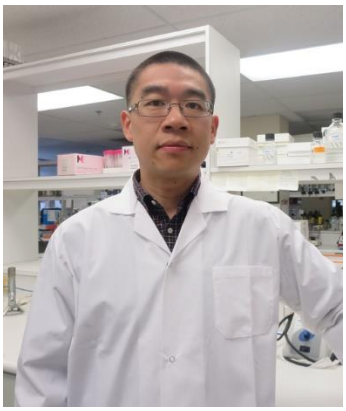

Zhenyu Cheng
Associate Professor
Department of Microbiology and Immunology
Dalhousie University

I am an Associate Professor in the Department of Microbiology and Immunology at Dalhousie University. I started my independent research lab here in 2016, after completing postdoctoral studies at Harvard Medical School.

Cancer continues to be the #1 cause of death in Nova Scotia. Despite the numerous advances in research, there is still an outstanding need for new anticancer treatments, and new strategies to improve existing therapies.

Cancer cells are smart and can manipulate cells around them. A process called protein synthesis is an essential cellular process that is tightly controlled in normal cells. Cancer cells addictively rely on enhanced protein synthesis. Many anticancer treatments disrupt protein synthesis. However, cancer cells manipulate this disruption to their survival advantage.

My goal is to study a master regulator of protein synthesis control called RACK1, which stands for Receptor for Activated C Kinase 1. I want to investigate its role in the assembly of stress granules in cancer cells. Stress granules are formed by cells to cope with disrupted protein synthesis caused by various types of stress.

Stress granules are produced more in tumours. Most importantly, they contribute to the survival of cancer cells under anticancer treatments. My lab showed that depletion of RACK1 enhanced stress granule assembly in response to different types of candidate chemotherapy treatments. The study of how RACK1 regulates stress granule formation and how it impacts the survival of cancer cells will further our understanding of cancer cell biology and inform future approaches to modulate the signaling molecules in the RACK1-mediated pathway as a novel anticancer therapy.

Dr. Cheng's Early Career Award is funded by BHCRI partner, the Dalhousie Medical Research Foundation

BEATRICE HUNTER Cancer Research Institute
Evolving Cancer Research in Atlantic Canada

dalhousie medical research foundation