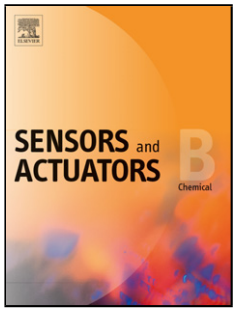

Title: Fluorescent glutathione probe based on MnO_2-Si quantum dots nanocomposite directly used for intracellular glutathione imaging

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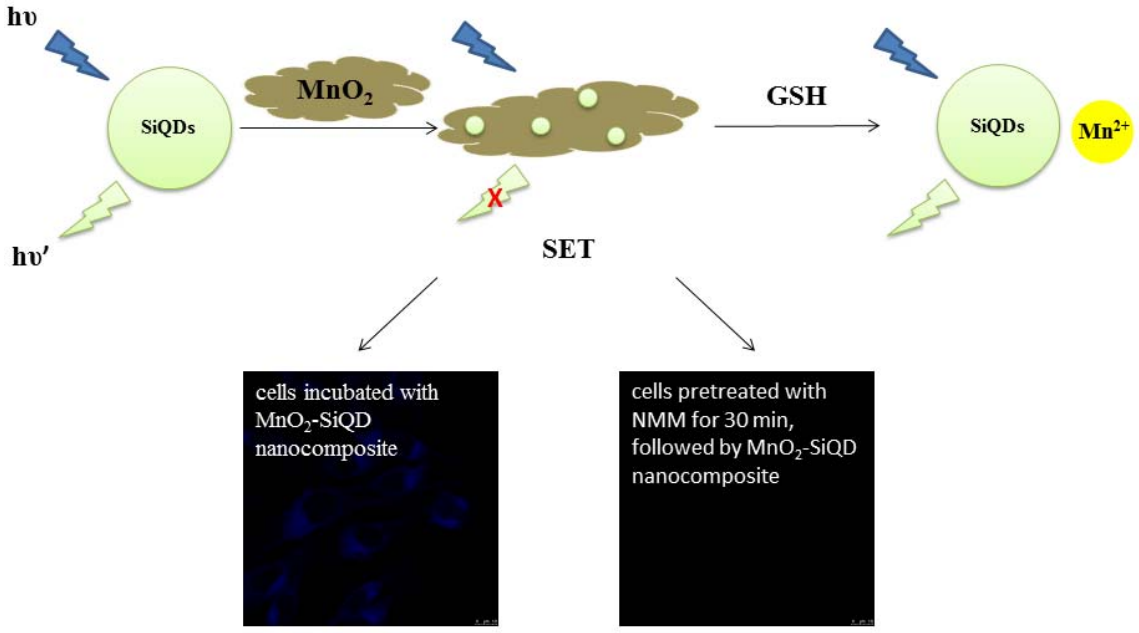

Confocal fluorescence microscopy images of BHK cells

A strong reduction of the blue fluorescence of the silicon quantum dots (SiQDs) happened due to the surface energy transfer (SET) from SiQDs to the deposited MnO_2. And the MnO_2 nanosheets were reduced by glutathione so the GSH can be detected by the fluorescence restored and it can be applied to determine GSH in living cells..

Highlights

1. MnO_2-SiQD nanocomposite is successfully prepared by a chemical reduction process.

2. Blue fluorescence of the SiQDs was quenched due to the surface energy transfer.

3. The fluorescence of silicon quantum dots could be recovered in the presence of GSH.

4. The nanocomposite can be used for intracellular imaging.