Supplementary Information

A Quantum dot-lucigenin probe for Cl⁻

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Chloride response of QD-MPA-lucigenin and QD-DHLA-lucigenin conjugates

Lucigenin was coupled to QDs-MPA or QDs-DHLA through electrostatic interaction between negatively charged QD surfaces and the positively charged nitrogens of lucigenin. Lucigenin produces a quenching of the both QDs luminescence, which is restored by adding chloride ion. Figure SI-1 shows the enhancement of the luminescence of QDs-MPA and QD-DHLA in the presence of different chloride concentrations. Both conjugates show similar response toward chloride ions.

![Figure SI-1](image_url)

*Figure SI-1. Enhancement of luminescence of (a) QD<sub>620</sub>-MPA-lucigenin and (b) QD<sub>620</sub>-DHLA-lucigenin conjugates by different chloride ions concentrations: black (0 mM); green (0.1 mM); pink (1 mM); red (10 mM); blue (100 mM); cyan (500 mM).