

David LYE Chien Boon



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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 Deputy Executive Director, Programme for Research in Epidemic Preparedness and Response (PREPARE), Ministry of Health, Singapore. He is Senior Consultant, Department of Infectious Diseases, TTSH and Associate Professor at Yong Loo Lin School of Medicine.

Professor Lye has held more than SGD\$12million in research grant as principal investigator. His research interests are in COVID-19, dengue and antimicrobial resistance. He has published more than 300 peer-reviewed manuscripts in journals such as NEJM, Lancet, JAMA, Lancet Respiratory Medicine, Lancet Infectious Diseases, Lancet Microbe, Lancet Global Health as well as Science, Nature Biotechnology, Nature Microbiology, Nature Communications, Science Translational Medicine, Journal of Clinical Investigation and Journal of Experimental Medicine.

Professor Lye's awards include: Dean's Award for Teaching Excellence, Yong Loo Lin School of Medicine, 2016; National Healthcare Group Team Recognition Award 2017, Silver, Hospital Acquired Infection Elimination Collaborative; Tan Tock Seng Hospital Milestone Award 2017, Antimicrobial Stewardship Programme; NHG Research Awards, Outstanding Research Impact Award 2019 and 2020; 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.

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 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

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>