Direct-acting antiviral to treat COVID-19
developed in QLD
17 May 2021

"Treatment with the therapy in SARS-CoV-2 infected mice improved survival and loss of disease. Remarkably, in treated survivors, no virus could be detected in the lungs," Professor McMillan said.

Professor Kevin Morris, co-lead researcher from both City of Hope and Griffith University said: "This treatment is designed to work on all betacoronaviruses such as the original SARS virus (SARS-CoV-1) as well as SARS-CoV-2 and any new variants that may arise in the future because it targets ultra-conserved regions in the virus’ genome."

Professor McMillan added: "We have also shown that these nanoparticles are stable at 4°C for 12 months and at room temperature for greater than one month, meaning this agent could be used in low-resource settings to treat infected patients."

The results suggest that siRNA-nanoparticle formulations can be developed as a therapy to treat COVID-19 patients, as well as used for future coronavirus infections by targeting the virus' genome directly.

"These nanoparticles are scalable and relatively cost-effective to produce in bulk," Professor Morris said.

"This work was funded as an urgent call by Medical Research Futures Fund and is the type of RNA medicine that can be manufactured locally in Australia," Professor McMillan said.

The research has been published in Molecular Therapy.
