

Supplemental information

Enhancement of the peroxidase-like activity of iodine-capped gold nanoparticles for the colorimetric detection of biothiols

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Analysis of iodide using FITC-AuNPs

A solution of FITC-AuNPs was prepared according to a previous study. Briefly, 1 μL of 0.5 mM FITC was added to 1000 μL citrate-capped AuNPs. This mixture was equilibrated at 4°C for 24 h. After 24 h, 20 μL of FITC-capped AuNPs were mixed with 20 μL of different concentrations of I⁻. The final volume of the resulting mixture was increased to 100 μL through the addition of ultrapure water for 30 min. The fluorescence intensity was monitored at 525 nm (excitation at 495 nm) using a SpectraMax M2 microplate fluorescence reader (Molecular Devices, Sunnyvale, CA, USA).

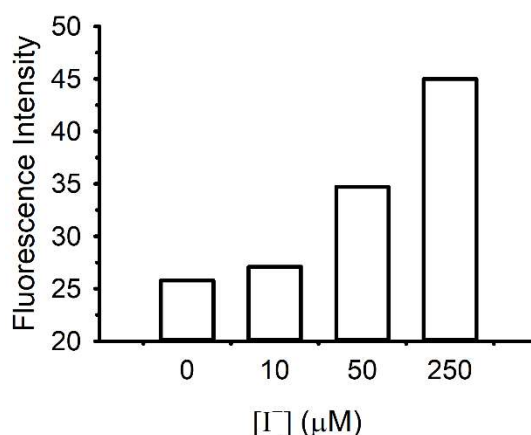


Figure S1. Difference in the fluorescence intensity of FITC-AuNPs before and after the addition of I⁻.

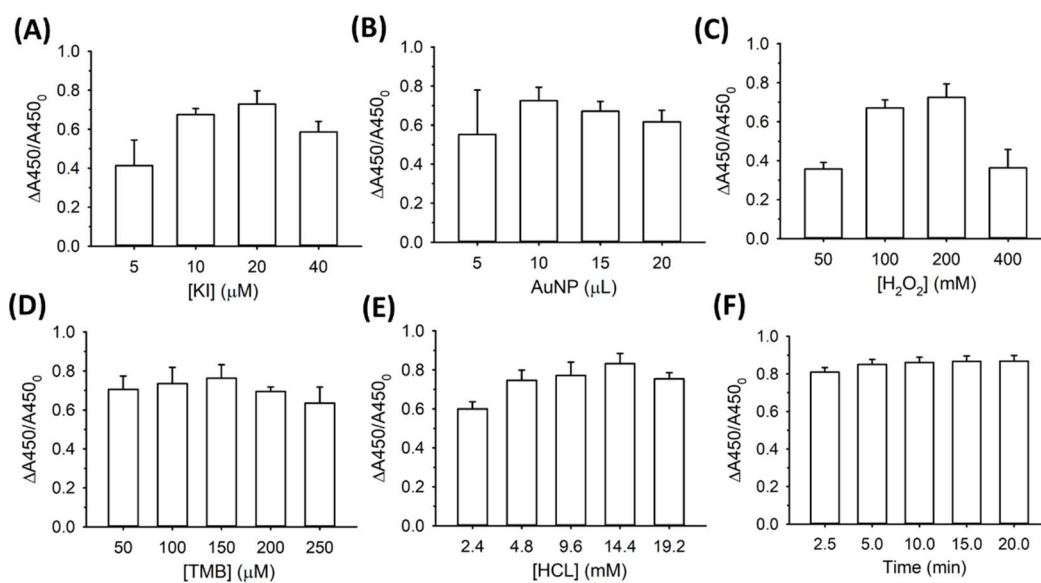


Figure S2. (A) Effect of the volume of AuNPs on the detection of 50 μM cysteine. Effect of the concentration of (B) TMB, (C) I⁻, (D) HCl, and (E) H₂O₂ on the normalized absorbance ratio ($\Delta A_{450}/A_{450_0}$). (E) Effect of reaction time; $\Delta A_{450} = A_{450_0} - A_{450_x}$. A_{450_0} and A_{450_x} correspond to the absorption intensity of the reaction solution in the absence and presence of cysteine, respectively.