中央研究院統計科學研究所

學 術 演 講

講 題： Human Leukocyte Antigen (HLA) Variants and COVID-19: Insights into Susceptibility, Long COVID, Vaccination Response and Adverse Reactions

演 講 人：Dr. Charles Khor
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時 間： 2024-11-14(Thu.) 11:20-12:50

地 點：Auditorium, B1F, Institute of Statistical Science；The tea reception will be held at 11:00.

備 註： Lecture in English. Online live streaming through Cisco Webex will be available.

Abstract

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus causing coronavirus disease 2019 (COVID-19) was announced as an outbreak by the World Health Organization (WHO) in January 2020 and as a pandemic in March 2020. While the majority of individuals infected with SARS-CoV-2 experience no or only mild symptoms, ranging from fully asymptomatic cases to mild pneumonic disease. Additionally, approximately 3.1–7.5% of COVID-19 patients suffer from Long COVID-19, also known as post-acute sequelae of SARS-CoV-2 infection (PASC), which encompasses a range of symptoms that persist or emerge long after the acute phase of infection. COVID-19 vaccines have averted millions of excess deaths worldwide. However, some vaccinated individuals have reported adverse reactions, with a small percentage experiencing prolonged side effects. Studies indicate considerable variability in individuals' immune responses to vaccination, both humoral and cellular, including SARS-CoV-2 spike protein immunoglobulins (IgG, IgA, IgM), neutralizing antibodies, and T-cell responses (CD4+ and CD8+). This presentation will examine the associations between host HLA polymorphisms and several aspects of COVID-19 and vaccination outcomes, including: 1) Japanese COVID-19 severity, 2) COVID-19 vaccination (BNT162b2 or mRNA-1273 mRNA vaccines) -induced kinetics of anti-SARS-CoV-2 spike IgG (IgG-S) profiles and adverse reactions of hospital workers from the Center Hospital of the National Center for Global Health and Medicine (NCGM), Tokyo, Japan 3) vaccine-related adverse reactions within the Toshiba Genome Cohort (n=2,715), and 4) Japanese Long COVID-19.

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