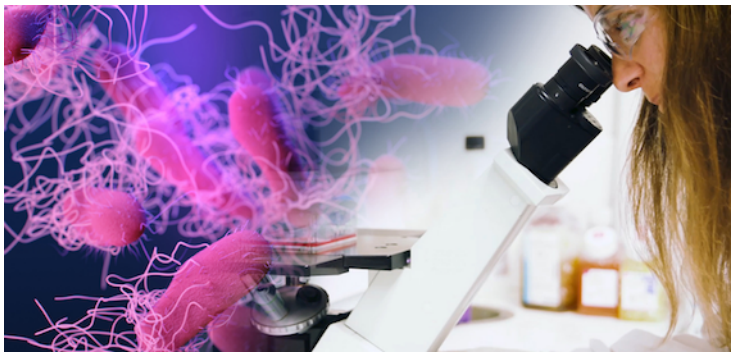
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ASIA EDITION

Global collaboration to combat chronic lung infection

April 10, 2024 | News

Multidrug-resistant bacteria Pseudomonas aeruginosa infects the lung and promotes an accelerated decline of pulmonary function



Scientists have discovered a target for the development of a drug to combat a bacterium that can cause chronic lung infection in hospitalised patients, immunocompromised individuals and people with cystic fibrosis.

The multidrug-resistant bacteria *Pseudomonas aeruginosa* infects the lung and promotes an accelerated decline of pulmonary function. It has been acknowledged as a serious threat by the Centres for Disease Control and Prevention and rated a critical priority by the World Health Organization.

The Fraunhofer International Consortium for Anti-Infective Research (iCAIR), led by Professor Mark von Itzstein AO at Australia-based Griffith University's Institute for Glycomics and Professor Dr Armin Braun at the Fraunhofer Institute for Experimental Medicine (ITEM) in Hannover, Germany, in collaboration with researchers at the Hannover Medical School, established a joint research programme that tackled antibiotic resistance development of *Pseudomonas aeruginosa*.

"Utilising human ex vivo precision-cut lung slices and lung cells as infection models, along with combined crystallography and biochemical studies, we were able to precisely characterise the molecular basis for the role of a certain enzyme in P. aeruginosa infection biology. Currently, we are in the process of using structure-based drug design to develop a selective inhibitor against *Pseudomonas aeruginosa*," said Dr Larissa Dirr, Institute for Glycomics Early Career Research Leader and co-senior author on a collaborative study with co-senior author Dr Jana Führing from Hannover Medical School.