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Fast response and highly selective detection of hydrogen sulfide with a ratiometric two-photon fluorescent probe and its application for bioimaging.

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Research Highlights

- It will combine the advantages of ratiometric and two-photon excited fluorescent probes for H₂S.
- The probe exhibited a high sensitivity to H₂S with a detection limit of 0.24 μM as well as relatively quick response time and highly selective for H₂S.
- The probe was successfully applied in TP imaging for detecting H₂S in the living cells.

Abstract:

H₂S can be endogenously produced by enzymes and play critical roles in the functioning of living organisms. In order to better understanding its physiological and pathological functions, the development of efficient methods for monitoring H₂S is desired. Herein, we reported a ratiometric two-photon fluorescent probe for detecting H₂S. A typical ICT-based fluorescent dye, 4-hydroxy-1,8-naphthalimide was considered as fluorophore of the probe on account of its two-photon absorption

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