

Supporting information for

**Development of an endoplasmic reticulum-targeted fluorescent probe
for the two-photon imaging of hypochlorous acid in living cells**

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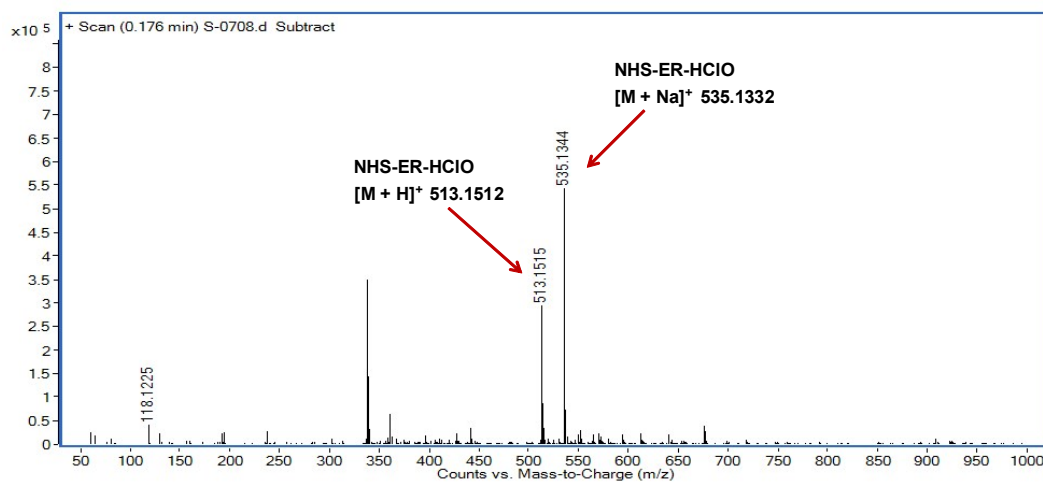


Fig. S1. HRMS data of the probe NHS-ER in presence of NaClO in PBS.

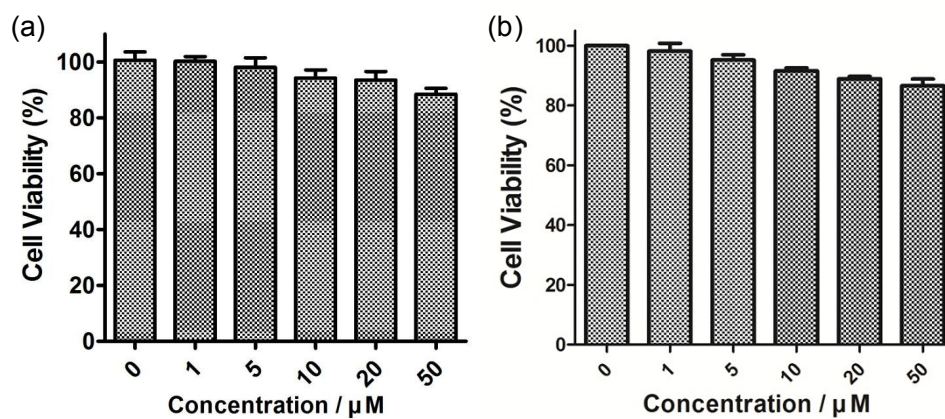


Fig. S2. MTT assay of HeLa (a) and Raw264.7 (b) cells in the presence of various concentrations of NHS-ER

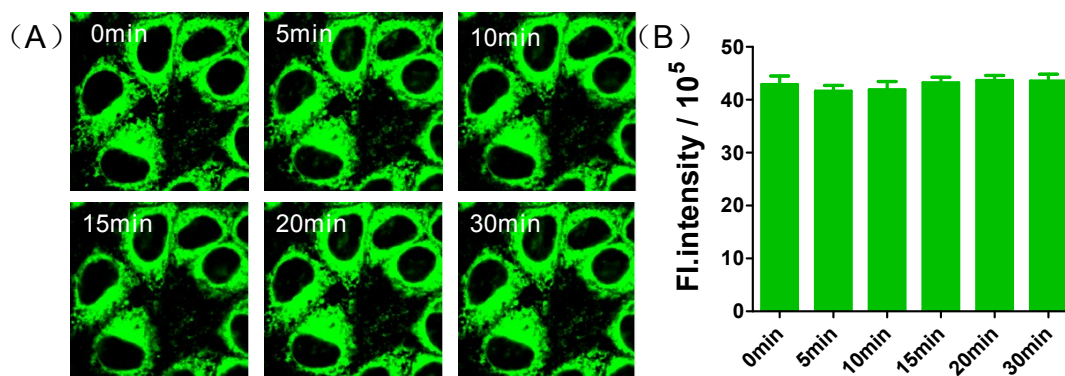


Fig. S3. Photostability tests of the probe 10 μ M NHS-ER in HeLa cells. (A) The in situ imaging of HeLa cells at 0, 5, 10, 15, 20, 30 min, respectively. (B) The in situ fluorescence intensity of NHS-ER in HeLa cells at 0, 5, 10, 15, 20, 30 min, respectively. Scale bar = 20 μ m. λ_{em} = 500-550 nm, λ_{ex} = 405 nm.

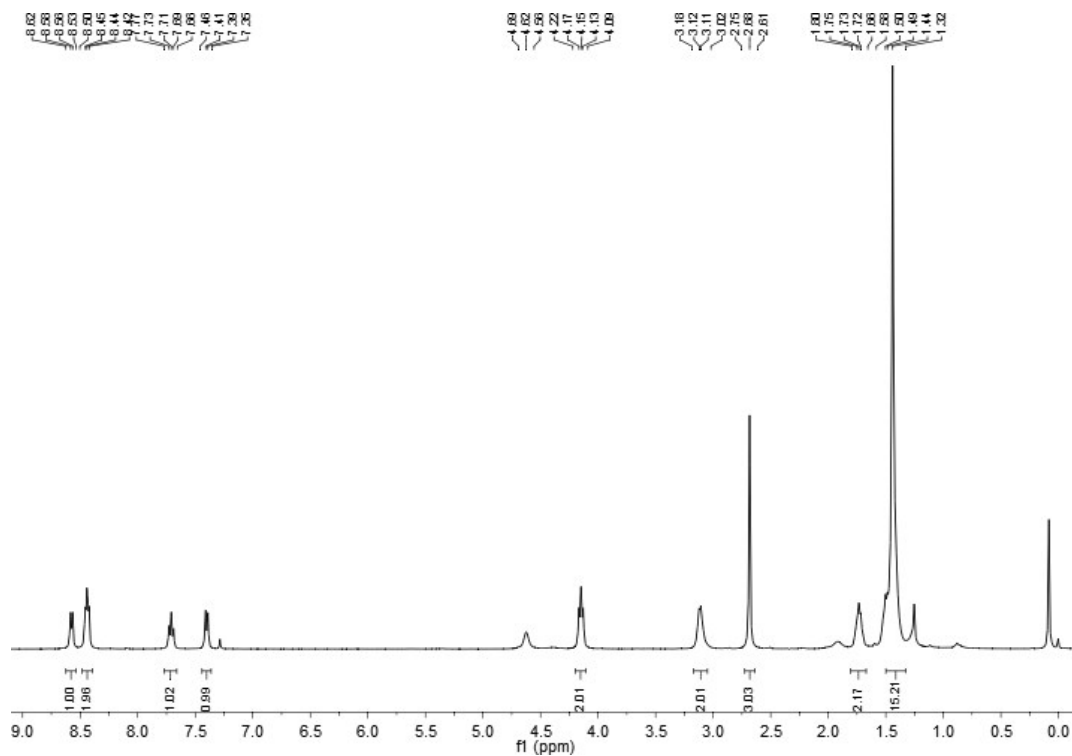


Fig. S4. ^1H NMR data of compound 1(CDCl_3).

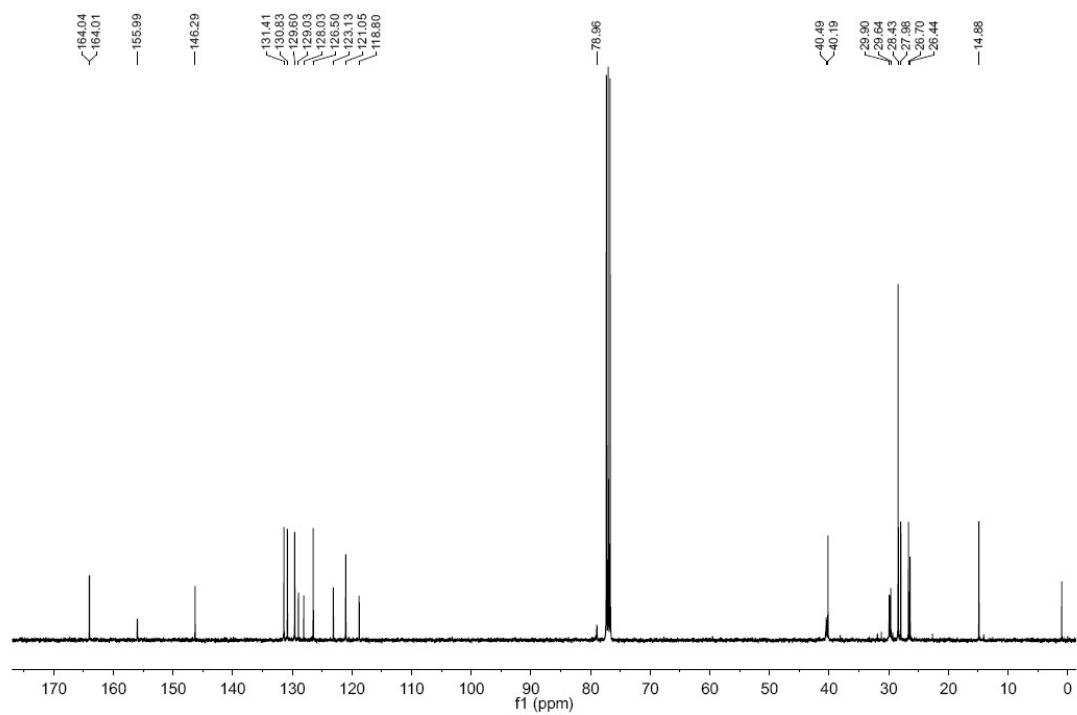


Fig. S5. ^{13}C NMR data of compound 1 (CDCl_3).

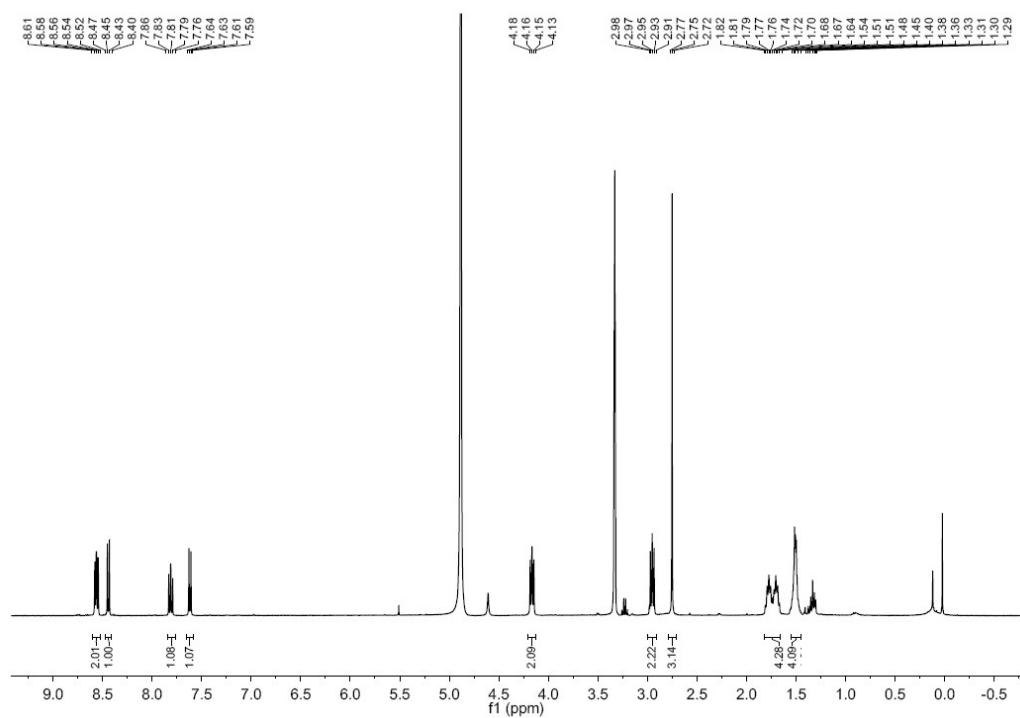


Fig. S6. ^1H NMR data of compound 2 ($\text{MeOH-}d_4$).

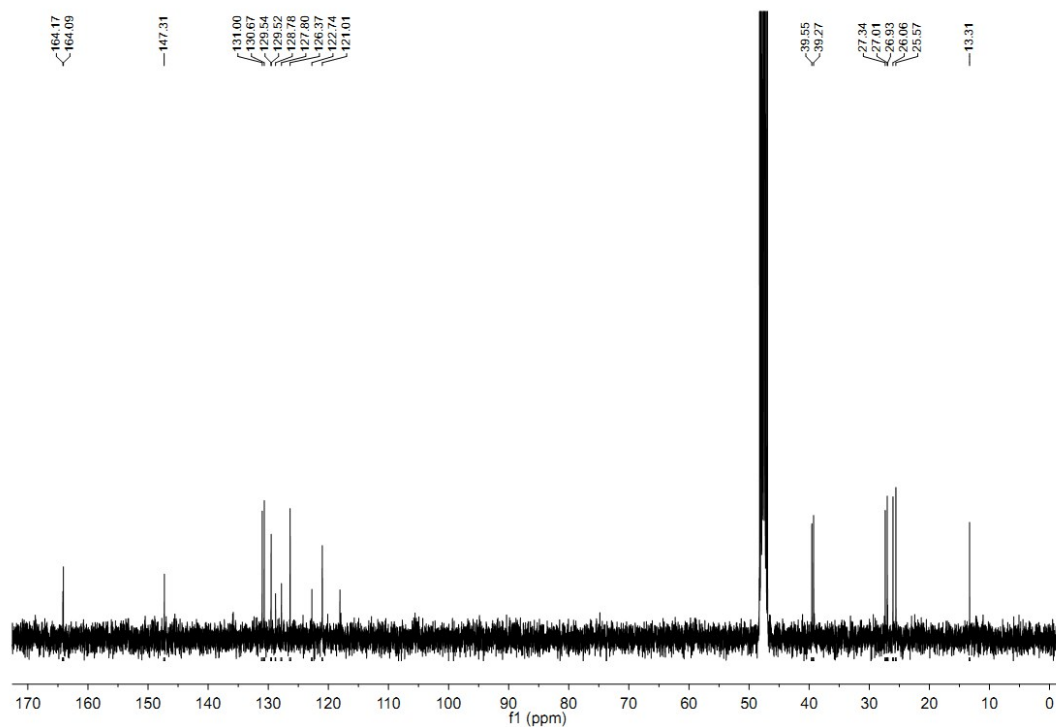


Fig. S7. ^{13}C NMR data of compound 2 ($\text{MeOH-}d_4$).

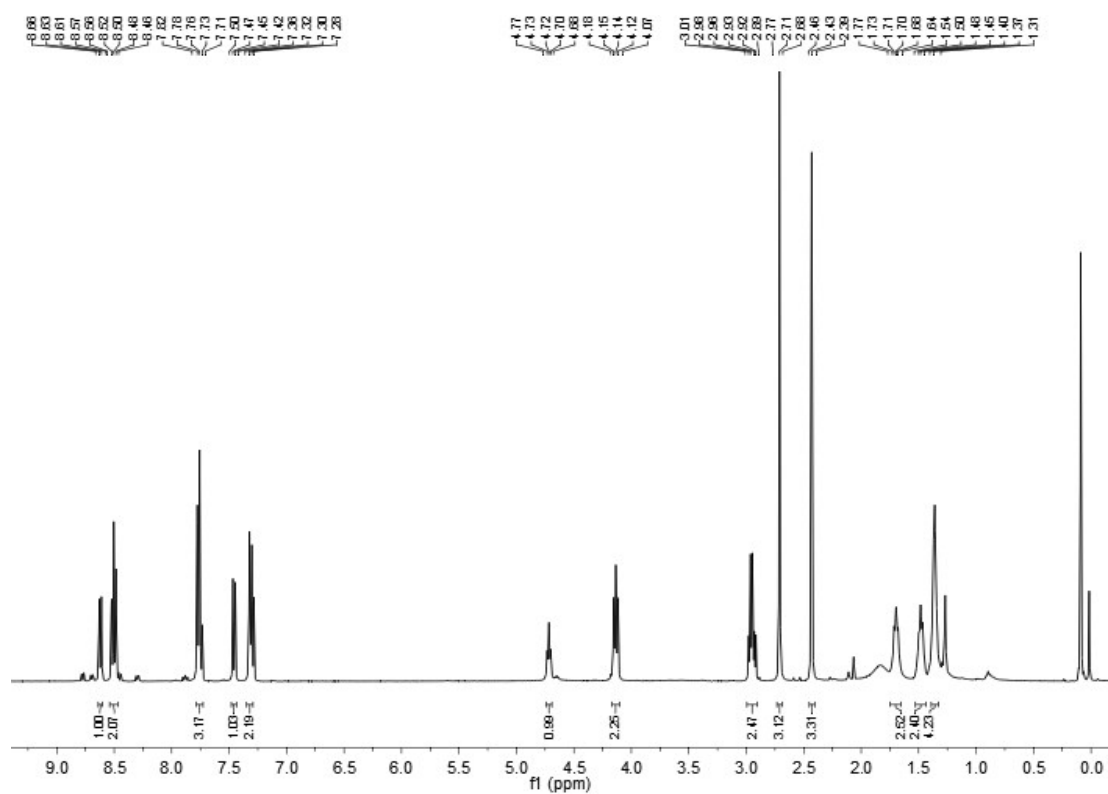


Fig. S8. ^1H NMR data of compound NHS-ER(CDCl_3).

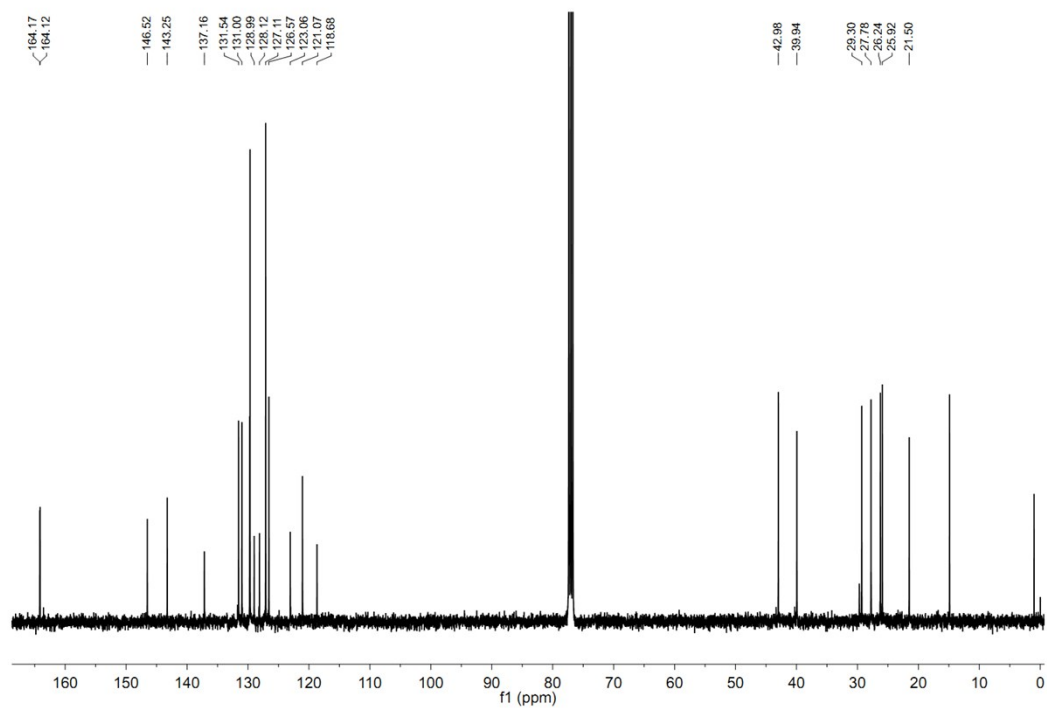
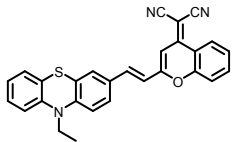
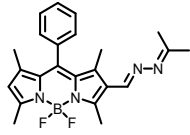
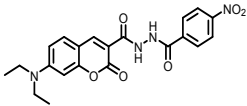
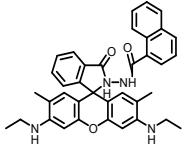
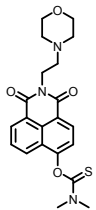
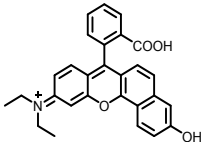
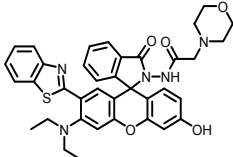
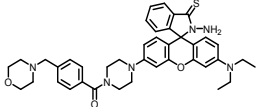
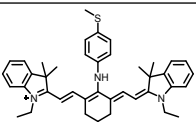


Fig. S9. ^{13}C NMR data of compound NHS-ER(CDCl_3).

Probes	Chemical structure	Response mechanism	probe types	Emission	Detection limit	Two-photon	targeting ability	Ref
NHS-ER		ICT	Turn-off	405nm	0.76 μM	Yes	ER-targeting	This work

PZ-HA			Turn-on	450nm	0.72 μ M	No	No	1
BODH			Turn-on	470nm	0.205 μ M	No	No	2
Cou-dhz-Ph-NO ₂			Turn-on	430nm	Not mentioned	No	No	3
RGNH			Turn-on	500nm	3.3nm	No	No	4
Lyso-NDMTC		ICT	Turn on	410nm	7.6pM	Yes	Lysosomes targeting	5
Lyso-HOCl			Turn off	520nm	8pM	No	Lysosomes targeting	6
Lyso-HA		ESIPT	Ratiometric	365nm	Not mentioned	No	Lysosomes targeting	7
LR1			Turn on		2.6nm	No	Lysosomes targeting	8
Cy7-NphS		PET	Turn on	750nm	0.62 \pm 0.09 μ M	No	mitochondrial targeting	9

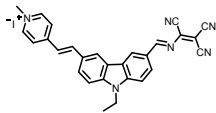
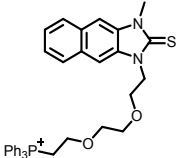
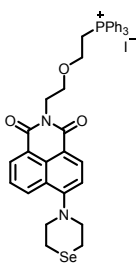
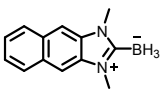
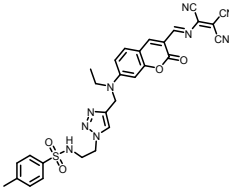
HCCH			Turn on	436nm	0.44 μM	No	mitochondrial targeting	10
PNIS			Turn on	325nm	0.210 μM	No	mitochondrial targeting	11
Nap-Se		PET	Turn on	405nm	4.8 nM	No	mitochondrial targeting	12
4			Ratiometric	326nm	3.6 μM	Yes	ER-targeting	13
ER-CIO			Ratiometric	425nm	0.59 μM	No	ER-targeting	14

Table S1. Summary of the properties of representative fluorescent probes for detecting HClO.

References

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