Hokkaido University
Faculty of Veterinary Medicine
第 832 回 獣医学研究談話会
The 832nd Research Seminar for Veterinary Medicine



日時：2026 年 11 月 5 日 (木曜日) 17:00～18:00
Date and Time: 17:00-18:00, November 5th (Thu), 2026

場所：北海道大学 獣医学研究院 講堂
Venue: Lecture Hall, Faculty of Veterinary Medicine

Lecturer: Professor OOI Eng Eong
Professor, Signature Research Programme in Emerging Infectious Diseases, Duke-NUS Medical School
Associate Dean (Early Research Career Development), Office of Academic Medicine

Title : Immunity against acute viral diseases: Insights from COVID-19 and dengue

Abstract: The quest to develop vaccines against acute viral diseases have prioritised vaccine candidates that elicit high titres of neutralising antibodies (nAbs) for clinical development. NAbs, however, bind viruses and inhibit infection often with specificity; antigenic variants that escape neutralisation can emerge. Vaccines designed to elicit nAbs for protection would thus need to continually be updated to cater for such variants after they are discovered, which is akin to chasing after the wind. Cellular immunity, on the other hand, is less prone to escape mutants given the diversity of human leukocyte antigen (HLA) that presents peptides from proteins across the viral proteome to CD4+ and CD8+ T cells. This talk will present insights from COVID-19 and dengue vaccination, as well as clinical studies that could pave the way forward for harnessing cellular immunity to protect against acute viral diseases.

References:

1. Zhong Y, Kang AYH, Tay CJX, Li HE, Elyana N, Tan CHW, Yap WC, Lim JME, Le Bert N, Chan KR, Ong EZ, Low JG, Shek LP, Tham EH, Ooi EE (2024). Correlates of protection against symptomatic SARS-CoV-2 infection in vaccinated children. **Nat Med**, 30:1373-1383.
2. Kalimuddin S, Tham CYL, Chan YFZ, Hang SK, Kunasegaran K, Chia A, Chan CYY, Ng DHL, Sim JXY, Tan HC, Syenina A, Ngoh AQ, Hamis NZ, Chew V, Leong YS, Yee JX, Low JG, Chan KR, Ong EZ, Bertoletti A, Ooi EE (2025). Vaccine-induced T cell responses control viral challenge infection without neutralizing antibodies. **Nat Microbiol**, 10:374-387.
3. Kalimuddin S, Ooi EE (2025). A helping hand against severe dengue. **Cell Host Microbe**, 33:1050-1051.

連絡先：ワクチン研究開発拠点 澤 洋文 （内線 9730）
世話人：内科学教室 中村 健介 （内線 5223）