**Targeted Phototherapy by Niobium Carbide for Mammalian Tumor Models Similar to Human Being**

Zhao Liu1, Yuhang Tian1, Shan Jiang1, Haitao Shang1, Kexin Chen2, Haoyan Tan1, Lei Zhang1, Chongshen Guo3, Hui Jing1\*, Wen Cheng1\*

1 Department of Ultrasound, Harbin Medical University Cancer Hospital, 150 Haping Road, Nangang District, Harbin, 150081, China

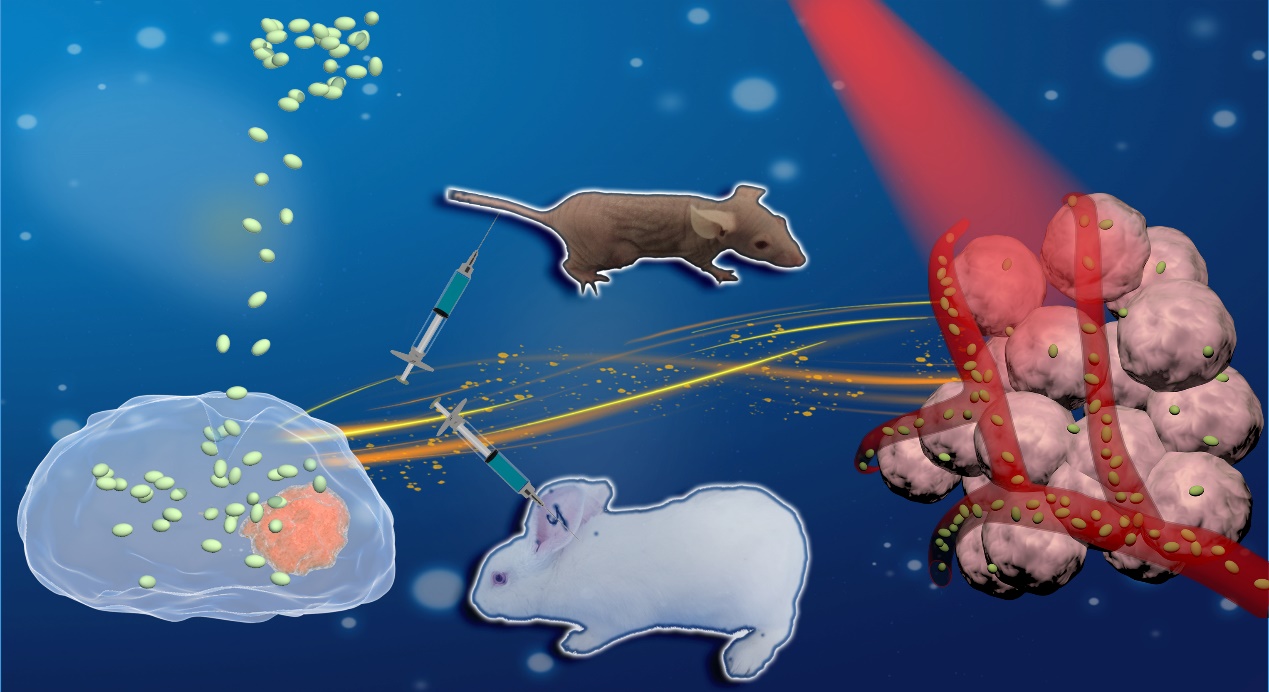
2 Department of Pathology, Harbin Medical University Cancer Hospital, 150 Haping Road, Harbin, 150081, China

3 School of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin 150000, China.

Corresponding authors

Email: hrbchengwen@163.com

Email: jinghui@hrbmu.edu.cn



Macrophage loaded Niobium Carbide can achieve the synergistic photothermal and photodynamic therapy on solid tumor in mice and rabbits *in vivo*