Supporting Information (SI)

Uniform ultra-small graphene oxide nanosheets with low cytotoxicity and high cellular uptake

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Table.S1 Zeta potentials of GO nanosheets at different pH values.

pH	GO-1	GO-2	GO-3
4	—	-21.50	-35.37
6	-26.69	-33.60	-40.92
8	-31.25	-39.12	-43.54
10	-34.69	-40.29	-48.96

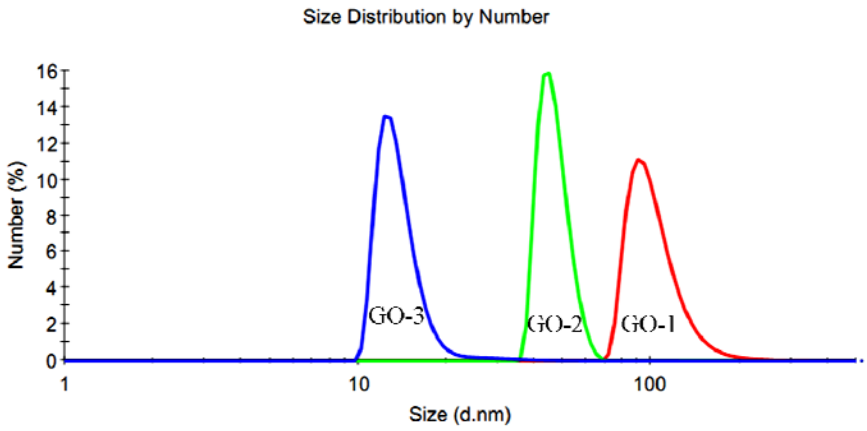

Figure.S1 DLS curves of GO nanosheets.

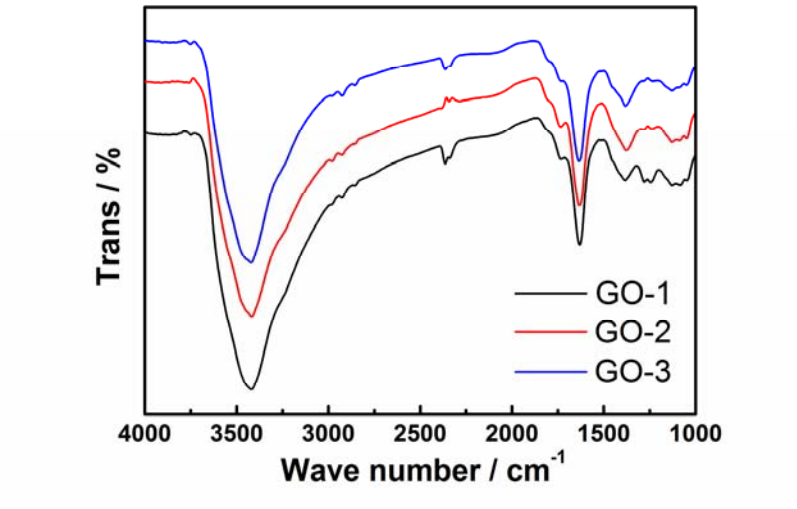

Figure.S2 FTIR spectra of GO nanosheets.

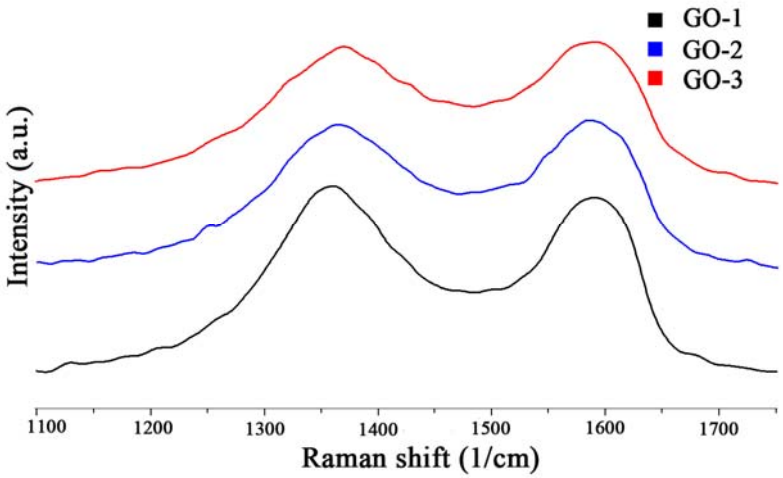

Figure.S3 Raman spectra of GO nanosheets.

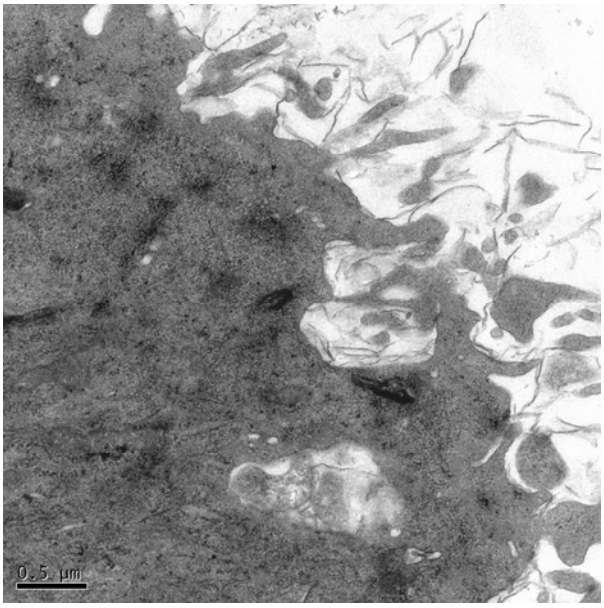

Figure.S4 TEM image of Hela cells showing the internalization of GO-1 nanosheets.

(incubation for 2 h at100 µg/mL)

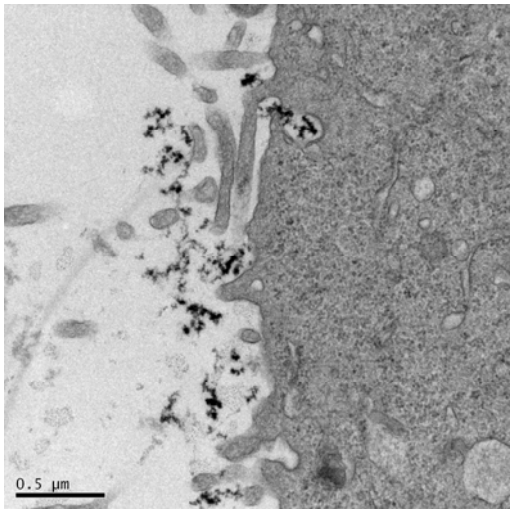

Figure.S5 TEM image of Hela cells showing the internalization of GO-1 nanosheets.

(incubation for 2 h at100 µg/mL)

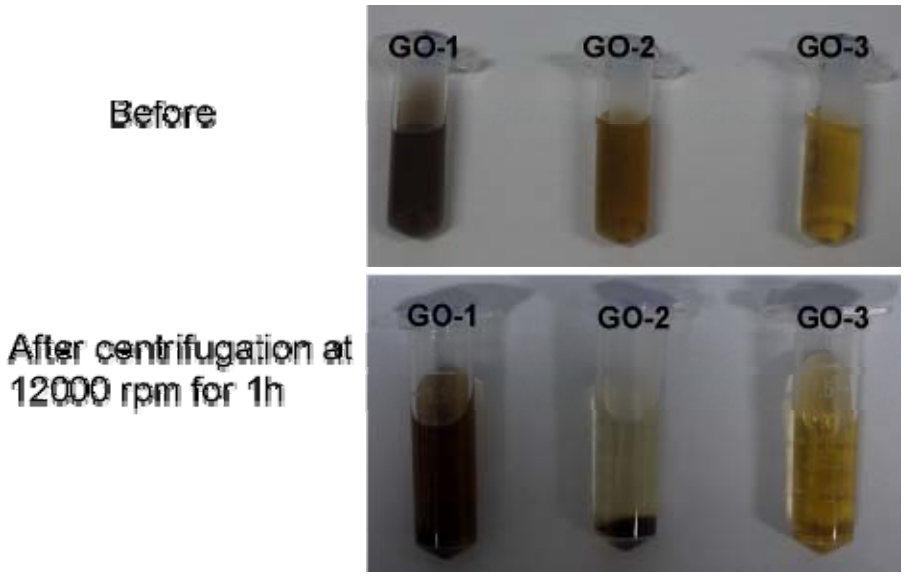

Figure.S6 Stability and dispersion of GO nanosheets in aqueous solution

Materials and equipment used in the experiment.

Graphite (＜20μm) was purchased from Sigma-Aldrich. Single-wall carbon nanotubes (SWCNTs) and multi-walled carbon nanotubes (MWCNTs) (Nano harbor Co. Ltd., Shenzhen) were used after dealing with the mixture of nitric and sulfuric acid. Radioactive sodium iodide ($Na^{125}I$) and N-chloro-p-toluenesulphonic acid (Ch-T) were purchased from PerkinElmer Co. Ltd. All other chemicals were obtained from Chinese Chemical Reagent and used without purification. Membrane with the pore size of 220 nm was purchased from Generay Biotech Co. Ltd., Shanghai, China.

Atomic Force Microscopy (AFM) images were recorded using a Nanoscope IIIa apparatus (Digital Instruments, USA). UV–vis absorption spectra were collected using a Hitachi U-3010 spectrophotometer (Hitachi Co. Ltd., Japan) and the fluorescence spectra of the GO colloids was measured with a Hitachi F-4500

fluorometer (Hitachi Co. Ltd., Japan). Zeta potentials of the GO colloids were measured by the Delsa™ (BECKMAN COULTER, Germany) and Dynamic laser scattering (DLS) data of the diameter were collected by of Malvern Instruments Co. Ltd. The X-ray photoelectron spectroscopy (XPS) spectra of GO sheets was performed after vacuum drying and collected by AXIS Ultra DLD (Kratos Co. Ltd., Britain). Raman spectra of GO was collected using Renishaw inVia Reflex (Renishaw, England, excitation wavelength 514.5 nm) and Fourier Transform Infrared spectroscopy (FTIR) spectra were collected through mixing GO samples with potassium bromide pellet, checking by Avatar370 (Thermo Nicolet Corporation, America). Transmission electron microscopy (TEM) images were obtained by drop-casting GO colloids onto carbon coated copper grids, checking by JEOL JEM 2011 microscope (Japan) at an accelerating voltage of 120 kV.