

Scientists block stomach tumor growth

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Credit: AI-generated image ([disclaimer](#))

(Medical Xpress)—Monash Institute of Medical Research scientists may have discovered a way of blocking stomach tumours from growing and spreading, according to a paper published in the highly-prestigious journal *Cancer Cell*.

Stomach, or gastric, cancer is the second most lethal cancer in the world, and being one of the most aggressive forms of cancer it is also placed

among the world's top five cancers with the lowest [survival rates](#).

In a world-first, MIMR's Associate Professor Brendan Jenkins and his team from the Centre for Innate Immunity and [Infectious Diseases](#) have identified that a gene, which creates a protein called Toll-Like Receptor 2, is over-produced in the stomachs of gastric cancer patients.

They have also identified why this happens.

Completing the trifecta, A/Prof Jenkins and his team have also demonstrated that TLR2 promotes the growth of gastric cancer tumour cells, and by using an antibody can block the actions of TLR2, thus preventing further tumour growth and potentially spreading (metastasis).

"One of the main problems with [stomach cancer](#) is that it's a very [aggressive disease](#) and is often only detected at an advanced stage where you are restricted to harsh treatments such as chemotherapy, radiotherapy and surgical resection," A/Prof Jenkins said

"These can have quite dire consequences in terms of the patient's quality of life, and often are not highly effective at preventing tumours from regrowing or significantly improving the survival rate of patients.

"So there's a very strong need for new next-generation therapeutics for gastric cancer to overcome these issues" he said.

A/Prof Jenkins' findings now create the potential for personalised [therapeutic treatment](#).

They also highlight the need and pave the way for early detection.

"Using TLR2 and other related disease biomarkers we've identified could enhance screening programs to capture stomach cancer in its early

stages and allow us to block further tumour growth before it has a major detrimental effect on peoples' lives," he said.

A/Prof Jenkins and his team collaborated with several international groups including Dublin-based pharmaceutical company Opsona, which provided the [antibodies](#), as well as the Genome Institute of Singapore and Japan's Kanazawa University.

Despite his findings, A/Prof Jenkins is still very cautious about his research's blanket potential.

"If we prove antibody-mediated therapy against TLR2 is efficacious in our pre-clinical models, we still couldn't say that it can treat every gastric cancer patient – that's just unrealistic," he said.

"At this stage we don't know exactly what percentage of stomach/gastric cancer patients worldwide would have increased amounts of the TLR2 gene (and protein) and therefore, how many gastric [cancer patients](#) would respond to or benefit from this.

"But you're looking at a percentage of advanced [gastric cancer](#) patients – around 20-30 per cent based on our numbers so far – that we believe would benefit.

"In five years from now I would like to see this treatment in the clinics with people receiving and benefiting from it, which means hopefully that it will provide them with an improved quality of life," A/Prof Jenkins said.

Cancer Council Victoria's CEO Todd Harper said the Cancer Council has been instrumental in funding A/Prof Jenkins' research.

"We're excited about the initial results of A/Professor Jenkins' work –

particularly as it relates to a cancer which presently has such a low survival rate.

"Our priority is to fund life-saving cancer research so we're eager to see what developments will be made with these findings," Mr Harper said.

Provided by Monash University

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