

David Lye Chien Boon



Director, Infectious Disease Research and Training Office, NCID
Senior Consultant, Department of Infectious Diseases, TTSH and NCID
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Research Interests:

- Antimicrobial Resistance
- COVID-19
- Dengue
- Clinical Trials

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Biography

Professor Lye is Director of Infectious Disease Research and Training Office at National Centre for Infectious Disease (NCID), professor at Lee Kong Chian School of Medicine and Yong Loo Lin School of Medicine, and deputy executive director, Programme for Research in Epidemic Preparedness and Response (PREPARE), Singapore. He is senior consultant, Department of Infectious Diseases, TTSH.

Professor Lye has held more than SGD\$13million in research grant as principal investigator to date. His research interests are in COVID-19, Dengue, and antimicrobial resistance. He has published more than 350 peer-reviewed manuscripts in journals such as NEJM, Lancet, JAMA, JAMA Oncology, Lancet Respiratory Medicine, Lancet Infectious Diseases, Lancet Microbe, Lancet Global Health, Annals Internal Medicine as well as Science, Nature Biotechnology, Nature Reviews Immunology, Nature Microbiology, Nature Communications, Science Translational Medicine, Journal Clinical Investigation and Journal Experimental Medicine. He was a Clarivate Highly Cited Researcher 2022.

Professor Lye's awards include: Dean's Award for Teaching Excellence, Yong Loo Lin School of Medicine, 2016; Fellow, International Society of Antimicrobial Chemotherapy, 2020; National Clinical Excellence Team Award, Ministry of Health, 2021; Dean's Award for Research, Lee Kong Chian School of Medicine, 2021; National Healthcare Group Distinguished Achievement Award, 2022; National Healthcare Group Lee Kong Chian Medicine Clinician/Clinical Scientist Award 2022; Public Administration Award (Silver) (COVID-19).

Selected Publications

- Tan CW, Chia WN, Young BE, Zhu F, Lim BL, Sia WR, Thein TL, Chen MI, Leo YS, Lye DC, Wang LF. **Pan-Sarbecovirus Neutralizing Antibodies in BNT162b2-Immunized SARS-CoV-1 Survivors.** N Engl J Med. 2021; 385:1401-1406. doi: 10.1056/NEJMoa2108453. Epub 2021 Aug 18. PMID: 34407341.
- Harris PNA, Tambyah PA, Lye DC, Mo Y, Lee TH, Yilmaz M, Alenazi TH, Arabi Y, Falcone M, Bassetti M, Righi E, Rogers BA, Kanj S, Bhally H, Iredell J, Mendelson M, Boyles TH, Looke D, Miyakis S, Walls G, Al Khamis M, Zikri A, Crowe A, Ingram P, Daneman N, Griffin P, Athan E, Lorenc P, Baker P, Roberts L, Beatson SA, Peleg AY, Harris-Brown T, Paterson DL; MERINO Trial Investigators and the Australasian Society for Infectious Disease Clinical Research Network (ASID-

CRN). **Effect of Piperacillin-Tazobactam vs Meropenem on 30-Day Mortality for Patients with E coli or Klebsiella pneumoniae Bloodstream Infection and Ceftriaxone Resistance: A Randomized Clinical Trial.** JAMA. 2018; 320(10):984-994. doi: 10.1001/jama.2018.12163. PMID: 30208454.

- Lye DC, Archuleta S, Syed-Omar SF, Low JG, Oh HM, Wei Y, Fisher D, Ponnampalavanar SSL, Wijaya L, Lee LK, Ooi EE, Kamarulzaman A, Lum LC, Tambyah PA, Leo YS. **Prophylactic Platelet Transfusion plus Supportive Care versus Supportive Care Alone in Adults with Dengue and Thrombocytopenia: A Multicentre, Open-label, Randomised, Superiority Trial.** Lancet. 2017; 389(10079):1611-1618. doi: 10.1016/S0140-6736(17)30269-6. Epub 2017 Mar 8. PMID: 28283286
- Hansen J, Baum A, Pascal KE, Russo V, Giordano S, Wloga E, Fulton BO, Yan Y, Koon K, Patel K, Chung KM, Hermann A, Ullman E, Cruz J, Rafique A, Huang T, Fairhurst J, Libertiny C, Malbec M, Lee WY, Welsh R, Farr G, Pennington S, Deshpande D, Cheng J, Watty A, Bouffard P, Babb R, Levenkova N, Chen C, Zhang B, Romero Hernandez A, Saotome K, Zhou Y, Franklin M, Sivapalasingam S, Lye DC, Weston S, Logue J, Haupt R, Frieman M, Chen G, Olson W, Murphy AJ, Stahl N, Yancopoulos GD, Kyrtasous CA. **Studies in Humanized Mice and Convalescent Humans Yield a SARS-CoV-2 Antibody Cocktail.** Science. 2020; 369(6506):1010-1014. doi: 10.1126/science.abd0827. Epub 2020 Jun 15. PMID: 32540901.
- Tan CW, Chia WN, Qin X, Liu P, Chen MI, Tiu C, Hu Z, Chen VC, Young BE, Sia WR, Tan YJ, Foo R, Yi Y, Lye DC, Anderson DE, Wang LF. **A SARS-CoV-2 Surrogate Virus Neutralization Test Based on Antibody-mediated Blockage of ACE2-spike Protein-protein Interaction.** Nat Biotechnol. 2020; 38(9):1073-1078. doi: 10.1038/s41587-020-0631-z. Epub 2020 Jul 23. PMID: 32704169.

Notable Research Awards & Grants From the Past 5 Years

Name of Awards & Grants	Year Obtained
National Medical Research Council (NMRC) Clinical Trial Grant Investigator-Initiated Trials - Late Phase Scheme for “Combination antibiotics for methicillin-resistant Staphylococcus aureus infections (CAMERA2)”	2015
BMRC-EDB IAF Collaborative Research Programme for “Extensively drug resistant Enterobacteriaceae (XDR-E)”	2016
Singapore ID Clinical Research Network (SCRN) and Healthcare-associated infection Point Prevalence Survey (HAI-PPS)	2017
NMRC COVID-19 Research Fund for “A Multicenter, Adaptive, Randomized Blinded Controlled Trial of the Safety and Efficacy of Investigational Therapeutics for the Treatment of COVID-19 in Hospitalized Adults”	2020
NMRC Clinical Trial Grant Investigator-Initiated Trials - Late Phase Scheme for “The INVEST trial (early oral step-down versus continuing IV antibiotics for uncomplicated Gram-negative Bacteraemia)”	2021
NMRC Clinician Scientist Individual Research Grant (CS-IRG) for “Gut microbiome recovery in patients with Gram-negative Bacteraemia receiving early oral stepdown antibiotic therapy versus prolonged/continued intravenous antibiotic therapy”	2022

Translating Research Into Healthcare

- Potential COVID-19 treatment: Singapore participating in global trial of remdesivir drug. *Channel News Asia*. Published 8 April 2020.

https://www.youtube.com/watch?v=0vl_eMXMQho

- Singapore in talks with remdesivir maker on registering its use for COVID-19 patients. *Channel News Asia*. Published 16 May 2020.
<https://www.mewatch.sg/en/series/cna-2020/ep714/953787>
- Patients in Singapore with severe Covid-19 enrolled in drug trials. *The Straits Times*. Published 18 May 2020.
<https://www.straitstimes.com/singapore/health/patients-in-spore-with-severe-covid-19-enrolled-in-drug-trials>
- Patients in Singapore with severe Covid-19 enrolled in drug trials. *AsiaOne*. Published 18 May 2020.
<https://www.asiaone.com/singapore/patients-singapore-severe-covid-19-enrolled-drug-trials>
- Singapore's search for a cure and vaccine for Covid-19. *The Straits Times*. Published 23 May 2020.
<https://www.straitstimes.com/singapore/health/finding-a-cure-and-vaccine-for-covid-19>
- Ebola drug remdesivir conditionally approved for COVID-19 treatment in Singapore. *Channel News Asia*. Published 10 June 2020.
<https://www.channelnewsasia.com/news/singapore/covid-19-singapore-treatment-remdesivir-coronavirus-approve-12822854>