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NTU suggests route for new antiviral treatments

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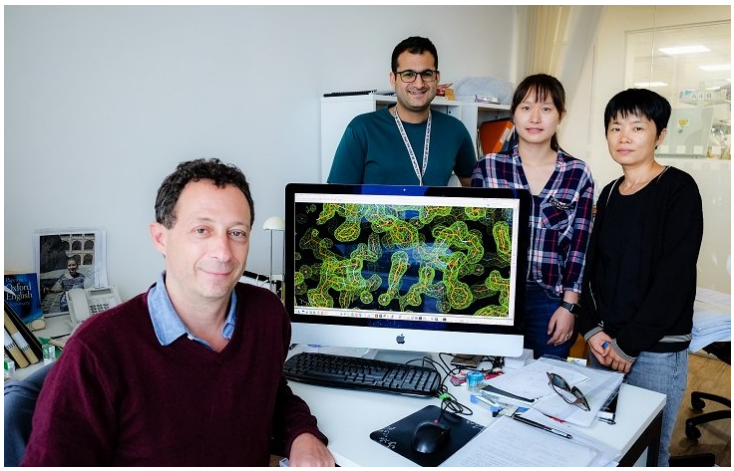
Scientists uncover structure of key pneumonia virus enzyme



A team of molecular and structural biologists from **Nanyang Technological University, Singapore (NTU Singapore)** has found a potential new route to disabling respiratory syncytial virus (RSV) and human metapneumovirus (HMPV) after elucidating the structure of one of its key components.

RSV and HMPV are two closely related viruses causing severe and life-threatening respiratory diseases such as pneumonia and bronchiolitis in premature babies and infants, the elderly, and anyone with a weak immune system.

As they infect human cells, HMPV and RSV commandeer the cell's machinery to make copies of themselves. To initiate the process, special proteins released by the virus interact with each other to make distinct protein complexes.

Writing in Nature, **Dr Julien Lescar** from **NTU's School of Biological Sciences** and his team report how they have used cryo-electron microscopy to image the molecular structure of one of these large complexes, an enzyme called HMPV L:P polymerase.

Since the HMPV proteins they studied are essentially unchanged through evolution and very similar to those of RSV and other virus species belonging to the Pneumorivridae family, the scientists hope that inhibitors developed against HPMV could also work against a broad spectrum of viruses involved in respiratory diseases, and inform similar quests against other viral diseases.

Dr Lescar and colleagues have founded a spin-off company named Epitoire that is actively engaged in designing DNA replication blockers as potential therapies against these viruses, and the company is currently seeking investors and clinicians to support it.