MEDIA RELEASE

Centenary Institute life saving research
Cancer. Inflammation. Cardiovascular.

New evidence of promising target to treat deadly liver fibrosis.

Researchers have revealed exciting new evidence of a new target that could be the key to treating liver fibrosis, the potentially deadly accumulation of scar tissue that results from ongoing inflammation and the death of liver cells that occurs in most types of chronic liver diseases. In many patients, this process can often lead to the need for liver transplants and progress to deadly liver cancer. In a recent article published in the prestigious publication *PLOS ONE*, Centenary Institute researchers describe how they identified that the fibroblast activation protein (FAP) could be a safe new target for therapy. The key enzyme is promising as a target for diabetes, liver fibrosis and cancer. A *Cancer in Australia 2017* report, released by the Australian Institute of Health and Welfare (AIHW), has found that liver cancer was the only common cancer where mortality rates had increased. In 2013-14, 1732 people died from liver cancer. This is estimated to rise to 2,088 in 2018. These figures demonstrate the great need for improved therapy options.

Centenary's scientists, who are working to better understand liver fibrosis in order to develop new treatments, have discovered that FAP levels are high in the blood and liver where liver scarring has occurred. Using mouse models, researchers depleted FAP and found that the immune system did not experience detrimental side-affects in mice. Given this exciting research, it is conceivable that anti-FAP treatment may be a safe way to treat diabetes and liver fibrosis. FAP has not been previously well understood and further research into this enzyme will improve the design of FAP-targeting regimes to treat patients.

Associate Professor Mark Gorrell, head of Centenary's Molecular Hepatology Laboratory, said this study brings us much closer to designing safe, effective drugs to target liver fibrosis, and potentially liver and other cancers – potentially saving lives and reducing the need for liver transplantation. "Drug safety is a core goal and so important to establish early in our work towards a new liver disease treatment," Associate Professor Mark Gorrell said.

This research is highly significant, with liver disease responsible for one quarter of all organ transplants. Fibrosis and non-alcoholic fatty liver disease is an increasing problem, in line with the growing obesity epidemic in Australia. This new research will also be useful in the diagnosis of liver fibrosis, potentially cutting 50% of screening costs. Currently, testing of fibrosis is uncommon, and liver disease is often asymptomatic, so by the time patients are screened, the disease has progressed to the advanced stages, reducing chance of survival. It is now conceivable that these patients, currently facing few treatment options could benefit from new safe and effective therapies, as early as the next five years.

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For further information about the Molecular Hepatology Laboratory, visit www.centenary.org.au