



Infectious
Diseases Labs

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ID LABS SEMINAR SERIES



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Join zoom meeting [here](#)

Meeting ID: 918 1132 1302

Passcode: 335844

Wednesday, 6 April 2022

4:30pm to 5:30pm (SGT)



Webinar is open to all
No registration required

SARS-CoV-2 Omicron efficiently infects human airway, but not alveolar epithelium

In late 2021, the highly mutated SARS-CoV-2 Omicron variant emerged, raising concerns about its potential extensive immune evasion, increased transmissibility and pathogenicity. Here, we used organoids of the human airways and alveoli to investigate Omicron's fitness and replicative potential in comparison with earlier SARS-CoV-2 variants. We report that Omicron replicates more rapidly in the airways and has an increased fitness compared to the early 614G variant and Delta. In contrast, Omicron did not replicate productively in human alveolar type 2 cells. Mechanistically, we show that Omicron does not efficiently use TMPRSS2 for entry or spread through cell-cell fusion. Altogether, our data show that Omicron has an altered tropism and protease usage, potentially explaining its higher transmissibility and decreased pathogenicity.