Supplementary Information for the following manuscript

A Naked-eye Visible and Fluorescence "turn- on" Probe for Acetylcholinesterase Assay and Thiols as well as Imaging of Living Cells

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1. The EI-mass spectrum for the solution after reacting for 30min.

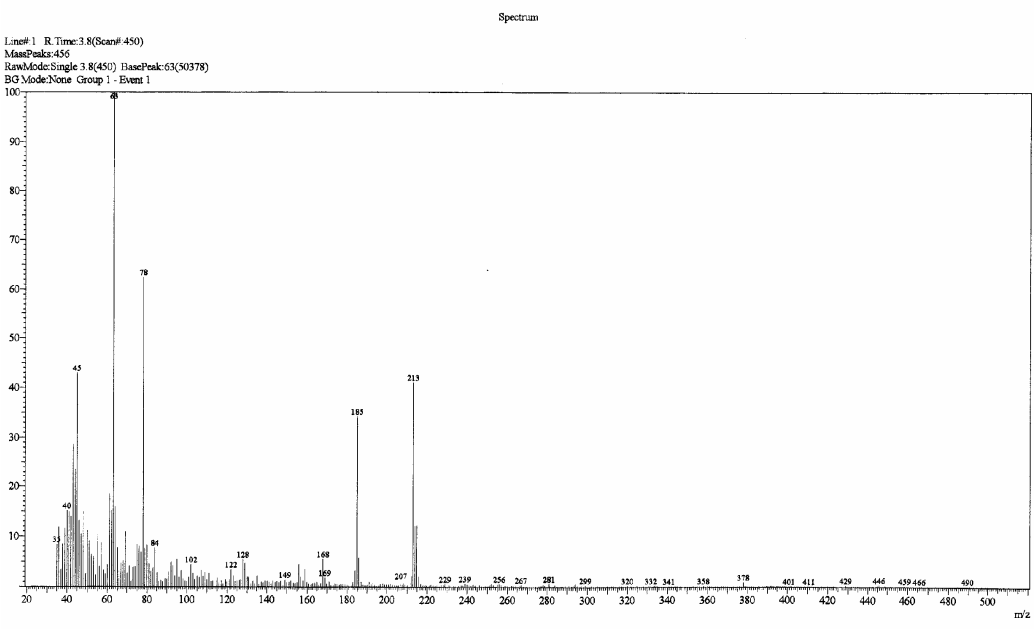

Fig. S1 The EI-mass spectrum for the solution containing acetylthiocholine (10 μM), AChE (0.01 U/mL), probe **1** [10 μM in PBS(10 mM) buffer solution, 0.5%DMSO, pH = 8.0] after incubation for 30min.; the MW of resorufin is 213.

2. Fluorescence spectra of probe **1** after incubating with cysteine or GSH for 30min.

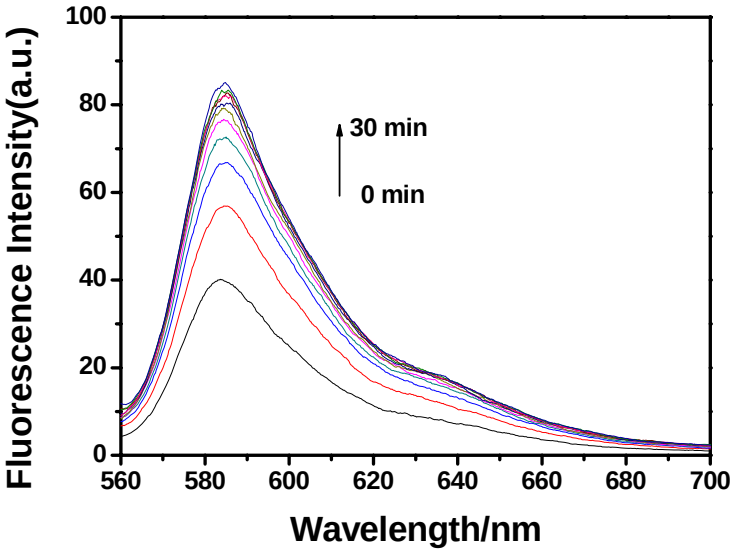

Fig. S2 Fluorescence spectra of probe **1** [10 μM in PBS (10 mM) buffer solution, 0.5% DMSO, pH = 8.0] in the presence of cysteine (1.0 equiv.) after incubation at 37 ^{o}C for different times ($\lambda_{ex.}$ = 550 nm).

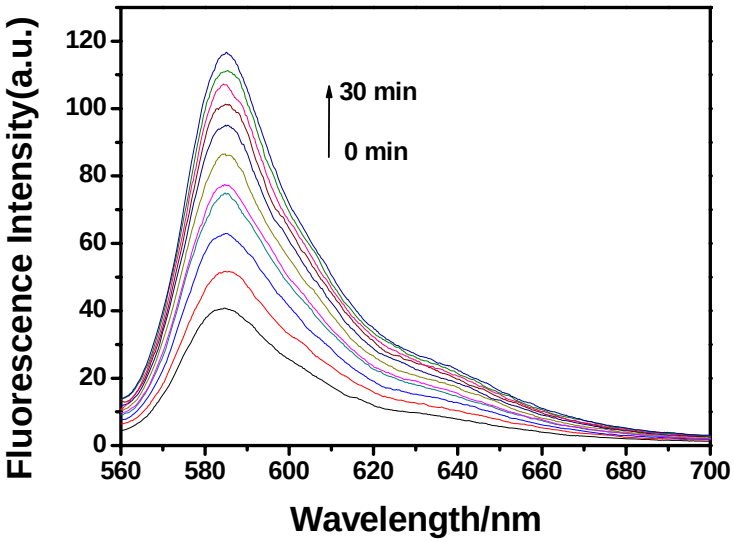

Fig. S3 Fluorescence spectra of probe **1** [10 μM in PBS (10 mM) buffer solution, 0.5% DMSO, pH = 8.0] in the presence of glutathione (1.0 equiv.) after incubation at 37 ^{o}C for different times ($\lambda_{ex.}$ = 550 nm).

3. The effect of DMSO on cell staining.

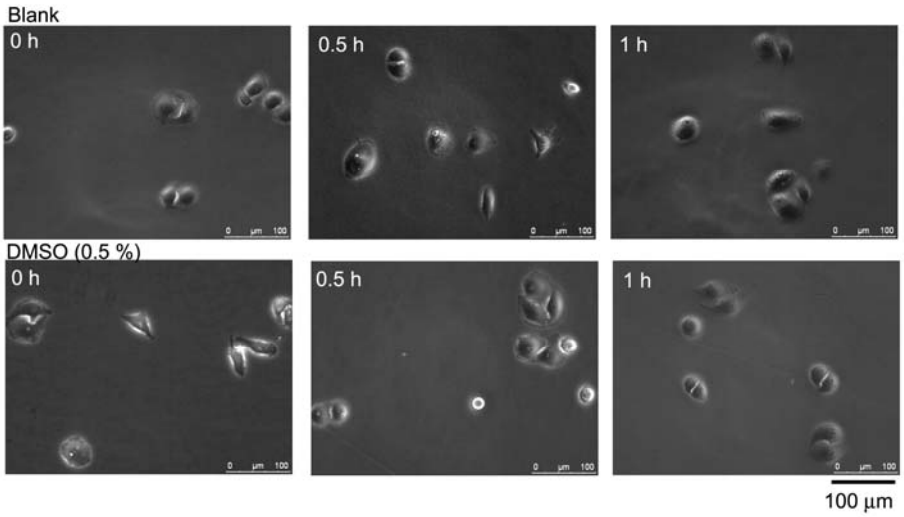

Fig. S4 Blank: Hela cells were cultured in the medium for 1.0 hour, and the three images were taken separately at 0 h, 0.5 h, and 1h

DMSO(0.5%): Hela cells were cultured in the medium with 0.5% DMSO for 1.0 hour, and the there images were taken separately at 0 h, 0.5 h, and 1h.

The results show that DMSO had little effect on the living cells in our experiments.