Electronic supplementary information

A graphene oxide-based fluorescent aptasensor for the turn-on detection of epithelial tumor marker mucin 1

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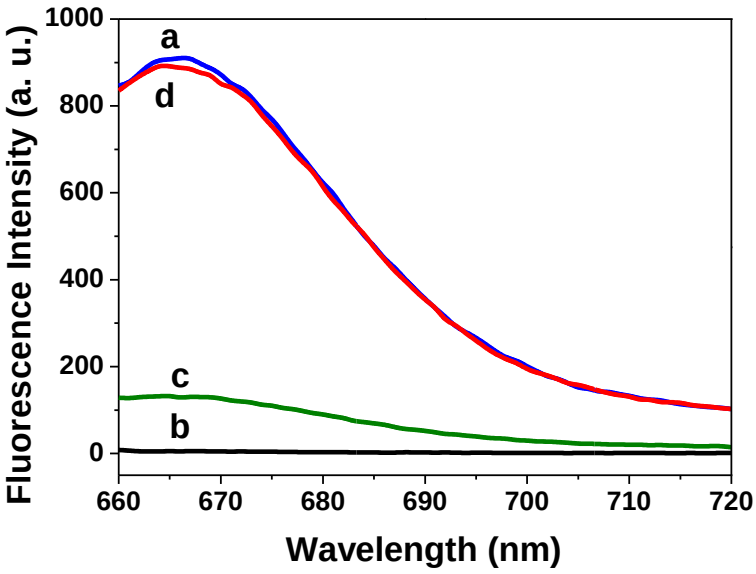

Figure S1

Figure S1. Fluorescence emission spectra of Cy5-labeled MUC1 aptamer (20 nM) at different conditions: (a) Cy5-labeled MUC1 aptamer in Tris–HCl buffer; (b) Cy5-labeled MUC1 aptamer + GO; (c) Cy5-labeled MUC1 aptamer + GO + 5 μM MUC1; (d) Cy5-labeled MUC1 aptamer + 5 μM MUC1. Excitation: 645 nm.

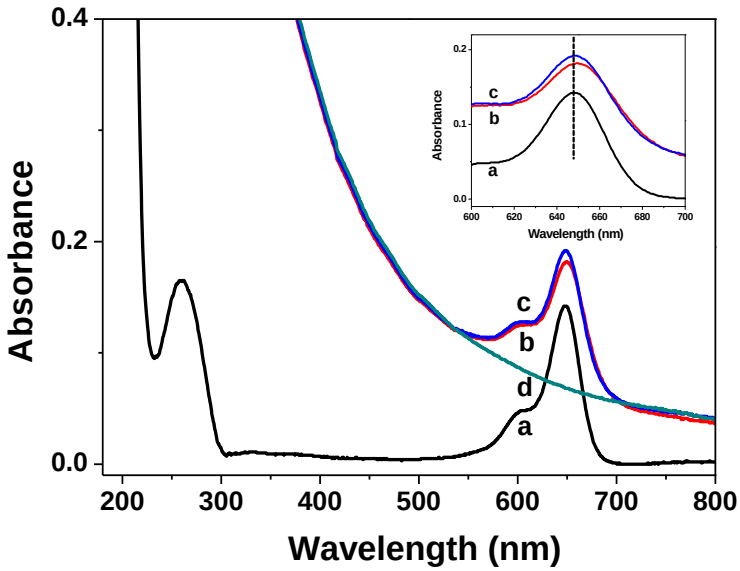

Figure S2

Figure S2. UV-visible absorbance spectra of free (a) P_0; (b) P_0 + GO; (c) P_0 + MUC1 + GO; (d) GO in Tris–HCl.

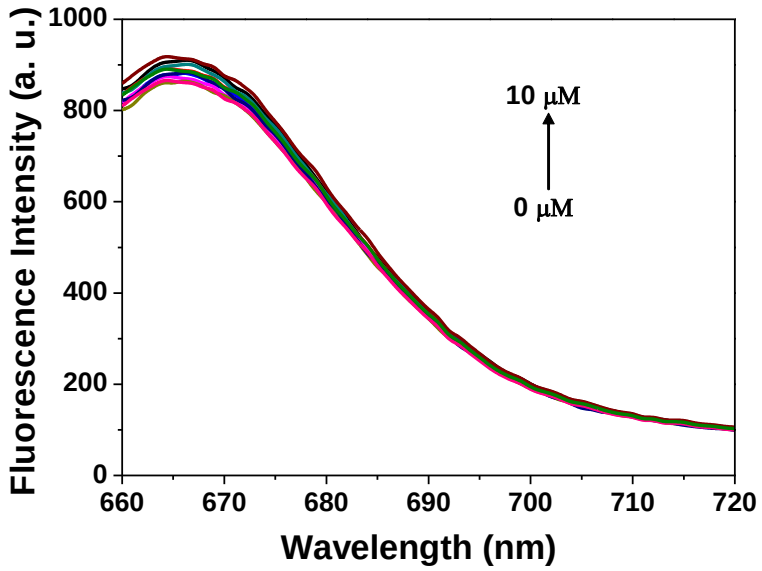

Figure S3. Fluorescence emission spectra of P_0 (20 nM) upon the addition of MUC1 at different concentrations. Excitation: 645 nm.

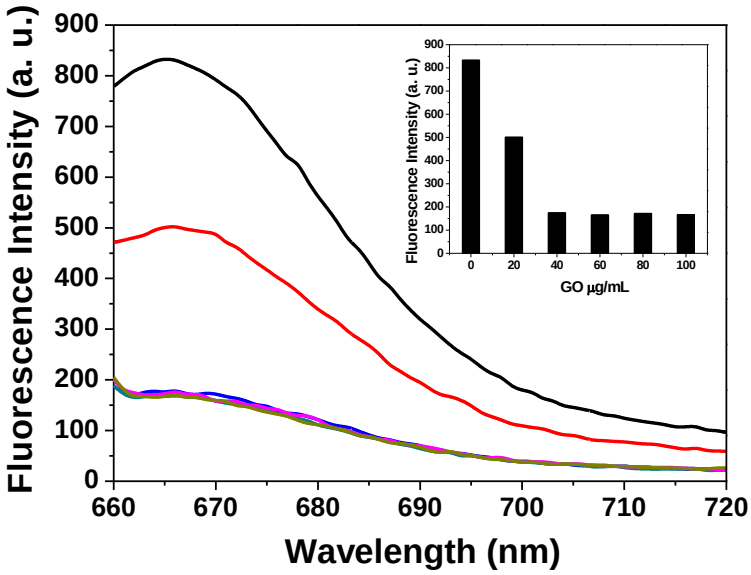

Figure S4. Fluorescence emission spectra of P_0 (20 nM) in 2% serum solution upon the addition of different concentrations of GO. Excitation: 645 nm. Inset: fluorescence intensity versus concentration of GO. Excitation: 645 nm.

Table S1. Fluorescence anisotropy changes of P_0 (20 nM) at different conditions: (a) P_0 in Tris–HCl bufferr; (b) P_0 + 10 μM MUC1; (c) P_0 + GO; (d) P_0 + GO + 5 μM MUC1; (e) P_0 + GO + 100 μM MUC1. Excitation: 645 nm.

		r [a]	RSD (%)
(a)	P_0	0.4261	2.5
(b)	P_0+MUC1 (10 μM)	0.4415	2.9
(c)	P_0+GO	0.6647	2.4
(d)	P_0+GO+MUC1 (5 μM)	0.4854	3.0
(e)	P_0+GO+ MUC1 (10 μM)	0.4700	2.7

[a] Average of three measurements.