

A selective fluorescent probe for the detection of mercury (II) in aqueous media and its applications in living cells

García-Beltrán, Olimpo

Mena, Natalia

Berríos, Tania A.

Castro, Enrique A.

Cassels, Bruce K.

Núñez, Marco T.

Aliaga, Margarita E.

In this Letter we present a new probe, 2-amino-3-hydroxy-2-(hydroxymethyl) propyl 2-(7-hydroxy-2-oxo-2H-chromen-4-yl)acetate (PMR), which can reversibly detect mercuric ions (Hg^{2+}) in HEPES buffer under physiological conditions. Possible interference with other analytes was examined. PMR displays a highly selective decrease of its fluorescence at 460 nm when it reacts with Hg^{2+} . Interestingly, the probe can also be used as a fluorescent turn-on sensor for biologically relevant thiols such as glutathione and cysteine. PMR can be used to determine mercury in living cells. © 2012 Elsevier Ltd. All rights reserved.