Supplementary Material

Rapid and Sensitive Detection of the Activity of ADAM17 using Graphene Oxide-based Fluorescent Sensor

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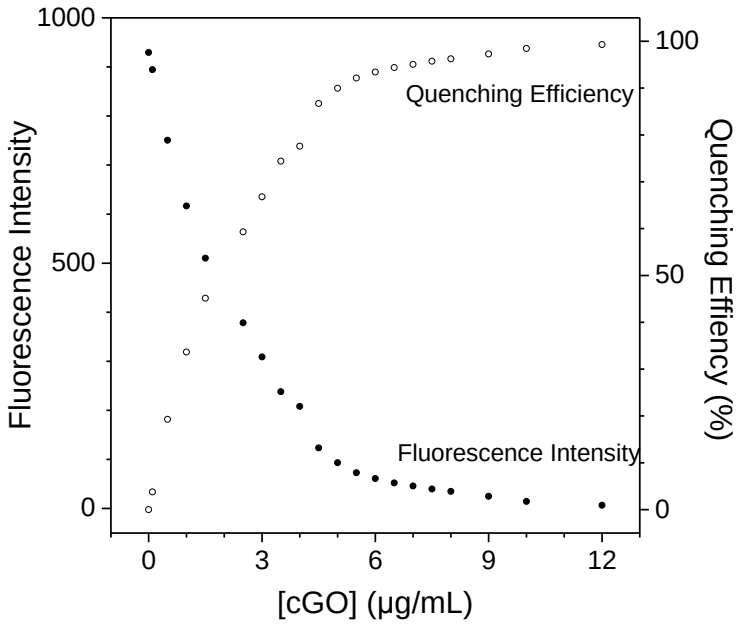

Figure S1. Effect of cGO concentration on fluorescence intensity and quenching efficiency of peptide Pep-FAM.

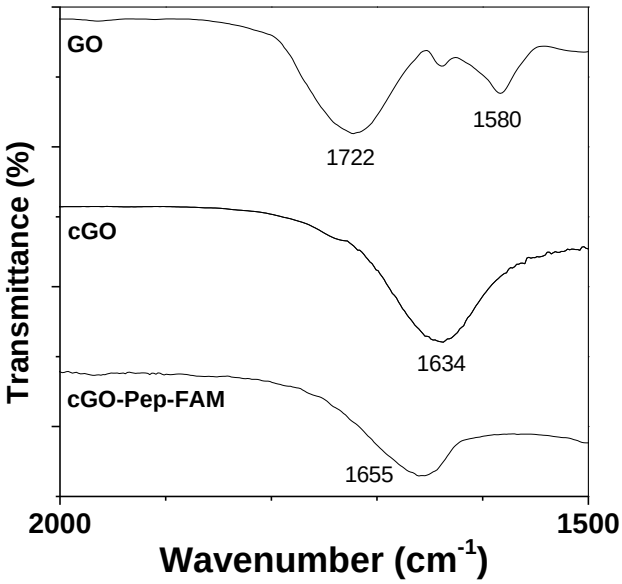

Figure S2. An enlarged view of the FTIR spectra of GO, cGO and cGO-Pep-FAM in the region from 1500 cm^{-1} to 2000 cm^{-1}.

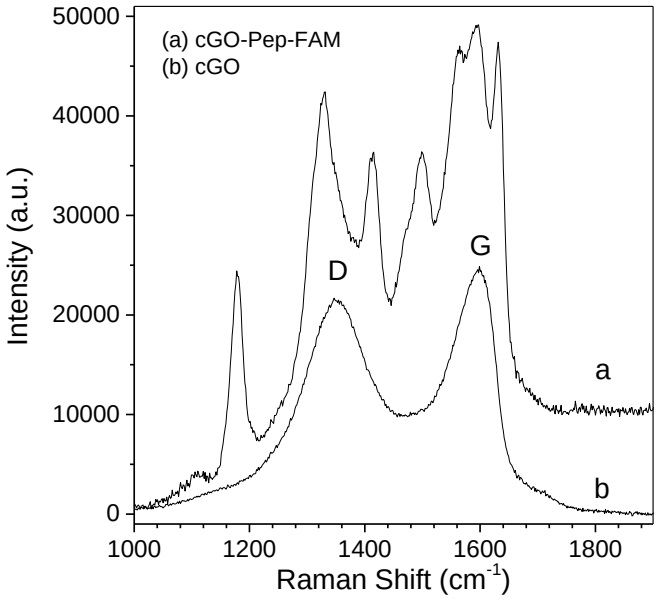

Figure S3. Raman spectra of cGO and cGO-Pep-FAM. The D- and G-bands (1344 cm^{-1} and 1587 cm^{-1}, respectively) represent the characteristic Raman shift of graphene skeleton.

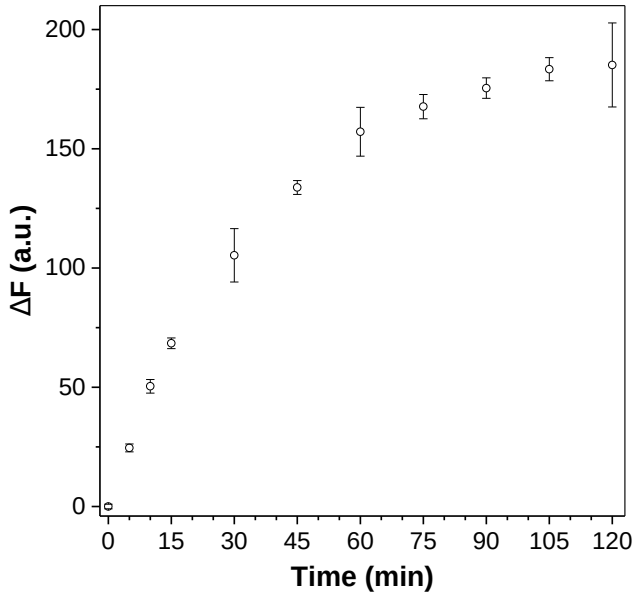

Figure S4. Effect of reaction time on cGO-Pep-FAM detection of ADAM17. Experiments were performed by incubating cGO-Pep-FAM suspension solutions (0.5 μg/mL, in Tris buffer, pH 7.5) with ADAM17 (100 ng/mL) at 37 °C for a period of time ranging from 0 to 120 minutes, followed by measuring their fluorescence intensity with λex/em = 492/515 nm at room temperature. The fluorescence intensity values were background corrected, which were obtained by subtracting the blank fluorescence intensity from that of the analyte ADAM17. Each data point represents the average from three replicate analyses ± one standard deviation.

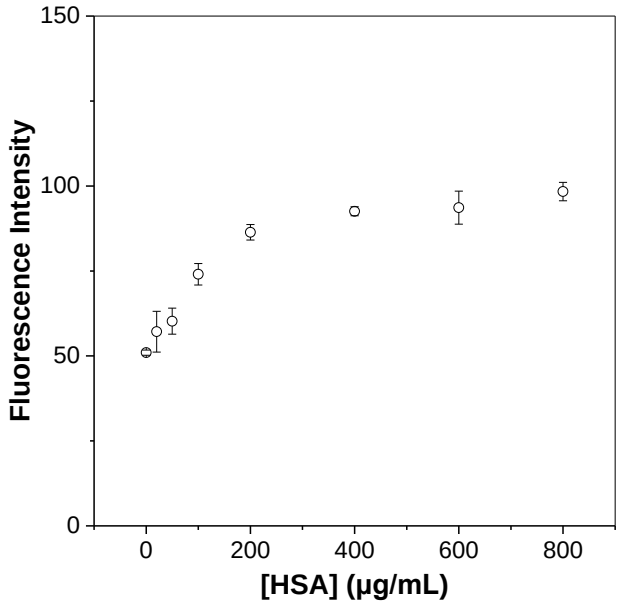

Figure S5. Effect of HSA on the background fluorescence intensity of the cGO-Pep-FAM sensor. Experiments were performed by incubating cGO-Pep-FAM suspension solutions (0.5 µg/mL, in Tris buffer, pH 7.5) with various concentrations of HSA for 60 min, followed by measuring their fluorescence intensity with λex/em = 492/515 nm at room temperature. Each data point represents the average from three replicate analyses ± one standard deviation.