Electronic Supplementary Information

A mitochondria-targeting ratiometric fluorescent probe for the detection of hypochlorite based on FRET strategy

Shi-Li Shen, a,* Xiao-Fan Zhang, b Yan-Qing Ge, a Yan Zhu a and Xiao-Qun Cao a,*

a School of Chemistry and Pharmaceutical Engineering, Taishan Medical University, Taian 271016, P. R. China
b Taian Center For Food and Drug Control, Taian 271000, P. R. China

Table of Contents

Fig. S1-S3 1H NMR, 13C NMR and HRMS of IRP.
Fig. S4 The HRMS spectra of the reaction mixture of IRP with –OCl.
Fig. S5 Time courses of the fluorescence intensity ratios (I575/I467) of IRP in the presence of `OCl.
Fig. S6 Fluorescence images of RAW264.7 cells co-stained with IRP and Lyso Tracker Deep Red.
Fig. S7 Effect of IRP on the cell viability of RAW264.7 cells.
Fig. S8 Photostability of IRP in RAW264.7 cells at different periods of time.
Fig. S1 $^1$H NMR spectrum of IRP.

Fig. S2 $^{13}$C NMR spectrum of IRP.
**Fig. S3** HRMS spectrum of IRP.

**Fig. S4** The HRMS spectra of the reaction mixture of IRP with \textsuperscript{1}OCl.

**Fig. S5** Time courses of the fluorescence intensity ratios (I\textsubscript{575}/I\textsubscript{467}) of IRP (2 \textmu M) in the presence of \textsuperscript{1}OCl (3 \textmu M).
Fig. S6 Fluorescence images of RAW264.7 cells co-stained with IRP (1 μM) and Lyso Tracker Deep Red (0.2 μM). (a) Imidazo[1,5-a]pyridine fluorescence of IRP. (b) Fluorescence of Lyso Tracker Deep Red. (c) Overlay of (a) and (b). (d) Bright field images.

Fig. S7 Effect of IRP on the cell viability of RAW264.7 cells. Cells were incubated with diverse concentrations (1, 2, 4, 6 μM) of IRP for 12 h, followed by a standard SRB assay.
Fig. S8 Photostability of IRP (1 µM) in RAW264.7 cells at different periods of time.
(a) Fluorescence images of RAW264.7 cells after 0, 30, 60, 90 and 120 s of continuous irradiation. First line: fluorescence images at blue channel (410-520 nm), second line: fluorescence images at red channel (560-700 nm), third line: bright field images, fourth line: merge images of first, second and third line. (b) Relative ratio of blue fluorescence intensity (imidazo[1,5-a]pyridine moiety). (c) Relative ratio of red fluorescence intensity (rhodamine moiety). (d) Corresponding relative ratio of red/blue fluorescence intensity [the initial red/blue fluorescence intensity ratio (i.e., at about 0 s) was defined as 1.0]. Fluorescence intensity quantitation was analyzed by the Image J. The results were presented as means ± SE with replicates n = 3.