FLUORESCENCE SWITCH FOR SELECTIVELY SENSING COPPER AND HISTIDINE IN BOTH VITRO AND LIVING CELLS

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One new synthetic probes for the detection of copper and Histidine in both vitro and living cells. In the absence of metal ions, the new established probes exhibits comparable fluorescence to that of free FITC. In the presence of metal ions, probes selectively coordinates with Cu^{2+}, causing its fluorescence emission quenched via photoinduced electron transfer. Interestingly, as-formed complex selectively responds to $_L$-His among the 20 natural AAs by turning its fluorescence on. Using this dualfunctional probe, we also sequentially imaged Cu^{2+} and $_L$-His in living cells. Our new probe could be applied for not only environment monitoring or biomolecule detections, but also disease diagnoses in the near future.