Supporting Information

A reversible rhodamine 6G-based fluorescence turn-on probe for Fe\textsuperscript{3+} in water and its application in living cells imaging

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Fig. S1 Linear response of fluorescence intensity at 560 nm of L (10 µM) to the Fe³⁺ concentrations changes in distilled water.

Fig. S2 Fluorescence intensity at 560 nm of Fe³⁺, Cr³⁺ (50 µM) add in L (10 µM) with different TEOA concentrations.
Fig. S3 Fluorescence spectra of L (10 µM) in the presence of all lanthanide ions (50 µM) except for Pm (radioactive elements) in distilled water.

Fig. S4 Black bars: fluorescence intensity of L-Fe$^{3+}$ (10 µM) at 560 nm; red bars: fluorescence intensity of L-Fe$^{3+}$ (10 µM) at 560 nm in the presence of 100eq. ethanedioic acid (1), EDTA (2), tartaric acid (3) and propanedioic acid (4).
Figure S5. ESI-MS of Compound 1.
Figure S6. ESI-MS of Compound L.
Fig. S7 $^1$H NMR spectrum of 1 in CDCl$_3$.

Fig. S8 $^{13}$C NMR spectrum of 1 in CDCl$_3$. 
Fig. S9 $^1$H NMR spectrum of L in CDCl$_3$.

Fig. S10 $^{13}$C NMR spectrum of L in CDCl$_3$. 
Fig. S11 $^1$H-$^1$H cosy NMR spectrum of L in CDCl$_3$.

Fig. S12 $^{13}$C-$^1$H cosy NMR spectrum of L in CDCl$_3$. 