Supporting Information

An electrochemical sensor based on DNA polymerase and HRP-SiO_2 nanoparticles for the ultrasensitive detection of K-ras gene point mutation

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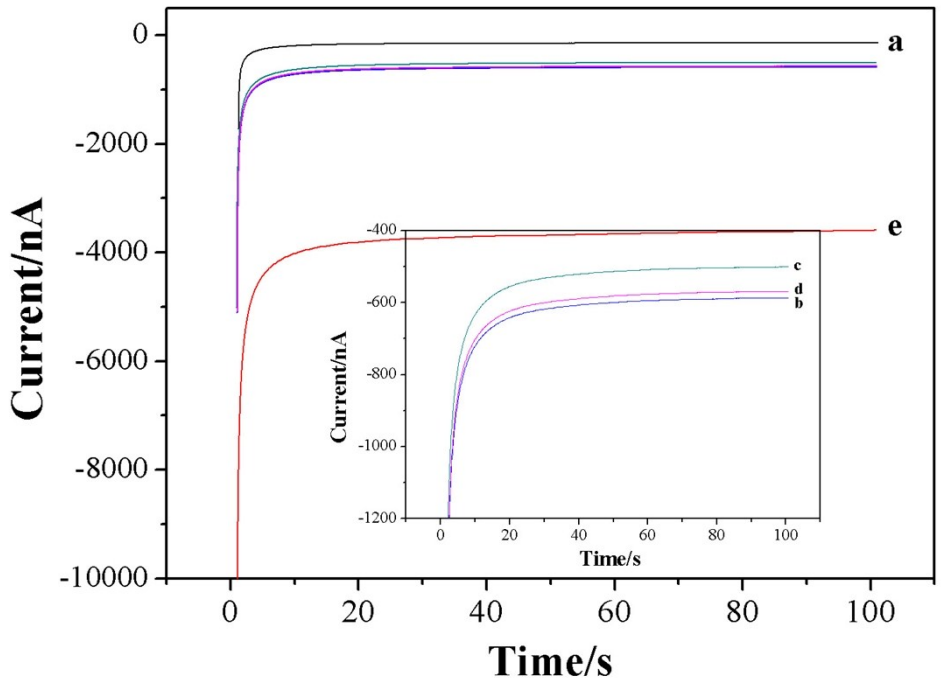

Fig. S1 i-t curve in TMB solution, PBS (a), wild K-ras DNA (b), non-target DNA 1 (c), non-target DNA 2 (d) and target DNA (e) as hybridization solution, respectively.

Table S1 Comparison between the proposed sensor and the previously reported sensors for the detection of K-ras gene point mutant

Methods	Detection method	Electrode treatment	Linear range (pM)	Limit of detection (fM)	Reference
Hairpin LNA biosensor with enzyme tagged AuNPs	Amperometric curve	Poly-Eriochrome cyanine R film modified glassy carbon electrode	0.001-10	1.0	17
Chronocoulometric LNA sensor based on site-specific DNA cleavage of restriction endonuclease	Chronocoulometric curve	Gold nanoparticles modified gold electrode	0.001-10	0.5	18
Nanogap sensor array	Conductance	Electronic sensor array	0.0003-1	0.1	19
Ligase chain reaction amplification	Electrochemiluminescent	PDDA[a]@MWCNTs[b]/QDs[c]/chitosan modified glassy carbon electrode	0.05-50	45	20
Chronocoulometric biosensor based on E. coli DNA ligase and AuNPs	Chronocoulometric curve	Bare gold electrode	0.1-1000	10	21
Electrochemical DNA sensor based on DNA polymerase Ⅰ and HRP-SiO_2 nanoparticles	Amperometric curve	Bare gold electrode	0.001-100	0.42	This work

[a] Poly(diallyldimethyl ammonium chloride), [b] Carboxylated multi-wall carbon nanotubes, [c] Quantum dots.