Electronic Supplementary Material (ESI) for Biomaterials Science.

Supporting Information

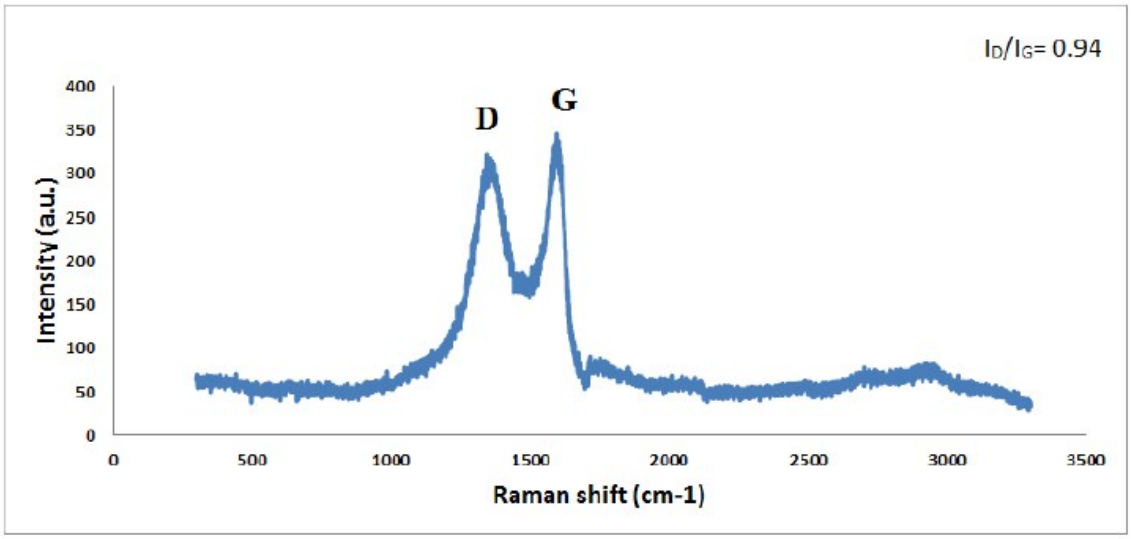

Figure S1. Raman Spectrum of as prepared GO

The typical Raman spectrum of GO that represents D and G bands at ~1350 and ~1580 cm^{-1} with the intensity ratio (or area ratio) ID/IG of ~0.94. The other three Raman bands including 2D, D+G, and 2G appear at ~2700, ~2925 and ~3156 cm^{-1}, respectively.

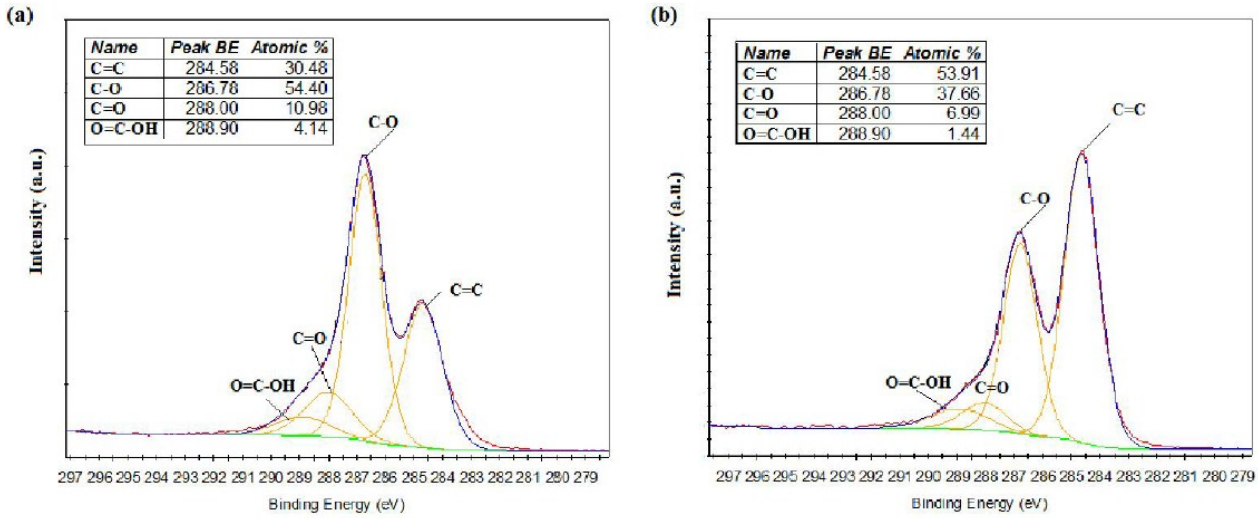

Figure S2. XPS spectra of as prepared GO and carboxylated GO

The degree of oxidation after chloroacetic acid treatment was investigated by high-resolution XPS of C1s for both GO and GO-COOH samples. In the XPS spectrum of GO (Fig. S2b), four deconvoluted peaks (dashed lines) are ascribed to the following functional groups: sp2 bonded

carbon (C-C, 284.58 eV), epoxy/hydroxyls (C-O, 286.78 eV), carbonyls (C=O, 288.0 eV), and carboxyl (O=C-OH, 288.9 eV) which indicate the high fraction of oxygen-containing functional groups. In comparison, in the spectrum of GO-COOH (Figure S2a), the peak for C=O is increased and the peaks for C-O and O-C=O (dashed lines) are still exist with much higher intensities indicating enhanced oxygen-containing functional groups on GO-COOH. The degree of oxidation of GO was quantified by calculation of relative atomic percent analysis (inset tables). The O=C-OH groups show around four times increase after treatment. Thus, the treated GO nano-sheet sample was chosen for further PEG/R8 conjugation.

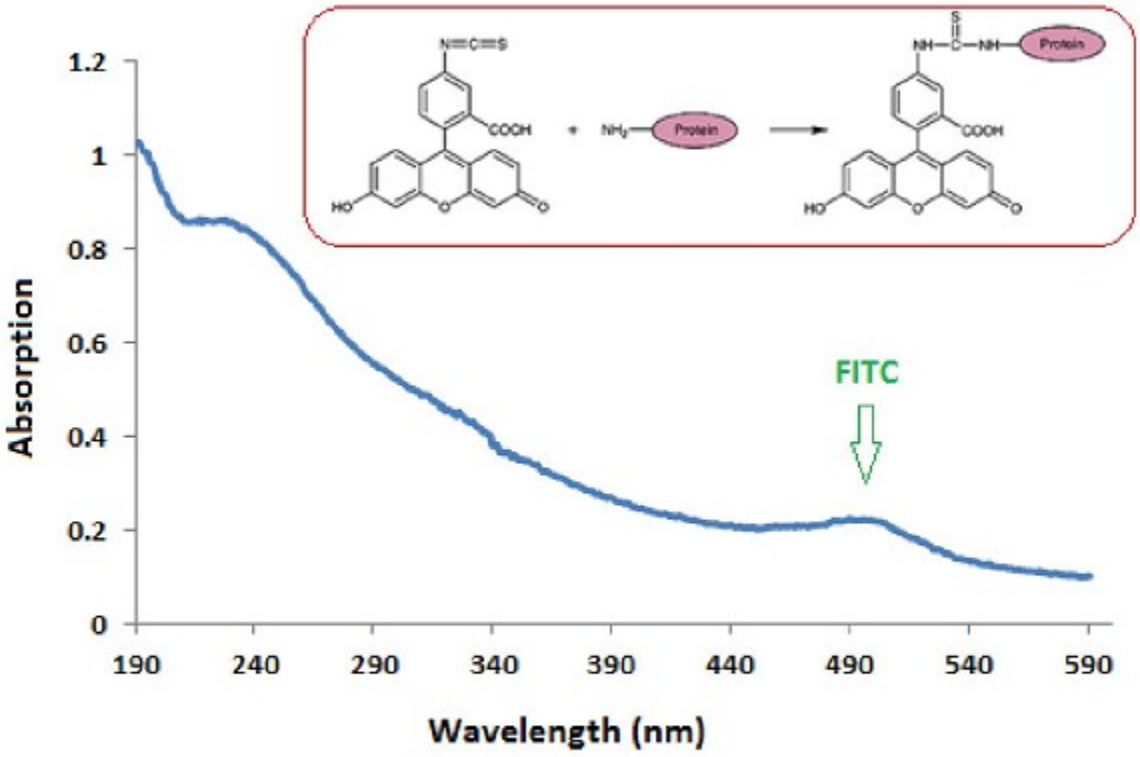

Figure S3. Schematic representation of FITC conjugation to GO-PEG-R8 (GPP)

The synthesized FITC-GPP sample shows a representative peak of FITC at 495 nm in Uv-visible spectroscopy.

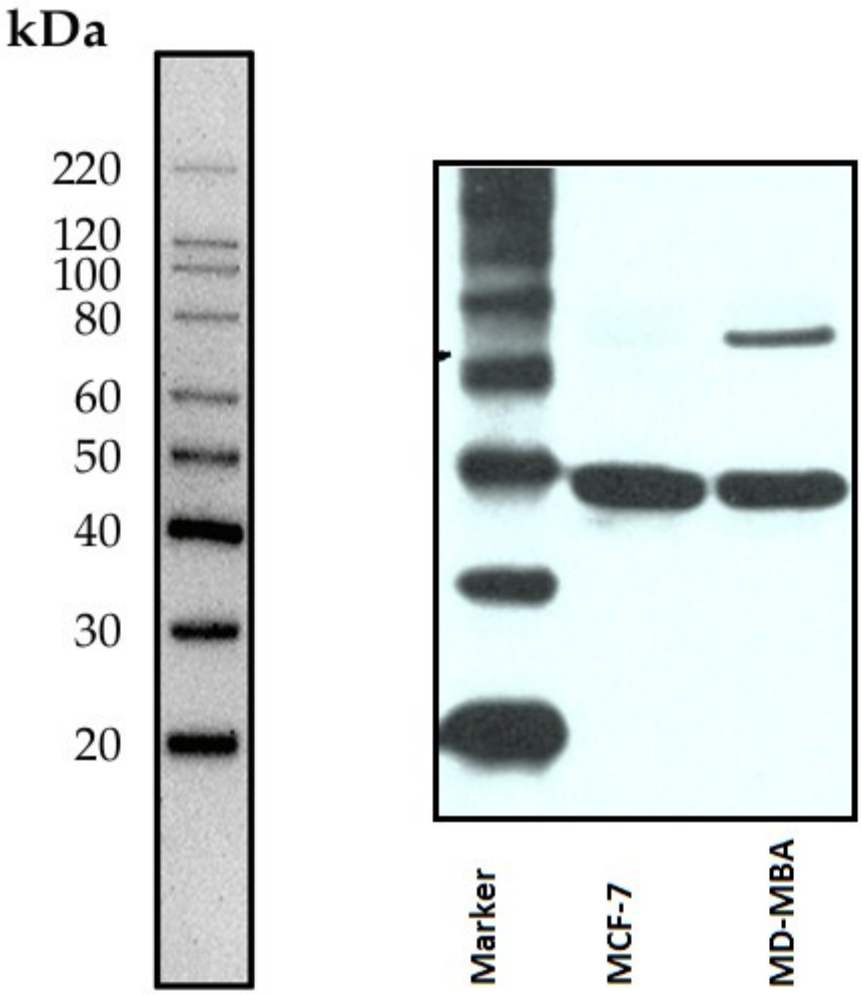

Figure S4. Western Blot of MCF-7 and MBA-MD 231 breast cancer cells expressing a c-Myc-tagged protein using rabbit anti-c-Myc polyclonal Antibody

As it can be seen c-Myc protein and GAPDH loading control are detected with molecular masses of 57 kDa and 47 KDa, respectively.