

Supporting Information

Ultrasensitive Detection of Prostate Specific Antigen Using Personal Glucose Meter based on DNA-mediated Immunoreaction

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Table S1. Comparison of analytical performance of different methods for PSA detection.

Detection methods	LOD	Concentration range	Reference
Photoelectrochemistry	1.8 pg mL ⁻¹	0.005-50 ng mL ⁻¹	1
Electrochemistry	0.02 fg mL ⁻¹	0.05-500 fg mL ⁻¹	2
Fluorescence	3 pg mL ⁻¹	0.01-5 ng mL ⁻¹	3
Circular dichroism	0.076 aM	0.1-50 aM	4
Light scattering	2 pg mL ⁻¹	0.01-20 ng mL ⁻¹	5
DNA origami	50 aM	5×10 ⁻⁵ -5 pM	6
SERS	2.49 ng mL ⁻¹	3-120 ng mL ⁻¹	7
PGM	0.1 pg mL ⁻¹	0.003-50 ng mL ⁻¹	This work

Supplemental Figures

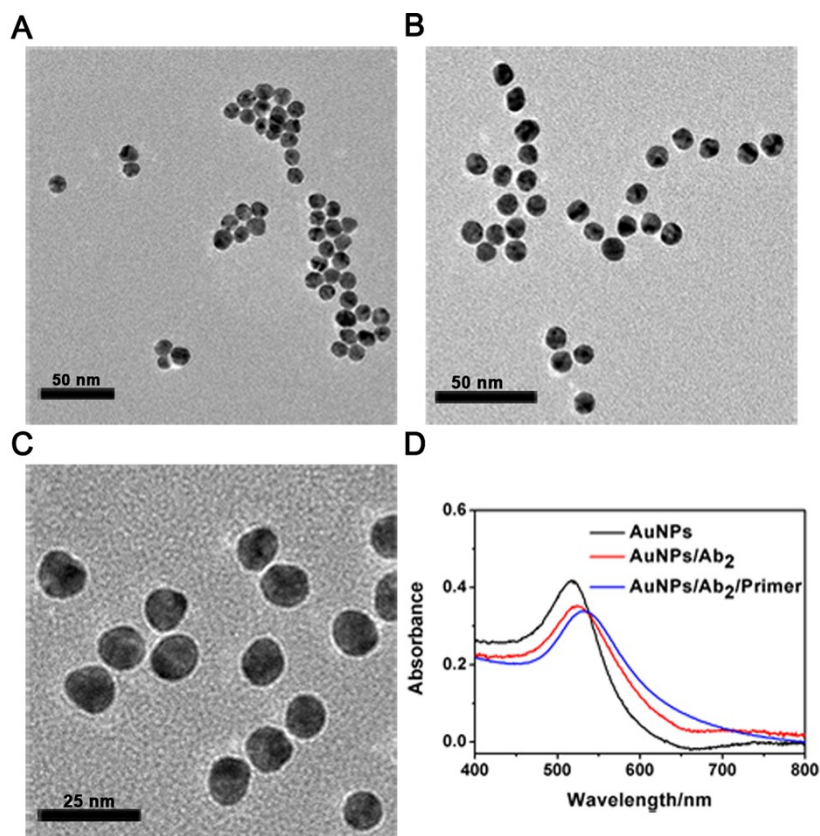


Figure S1. TEM images of (A) AuNPs, (B) AuNPs-Ab₂, (C) AuNPs-Ab₂-Primer, and corresponding UV-vis spectra (D).

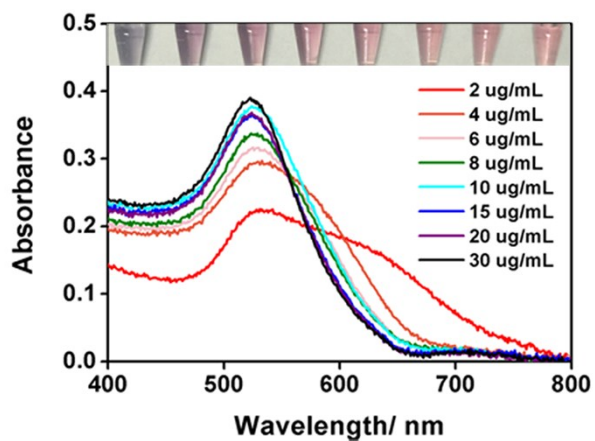


Figure S2. UV-vis spectra of AuNPs-Ab₂ with different concentrations of Ab₂.

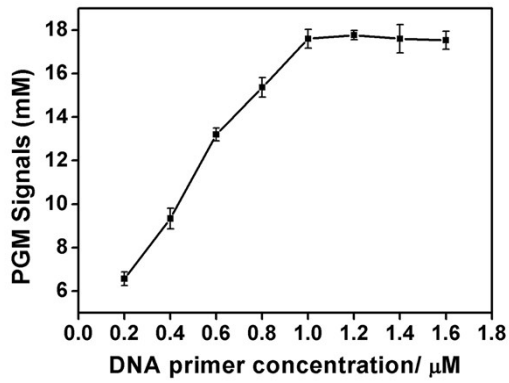


Figure S3. Optimization of DNA primer concentration for the construction of AAP.

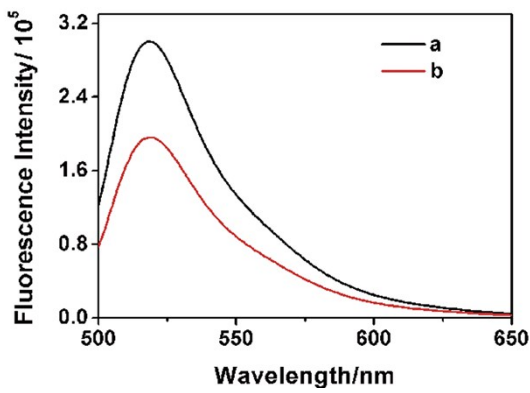


Figure S4. Fluorescence spectra of (a) 1 μM Primer/FAM, (b) Primer/FAM in the supernatant of AuNPs-Ab₂-Primer/FAM.

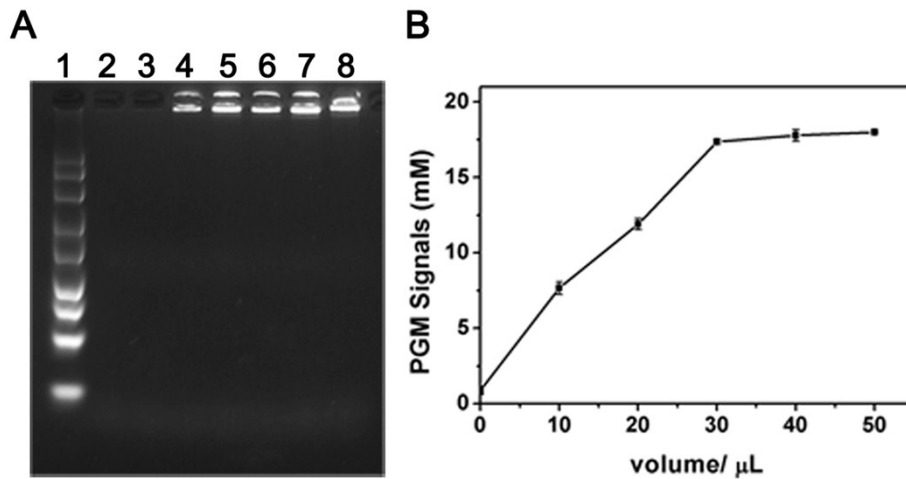


Figure S5. (A) Photograph of 5% agarose gel-electrophoresis of RCA products, lane 1, Marker; lane 2, without PSA, lane 3-8, volume of AuNPs-Ab₂-Primer-cDNA 0 μL , 10 μL , 20 μL , 30 μL , 40 μL , 50 μL . (B) PGM signals with different amount of AuNPs-Ab₂-Primer-cDNA.

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