

BIO

Wen-Chun Liu, Ph.D.

My research interests are focused on Vaccine development, Vaccinology/ Immunology, Virology, and Biocontainment. I have dedicated my efforts to develop innovative influenza vaccine(s) that induce broadly cross-protective immunity, and to investigate host-pathogen interactions in response to influenza virus infection/vaccination. Using mice and ferrets as pre-clinical animal models, our team has developed experienced skills to evaluate the efficacy of influenza vaccine or transmission risk of influenza, and analyzed the innate and adaptive immunities induced by influenza virus infection or vaccinations. In response to COVID-19 pandemic, we also have involved in SARS-CoV-2 virus surveillance, pathogenesis, and drug/vaccine studies handled in BSL-3/ABSL-3 biocontainment. Currently, our research team at Infectious Disease Core facility (ID Core) provides commissioned technical services for both Academia and Industries, in the field of prevention and treatment of infectious diseases that are related to people's life and health, and assist the development of both international and domestic biotechnology and pharmaceutical companies.

In addition to services, we also put the efforts on development of critical virologic assays, immunological analyses, and establishment of appropriate animal models for specified RG2/ RG3 agents, to support in vitro and in vivo pre-clinical testing and research development of vaccine and medical countermeasures against emerging infectious diseases. Also, we focus on unmet medical countermeasures, such as Influenza, COVID-19, EV-D68, and potential zoonotic/human pathogens. By investigation of the virus infectivity, host-pathogen interaction, and immune protective mechanism that vaccines/ virus infections induce, we will have better understanding how to respond, as well as find the optimal countermeasures against emerging infectious diseases.