Medical Xpress

Altering key ion channel found to protect against pancreatitis-associated acute lung injury

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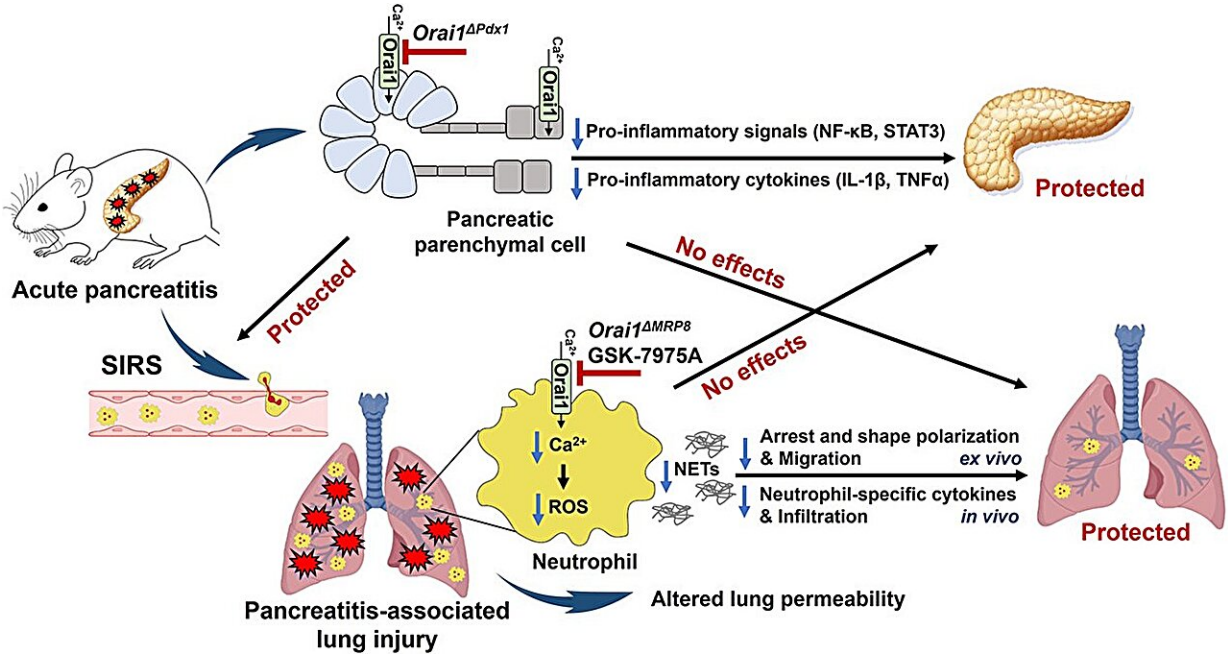

Credit: *Function* (2023). DOI: 10.1093/function/zqad061

A group of Chinese researchers has conducted a mouse study to determine the role of Orai1, a membrane calcium-selective ion channel protein, in pancreatitis-associated acute lung injury.

Their findings, published in the journal *Function*, reveal that Orai1 in

pancreatic parenchymal cells (cells responsible for detoxification in the liver and filtering toxins in the kidneys) mediates pancreatic acute lung injury in acute pancreatitis.

Mice without Orai1 lose protection against localized pancreatic injury during acute pancreatitis. However, the protein does protect against pancreatitis-associated acute lung injury by blocking white blood cell-intrinsic functions.

"This study provided invaluable preclinical evidence for the feasibility of targeting ORAI1 in two distinct cellular sources," said Li Wen, MD, Ph.D., a professor and principal investigator at Peking Union Medical College Hospital in China, and lead author of the study. "This further emphasizes that systemic administration of Orai1 inhibitors is a promising therapeutic strategy as an early treatment of acute pancreatitis. We believe this will also help accelerate the clinical development of Orai1 inhibitors."

More information: Mengya Niu et al, Neutrophil-specific ORAI1 Calcium Channel Inhibition Reduces Pancreatitis-associated Acute Lung Injury, *Function* (2023). DOI: 10.1093/function/zqad061

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