

Accepted Manuscript

Mitochondrial specific photodynamic therapy by rare-earth nanoparticles mediated near-infrared graphene quantum dots

Dandan Zhang, Liewei Wen, Ru Huang, Huanhuan Wang, Xianglong Hu, Da Xing



PII: S0142-9612(17)30684-1

DOI: [10.1016/j.biomaterials.2017.10.034](https://doi.org/10.1016/j.biomaterials.2017.10.034)

Reference: JBMT 18316

To appear in: *Biomaterials*

Received Date: 2 August 2017

Revised Date: 7 October 2017

Accepted Date: 18 October 2017

Please cite this article as: Zhang D, Wen L, Huang R, Wang H, Hu X, Xing D, Mitochondrial specific photodynamic therapy by rare-earth nanoparticles mediated near-infrared graphene quantum dots, *Biomaterials* (2017), doi: 10.1016/j.biomaterials.2017.10.034.

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 proof before it is published in its final 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.

Mitochondrial Specific Photodynamic Therapy by Rare-earth Nanoparticles Mediated Near-infrared Graphene Quantum Dots

Dandan Zhang, Liewei Wen, Ru Huang, Huanhuan Wang, Xianglong Hu, Da Xing**

MOE Key Laboratory of Laser Life Science and Institute of Laser Life Science, College of Biophotonics, South China Normal University, Guangzhou 510631, P. R. China

* Corresponding author.

E-mail address: xlhu@scnu.edu.cn (X. Hu), xingda@scnu.edu.cn (D. Xing)

Fax: +86-20-85211436

Keywords: photodynamic therapy, mitochondria targeting, graphene quantum dots, rare-earth upconversion nanoparticles, singlet oxygen

Abstract

Photodynamic therapy (PDT) has been proposed in cancer treatment for decades, but its clinical translation is significantly impeded by the low yield of ROS, poor tissue penetration depth of most current photosensitizers, and short lifetime of ROS. These limitations directly affect the therapeutic effect of PDT in cancer therapy. Here we proposed a new strategy by

Download English Version:

<https://daneshyari.com/en/article/6484787>

Download Persian Version:

<https://daneshyari.com/article/6484787>

[Daneshyari.com](https://daneshyari.com)