



COLLEGE OF PHARMACY  
**PHARMACEUTICAL SCIENCES**  
UNIVERSITY OF MICHIGAN

### Pharmaceutical Sciences Seminar

Wednesday, October 27, 2021

4:00pm

2548 NUB or [Zoom Info](#)

### **“Improving immunotherapy efficacy by delivering inulin-based prebiotics”**

Presented by:



**Jin Xu**

Pharmaceutical Sciences  
Ph.D. Candidate

**Abstract:** Immune-check point inhibitors (ICIs) have revolutionized the field of cancer therapy; however, only 10-30% of patient would respond to the ICIs treatment. Recent studies revealed the implication of dysregulated host microbiota in the poor therapeutic outcomes, underling the significance of developing approaches of gut microbiome modulation. Here we engineered inulin-a widely consumed prebiotics dietary fiber-into a “colon retentive” gel formulation. When administered orally, inulin gel effectively increased the abundance of the key commensal bacteria and the short-chain-fatty-acids (SCFAs) production, leading to enhanced T cell immunity against tumor and induced the establishment of stem-like Tcf-1<sup>+</sup>PD-1<sup>+</sup>CD8<sup>+</sup> T cells. Meanwhile, we showed that the therapeutic efficacy could be further enhanced through promoting the colon retention by increasing the gel viscosity. Our study demonstrates the potential of inulin in modulating the gut microbiome and augmenting the efficacy of ICIs.

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