May 20th, 12:30 PM

A pH Stable Turn-on Fluorescent Sensor for Imaging Labile Fe3+ in Living Cells

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Alhawsah, Bayan; Aydin, Ziya; Yang, Bing; and Guo, Maolin, "A pH Stable Turn-on Fluorescent Sensor for Imaging Labile Fe3+ in Living Cells" (2014). UMass Center for Clinical and Translational Science Research Retreat. 3.
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Comments
Abstract of poster presented at the 2014 UMass Center for Clinical and Translational Science Research Retreat, held on May 20, 2014 at the University of Massachusetts Medical School, Worcester, Mass.

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Fluorescent sensors has received considerable interest in recent years because of its ability to provide visualized monitoring of very low concentrations together with the advantages of spatial and temporal resolution. Over the past two decades, several fluorescent sensors for iron (III) have been reported. However, the currently known fluorescent sensors that are capable of cellular iron imaging are largely limited to “turn-off” type, providing useful information but suffering from poor sensitivity, or interference from other metal ions. We have been developing rhodamine based turn-on fluorescent sensors. Here we report a new iron (III) sensor, Rh-PK, which is stable in low pH’s and is capable of detecting basal level Fe\(^{3+}\) in the human live cells at subcellular resolution.

We thank the National Science Foundation for funding this project.