

Protein could be used to treat alcohol effects on pancreas

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The protein, calmodulin, is involved in the basic processes that take place in all cells, the building blocks of the body. This study reveals that when calmodulin is missing from cells in the pancreas, alcohol has a much greater [toxic effect](#) as a [chain reaction](#) which causes cells to self destruct speeds up. This can lead to inflammation (pancreatitis), which in the long-term significantly increases the risk of developing pancreatic cancer. [Pancreatic cancer](#) is the fifth most common cause of death through cancer, and only three per cent of patients survive beyond five years.

The study team, led by Professor Ole Petersen in the MRC Group at Cardiff University's School of Biosciences, found that calmodulin protects pancreatic cells against alcohol's toxic effects when it is activated by another small protein, CALP-3.

Professor Petersen said: “There is still much uncertainty about how alcohol damages cells in the body. However, we have found a new and unexpected way that pancreatic [cells](#) protect themselves. We suggest that activation of the calmodulin protein protects against the development of pancreatitis. There is a strong correlation between alcohol intake and incidence of pancreatitis, and we hope that our new findings will eventually lead to the development of drugs to combat this. This is a key step forward.”

Professor John Iredale, Head of the University of Edinburgh/MRC Centre for Inflammation Research, remarked: “This is a really important finding. Acute pancreatitis, which is currently untreatable, remains an important cause of death. It is important also to recognise that this disabling disease may result from binge drinking. The MRC is committed to understanding [inflammation](#) – especially in examples with serious implications like this. We focus on driving the translation of discoveries from basic science into benefits for human health.”

More information: The study is reported in the journal *Proceedings of the National Academy of Sciences*

Provided by Medical Research Council

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