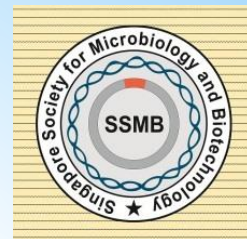






# COVID-19 and Human Gut Microbiome: From Discovery to Clinical Applications



## Prof Siew-Chien Ng

Director, Microbiota I-Center (MagIC)  
Assistant Dean (Development), Faculty of Medicine  
Associate Director, Center for Gut Microbiota Research  
Professor, Department of Medicine and Therapeutics  
Division of Gastroenterology and Hepatology  
State Key Laboratory of Digestive Disease  
The Chinese University of Hong Kong



Professor Siew-Chien Ng is Professor at the Department of Medicine and Therapeutics, Assistant Dean (Development) and Associate Director for the Center for Gut Microbiota Research at The Chinese University of Hong Kong. She is the Director for the Microbiota I-Center (MagIC). She received her Bachelor of Medicine and Surgery degree from the University of London and the Doctor of Philosophy degree (PhD) from Imperial College London. She pioneered inflammatory bowel disease epidemiologic and microbiota research in Asia-Pacific and globally. COVID-19 is also one of her research interests. She has published over 300 papers in international journals, including Nature Genetics, Cell Host Microbes, Nature Communications and Lancet. Her research work has won over 30 prestigious awards including the Ministry of Education Higher Education Outstanding Scientific Research Output Awards, Sachar Visiting Professorship, Sir Francis Avery Jones Award and Professorship, Croucher Senior Medical Research Fellowship, and Highly-cited Researchers by Clarivate in 2020 and 2021.

## Abstract

Although COVID-19 is primarily a respiratory illness, there is mounting evidence suggesting that the gastrointestinal tract is involved in this disease. We found altered gut microbiome and showed that depletion of immunomodulatory gut microorganisms may contribute to severe COVID-19 disease. The dysbiotic gut microbiota that persists after disease resolution could be a factor in developing persistent symptoms and/or multisystem inflammation syndromes that occur in some patients after clearing the virus. Bolstering of beneficial gut species depleted in COVID-19 could serve as a novel avenue to mitigate severe disease, underscoring importance of managing patients' gut microbiota during and after COVID-19. In a pilot study to assess the effects of a novel microbiome formula (SIM01) as an adjuvant therapy on immunological responses and changes in gut microbiota of hospitalized COVID-19 patients, the use of a novel microbiome formula SIM01 hastened antibody formation against SARS-CoV-2, reduced pro-inflammatory immune markers and restored gut dysbiosis in hospitalized COVID-19 patients compared with subjects on standard care. The evidence of involvement of SARS-CoV-2 in the gut, the role play by gut microbiota and COVID-19 severity, and modulation of microbiota for prevention, treatment and vaccine response in COVID-19 will be discussed in this talk.

## References:

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