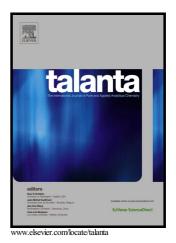
## Author's Accepted Manuscript

A Novel Two-Photon Fluorescent Probe with Long-Wavelength Emission for Monitoring HClO in Living Cells and Tissues

Yi-Jun Gong, Meng-Ke Lv, Ming-Lu Zhang, Zhen-Zhen Kong, Guo-Jiang Mao



 PII:
 S0039-9140(18)30909-3

 DOI:
 https://doi.org/10.1016/j.talanta.2018.08.089

 Reference:
 TAL19010

To appear in: Talanta

Received date:31 May 2018Revised date:27 August 2018Accepted date:31 August 2018

Cite this article as: Yi-Jun Gong, Meng-Ke Lv, Ming-Lu Zhang, Zhen-Zhen Kong and Guo-Jiang Mao, A Novel Two-Photon Fluorescent Probe with Long-Wavelength Emission for Monitoring HClO in Living Cells and Tissues, *Talanta*, https://doi.org/10.1016/j.talanta.2018.089

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

### **ACCEPTED MANUSCRIPT**

## A Novel Two-Photon Fluorescent Probe with Long-Wavelength Emission for Monitoring HClO in Living Cells and Tissues

Yi-Jun Gong\*, Meng-Ke Lv, Ming-Lu Zhang, Zhen-Zhen Kong, Guo-Jiang Mao\*

School of Chemistry and Chemical Engineering, Collaborative Innovation Center of Henan Province for Green Manufacturing of Fine Chemicals, Henan Key Laboratory of Organic Functional Molecule and Drug Innovation, Key Laboratory of Green Chemical Media and Reactions, Ministry of Education, Henan Normal University, Xinxiang, Henan 453007, China. \* To whom correspondence should be addressed.

E-mail: gongyijun@htu.edu.cn, mgz1985419@163.com

#### ABSTRACT:

Hypochlorous acid (HClO), one of the most important reactive oxygen species (ROS), is a potent antimicrobial agent for the immune system against invasive bacteria and a wide range of pathogens. Therefore, it is critical to develop sensitive and selective methods for visualization of HClO in biological samples. In this work, a two-photon fluorescent probe (**HN2-TP**) with long-wavelength emission (far-red: 630 nm) based on rhodamine analogue for bioimaging HClO was developed. Owing to a specific HClO induced cyclization reaction, the new probe shows large fluorescence enhancement (about 106-fold), good linear range with high sensitivity (detection limit: 40 nM), high selectivity and fast response when monitoring HClO *in vitro*. More importantly, by successfully imaging HClO in living cells and tissues, this kind of two-photon fluorescent probe with long-wavelength emission is expected for accurate sensing in complex biosystems, which could eliminate undesired autofluorescence and self-absorption.

#### Keywords:

Two-photon; Fluorescent probe; Long-wavelength emission; HClO; Bioimaging

Download English Version:

# https://daneshyari.com/en/article/10154531

Download Persian Version:

https://daneshyari.com/article/10154531

Daneshyari.com