Supporting Information

A two-photon fluorescent probe for detecting endogenous hypochlorite in living cells

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1 Spectroscopic Properties of HQ and HQ+ClO$^-$

**Fig. S1** UV/vis spectra of HQ (20 μM) titrated with ClO$^-$ (0-120μM) in pH 7.4 PBS/DMSO (1:9, v/v). The arrows indicate the changes in the absorption intensities with the increased ClO$^-$ concentration.

2 Calibration curve for ClO$^-$

**Fig. S2** Calibration curve for ClO$^-$. Working conditions: pH 7.4 PBS/DMSO (1:9, v/v, $\lambda_{ex} = 370$ nm), Reaction time : 15 min.
3 Spectroscopic Properties of compound 2 and 3

Fig. S3 (a) Emission spectra of compound 2 (20 μM) in the presence of ClO⁻ (120 μM) in pH 7.4 PBS/DMSO (1:9, v/v, λ<sub>ex</sub> = 370 nm). (b) Emission spectra of Compound 3 (20 μM) in the presence of ClO⁻ (120 μM) in pH 7.4 PBS/DMSO (1:9, v/v, λ<sub>ex</sub> = 370 nm).

4 The IR spectra of HQ and HQ+ClO⁻

Fig. S4 The IR spectra of HQ and HQ+ClO⁻ in KBr tablet. Black line represent the IR spectra of HQ. Red line represent the IR spectra of HQ+ClO⁻.
5 Competitive experiments

Fig. S5 Fluorescence intensity (I_{495nm}) of HQ to various ions (1-23: ClO^-, Na^+, Cu^{2+}, Co^{2+}, Ba^{2+}, Cd^{2+}, Pb^{2+}, Hg^{2+}, Zn^{2+}, Cl^-, Br^-, I^-, ClO_4^-, SO_4^{2-}, SO_3^{2-}, NO_2^-, NO_3^-, NO, \cdot OH, H_2O_2) in pH 7.4 PBS/DMSO (1:9, v/v, \lambda_{ex} = 370 nm). The black bars represent the emission of HQ in the presence of 6 equiv of various ions to HQ. The red bars represent the emission that occurs upon subsequent addition of ClO^- (120 \mu M) to the solution (\lambda_{ex} = 370 nm).

6 Effect of pH on the Fluorescence Intensity

Fig. S6. F_{495nm} of HQ and HQ+ClO^- at various pH values in pH PBS/DMSO (1:9, v/v, \lambda_{ex} = 370 nm). Each spectrum was recorded after 15 min.
7 MALDI-TOF MS spectrum of compound 2, 3 and HQ

Fig. S7. MALDI-TOF MS spectrum of compound 2 (DCTB as matrix).

Fig. S8. MALDI-TOF MS spectrum of compound 3 (DCTB as matrix).

Fig. S9. MALDI-TOF MS spectrum of HQ (DCTB as matrix).
8 NMR spectra

Fig. S10 $^1$H NMR of compound 1 in CDCl$_3$
**Fig. S11** $^{13}$C NMR of compound 1 in CDCl$_3$

**Fig. S12** $^1$H NMR of compound 2 in DMSO

**Fig. S13** $^{13}$C NMR of compound 2 in DMSO
Fig. S14 $^1$H NMR of compound 3 in DMSO

Fig. S15 $^{13}$C NMR of compound 3 in DMSO
Fig. S16 $^1$H NMR of compound HQ in DMSO

Fig. S17 $^{13}$C NMR of compound HQ in DMSO