Electronic Supplementary Information

Fluorescence turn-on nanoprobe for simultaneous visualization of dual-targets involved in cell apoptosis and drug screening in living cells

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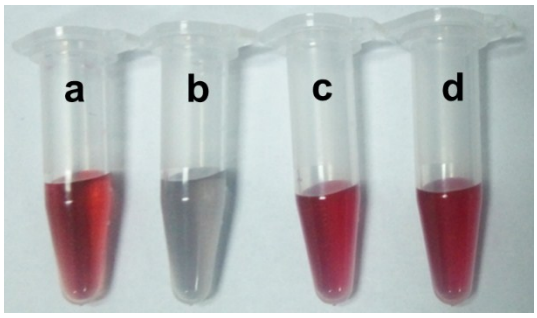

Fig. S1. The color change of Au NPs in H_2O (a) or PBS (b), and the color change of nanoprobes in H_2O (c) or PBS (d).

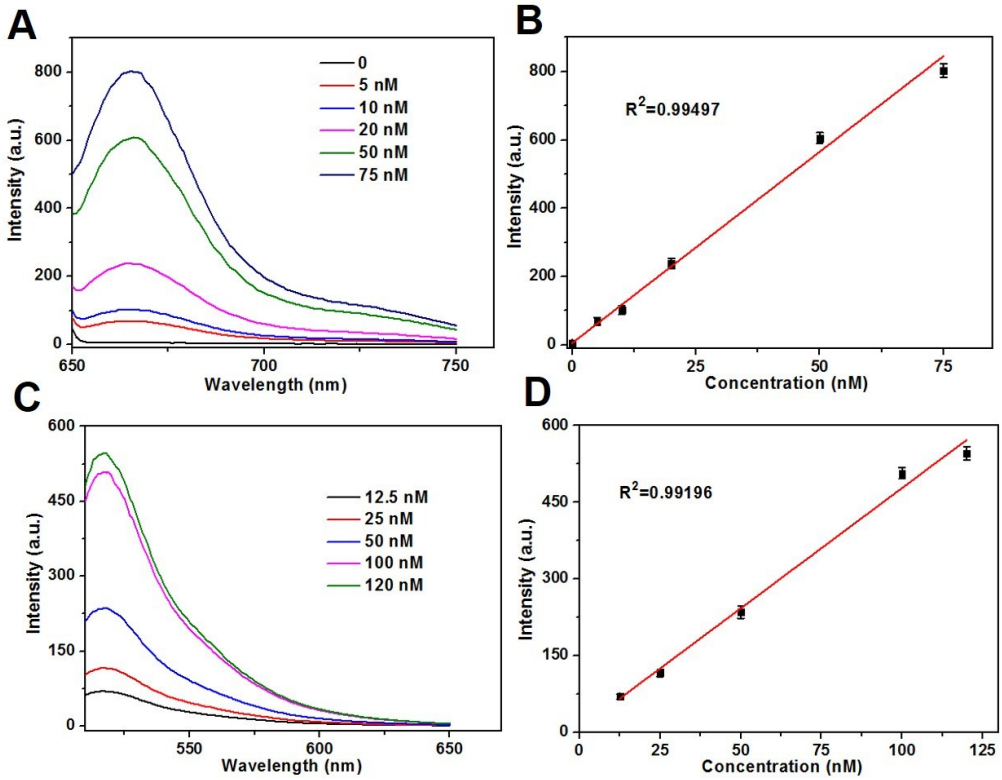

Fig. S2. Fluorescence emission spectra and standard linear calibration curves of fluorescent dyes. A) and B) Cy5-DNA, C) and D) FITC-peptide. Excitation wavelengths for Cy5 and FITC are 635 nm and 480 nm, respectively. Error bars represent the standard deviation from three measurements.

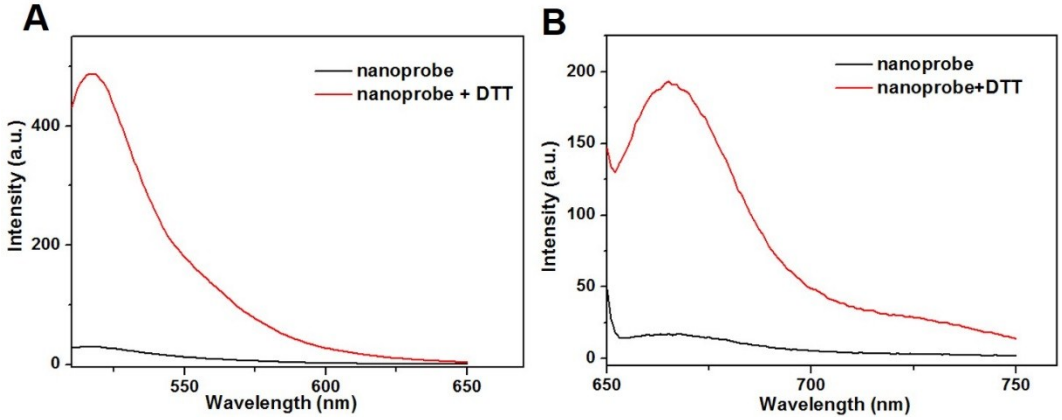

Fig. S3. Fluorescence emission spectra of the nanoprobe (1 nM) with and without treatment of DTT. (A) FITC was measured with 480 nm excitation and (B) Cy5 was measured with 635 nm excitation.

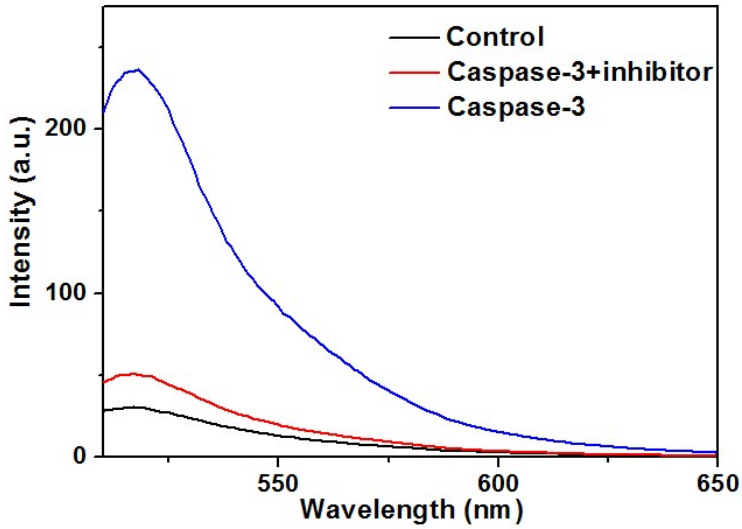

Fig. S4. Fluorescence spectra of nanoprobe and its response to caspase-3 (200 ng·mL^{-1}) in the presence (red line) or absence (blue line, A) of inhibitor (Z-DEVD-FMK, 100 μM). The curves for caspase-3 were measured with 480 nm excitation.

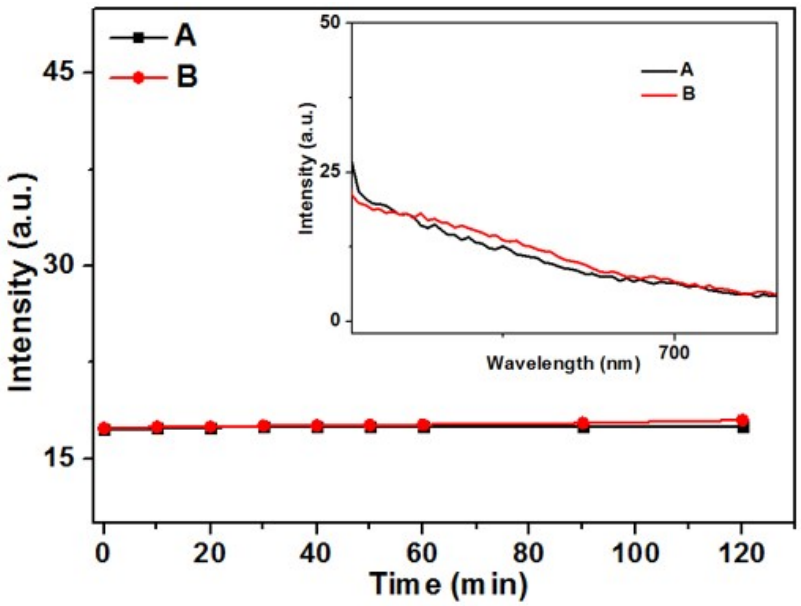

Fig. S5. Fluorescence curves of the nanoprobe in the presence (red trace) and absence of DNase I (black trace) as a function of time. Inset: fluorescence spectra corresponding to A and B at 120 min. The fluorescence emission spectra were measured with 635 nm excitation.

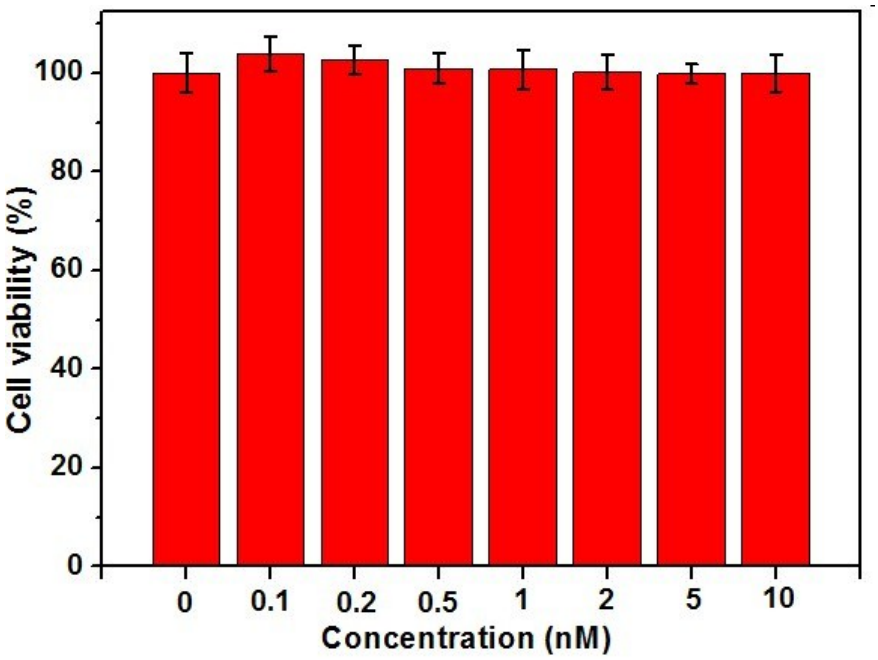

Fig. S6. CCK8 assay of cytotoxicity for nanoprobe. The cell viability values (%) are monitored in HeLa cells for varying nanoprobe concentrations (0, 0.1, 0.2, 0.5, 1, 2, 5, 10 nM) after 12 h incubation.

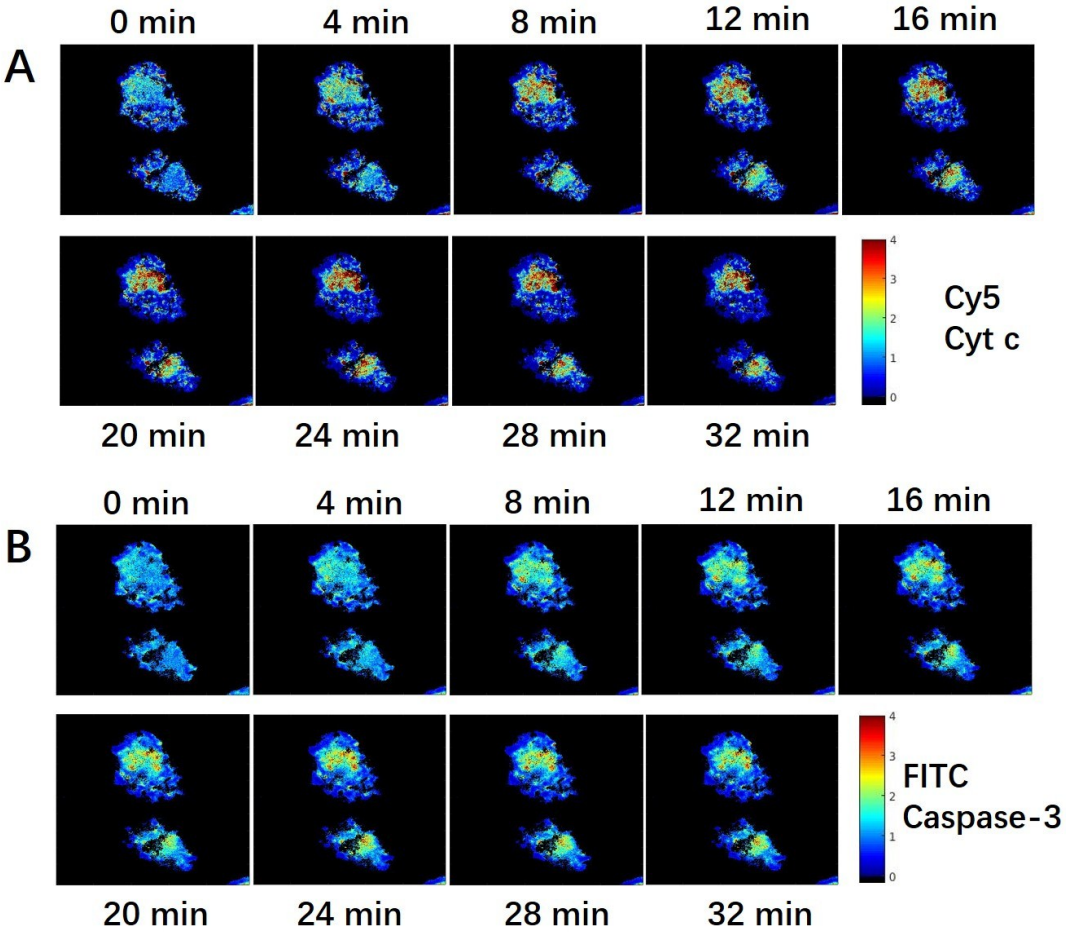

Fig. S7. Time-dependent fluorescence responses of nanoprobe for Cyt c (A) and caspase-3 (B). The fluorescent images were color-coded by a pseudocolor processing to show the cell apoptosis in HeLa cells that treated with STS for different time.

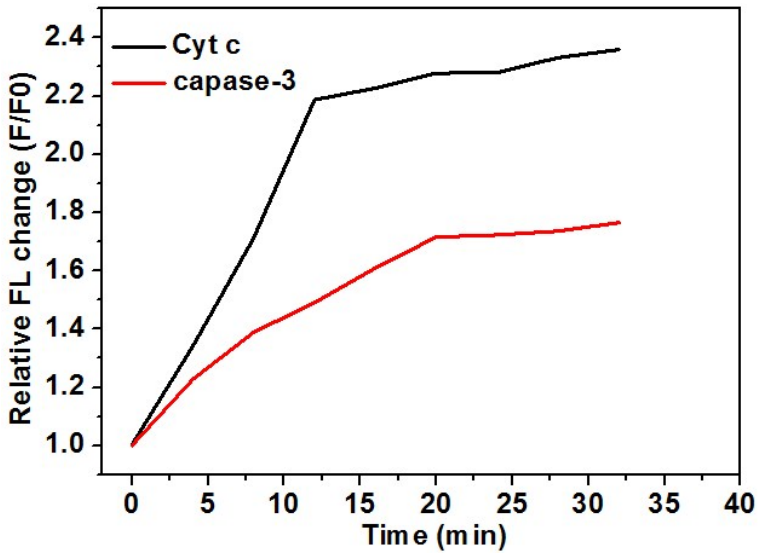

Fig. S8. Time-dependent fluorescence intensities obtained from the Hela cells incubated with nanoprobe for 2 h followed by treatment using STS. The relative fluorescence intensity changes as a function of time are Cyt c release and caspase-3 activation, respectively. Values are the mean ratios generated from the intensities from the same selected field at different apoptotic time points compared with the start time point (0 min).