Supplementary information

Zinc Sensors with Lower Binding Affinities for Cellular Imaging

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Figure SI1. Emission intensity as a function of pH. a) 2,3-QA without Zn$^{2+}$ (bottom) and with Zn$^{2+}$ (top). Excited at 350 nm. b) 2,3-QP without Zn$^{2+}$ (bottom) and with Zn$^{2+}$ (top). Excited at 312 nm.
Figure SI2. Fluorescence change of the \(2,3\text{-QP}\)–\(\text{Zn}^{2+}\) complex with other metal ions. Aqueous solutions of 5 μM \(2,3\text{-QA}\) and 50 μM \(\text{Zn}^{2+}\) had metal ions added to them and excited at 312 nm. Their emission at 520 nm was monitored.
Figure SI3. $^1$H NMR spectra of 2,3-QA with different amounts of Zn(NO$_3$)$_2$ in CD$_3$OD. Equivalents of Zn$^{2+}$ going from the bottom spectra to the top: 0, 0.2, 0.4, 0.6, 0.8, 1.0.
Figure SI4. $^1$H NMR spectra of 2,3-QP with different amounts of Zn(NO$_3$)$_2$ in CD$_3$OD. Equivalents of Zn$^{2+}$: (I) 0, (II) 0.2, (III) 0.4, (IV) 0.6, (V) 0.8, (VI) 1.0.

Figure SI5. Fluorescence intensity plotted as a function of Zn$^{2+}$. a) 2,3-QA and b) 2,3-QP.
Figure S16. Live/dead assay of fibroblasts. Control cells (A) and the cells after their \textit{in vitro} exposures to \textbf{2,3-QA} molecules at the concentrations of either 1 (B), 10 (C) or 100 μM (D) for 30 min. The scale bars are 50 μm. Red dots are dead cells.

Figure S17. Live/dead assay of fibroblasts. Control cells (A) and the cells after their \textit{in vitro} exposures to the Zn(NO$_3$)$_2$ molecules at the concentrations of either 1 (B): 10 (C): or 100. μM (D) for 4 hrs. Scale bars are 50 μm. Red dots are dead cells.