

Engineering Cells for Cancer Immunotherapy

Quanyin Hu

Pharmaceutical Sciences Division, School of Pharmacy, University of Wisconsin-
Madison

Madison, USA 53705, USA

E-mail : qhu66@wisc.edu

Website : <https://www.huciplab.net/>

ABSTRACT

Immunotherapy is leading a paradigm shift in the treatment of various diseases, including cancer. However, the limited objective response rate and side effects impede the clinical applications of immunotherapy. As important biological entities and natural carriers for proteins and molecules, cells with low immunogenicity and toxicity have attracted considerable attention for biomedical applications and have achieved encouraging progress, especially in tumor immunotherapy. The convergence of multiple disciplines has equipped cell engineering with control over their spatiotemporal distribution to enhance treatment efficacy and reduce side effects. In this talk, I will introduce our recent efforts in locoregionally engineering tumor-associated macrophages to CAR-Macrophages for post-surgery glioma treatment, and enhancing tumor cell pyroptosis by preventing ESCRT-mediated cell membrane repair with bacteria-based delivery systems.