

Confocal Raman microspectral analysis and imaging of the drug response of osteosarcoma to cisplatin

Haifeng Wang¹, Jing Li², Jie Qin², Jie Li¹, Yishen Chen¹, Dongliang
Song¹, Haishan Zeng³, Shuang Wang^{1,*}

1 State Key Laboratory of Photon-Technology in Western China Energy,
Institute of Photonics and Photon-Technology, Northwest University, Xi'an, Shaanxi,
710127, China

2 Department of Orthopedics, The Second Affiliated Hospital of Xi'an Jiaotong
University, Xi'an, Shaanxi 710004, China

3 Imaging Unit – Integrative Oncology Department, BC Cancer Research Center,
Vancouver, BC, V5Z1L3, Canada

*Corresponding Author:

Dr. Shuang Wang

Associate Professor

State Key Laboratory of Photon-Technology in Western China Energy

Institute of Photonics and Photon-technology

Northwest University

#1 Xuefu Avenue, Guodu Education and Technology Industrial Zone

Chang'an District, Xi'an, 710127

Shaanxi, China

Email: swang@nwu.edu.cn

Tel: +86-29-8830-3281

Fax: +86-29-8830-3281

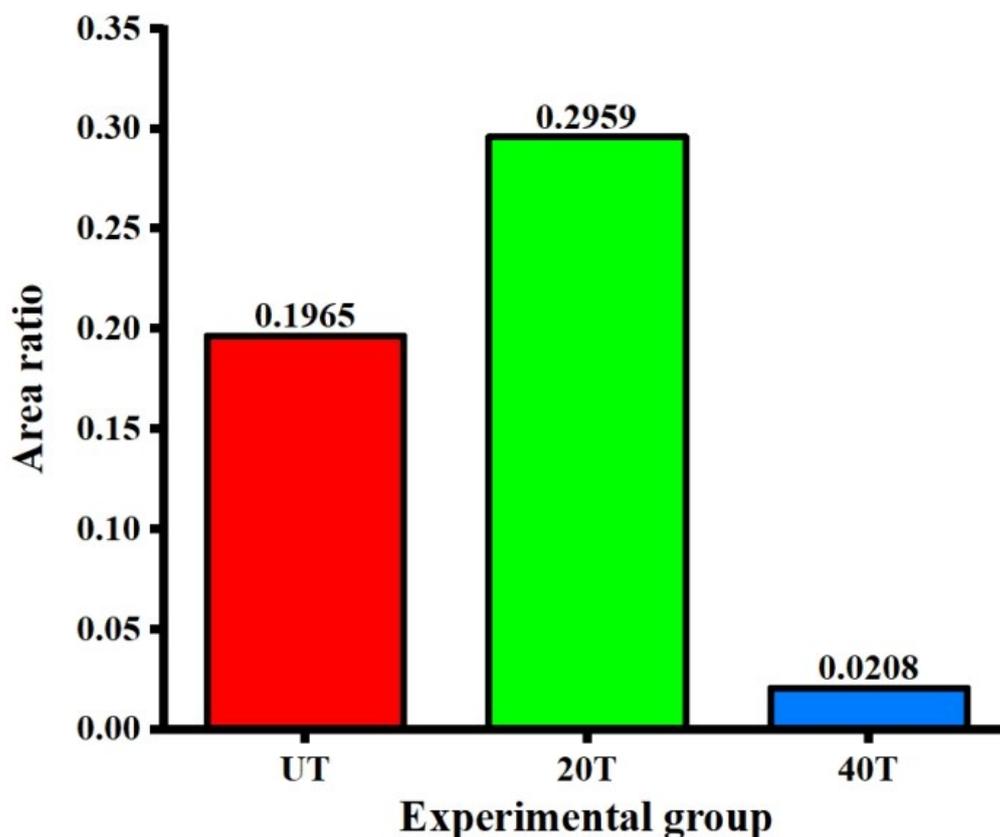


Figure S1: A histogram of the ratio of the area of the nucleus to the total area of the cell extracted from the HCA pseudo-color map.

As shown in Figure S1, after 40 μ M drug action, compared with the UT group and the 20T group, the ratio of the nuclear area to the total cell area was significantly reduced. In the pseudo-color images of the 20T group and the 40T group, the nucleus clusters represented by green also have nuclei fragmentation, as shown in Figure 3B(f) and Figure 3C(f). We speculate that the above results are caused by cisplatin damage to the nucleus and DNA.^{1,2}

References

1. D. Kessel and N. L. Oleinick, *Photochemistry and photobiology*, 2018, **94**, 213-218.
2. J. L. Wojtaszek, N. Chatterjee, J. Najeeb, A. Ramos, M. Lee, K. Bian, J. Y. Xue, B. A. Fenton, H. Park, D. Li, M. T. Hemann, J. Hong, G. C. Walker and P. Zhou, *Cell*, 2019, **178**, 152-159 e111.