

A Graphene Oxide Nanoprobe for Sensitive Fluorescent Telomerase Activity Analysis

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Supplementary Material

S1. Comparison of detection limit among different telomerase analysis method

Table S-1 Detection limit among different telomerase analysis method

Methord	Detection limit	Reference
Magnetic microparticle and nanoparticles	10 cells	Zheng, G. 2008
Electrochemical	40 cells	Sato, S. 2005
Magneto-Mechanical	100 cells	Weizmann, Y. 2004
Chemiluminescence	100 cells	Li, Y. 2011
Optical analysis using QD	270 cells	Sharon, E. 2010
Chemiluminescence	1000 cells	Pavlov, V. 2004b
Electrochemical impedance spectroscopy (EIS)	1000 cells	Yang, W. 2011

S2. Raman spectra of graphene oxide (GO)

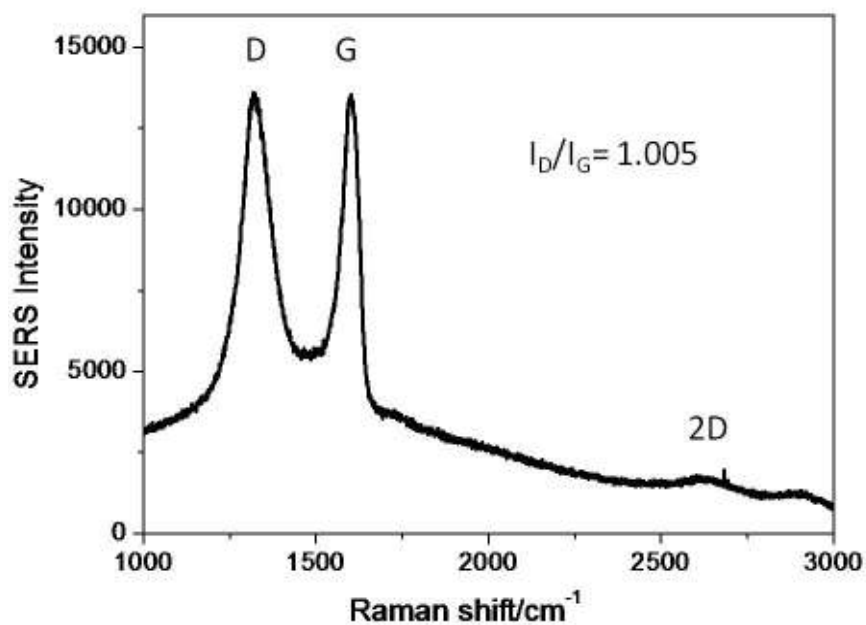


Figure S-1. Raman spectra of GO, shows D band, G band and 2D band. $I_D/I_G=1.005$.

S3. Fluorescence spectra for telomerase activity detection on different conditions

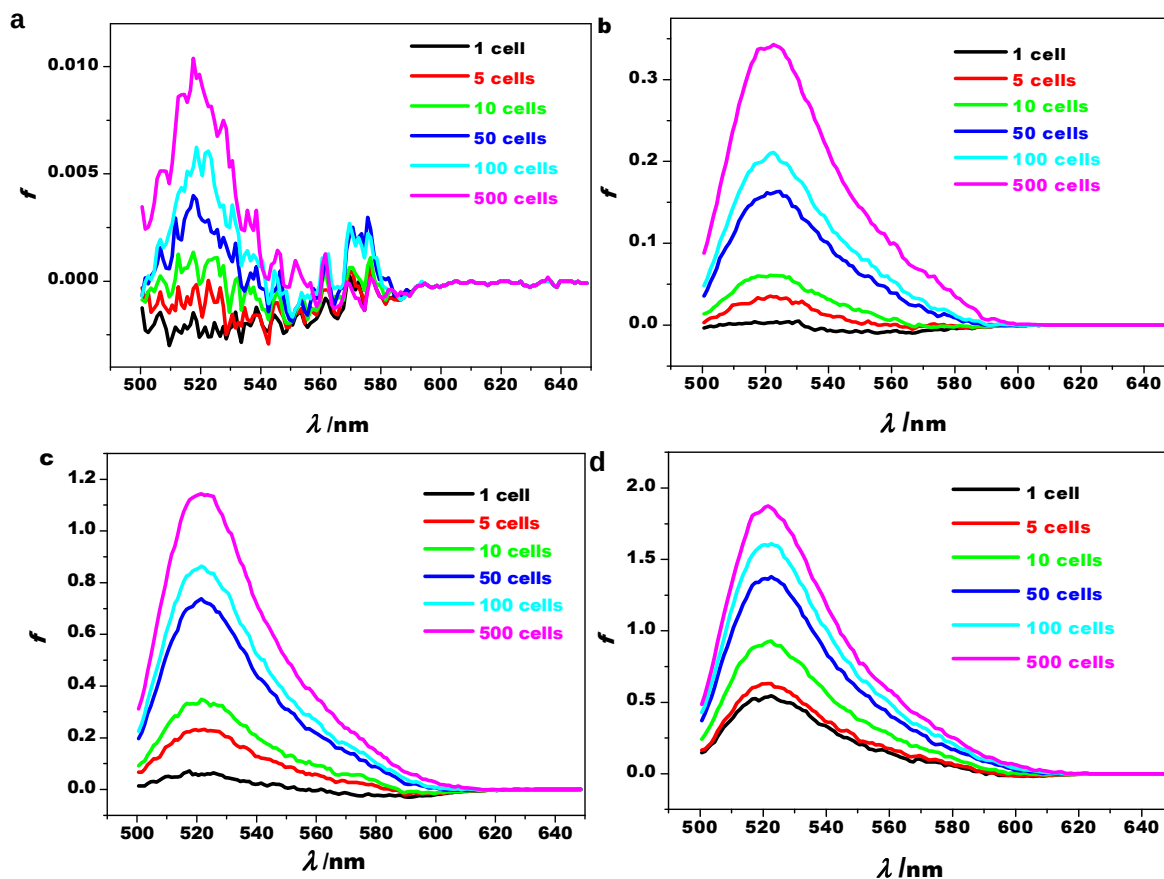


Figure S-2. Fluorescence factor f of P1 DNA with different GO concentrations (a: $1 \text{ mg} \cdot \text{mL}^{-1}$; b: $0.5 \text{ mg} \cdot \text{mL}^{-1}$; c: $0.2 \text{ mg} \cdot \text{mL}^{-1}$; d: $0.1 \text{ mg} \cdot \text{mL}^{-1}$) and P2 primer incubated with various concentrations of telomerase (1, 5, 10, 50, 100, 500 cell extracts).

S4. TRAP method for comparison

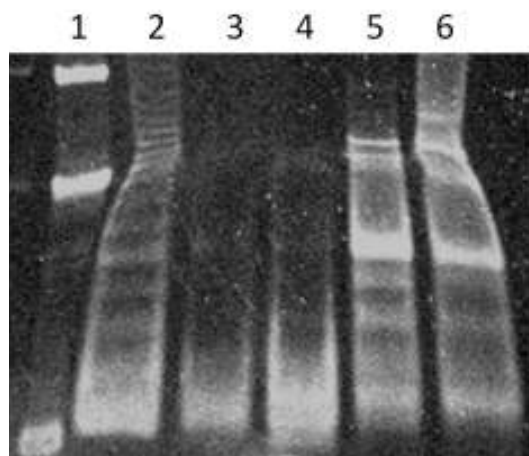


Figure S-3. Electrophoretic bands of TRAP method. Lane 1: DNA maker ladder, lane 2: after 500 cell extracts

incubation, lane 3: inactivated 500 cells extracts incubation, lane 4: CHAPS control, lane 5: Quantitation control 1 μ L TSR8 template, lane 6: Quantitation control 2 μ L TSR8 template.