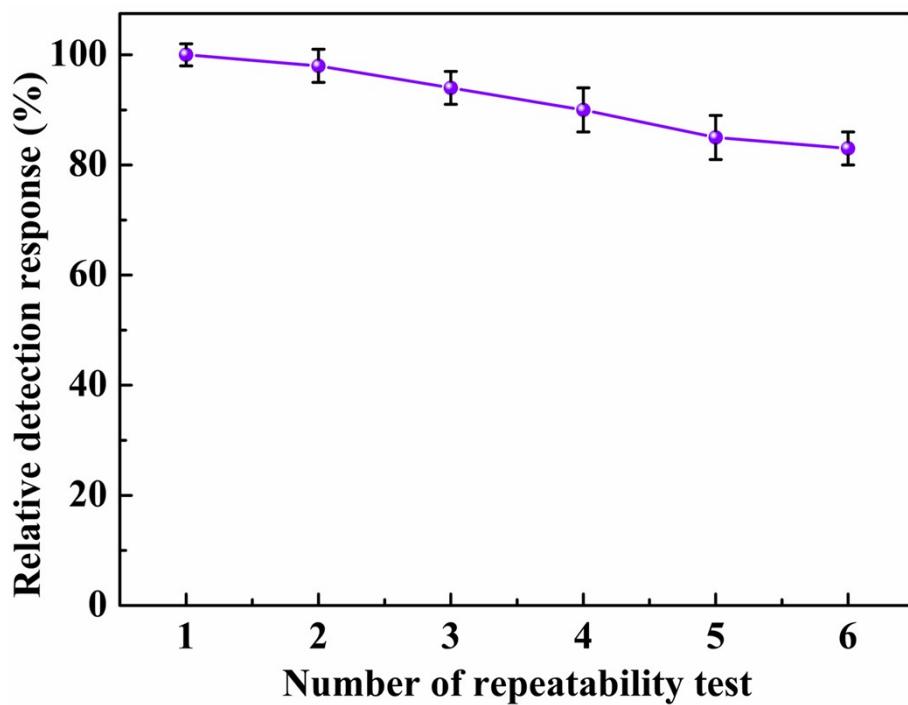


Figure S2 Repeatability test of the prepared sensor chip and relative detection response.

Table S1 Determination of S1 protein concentration in serum samples using the proposed biosensor ($n = 3$).

Content of S1 protein (ng mL ⁻¹)	Spiked (ng mL ⁻¹)	Detected (ng mL ⁻¹)	Recovery (%)	RSD (%)
None	100	94	94.0	6.2
None	10	9.56	95.6	4.8
None	1	0.92	92.0	5.9
None	0.1	0.0975	97.5	6.3
None	0.01	0.0106	106	3.5
None	0.001	0.0012	120	6.8