

New drug targets the source of cancer renewal

25 September 2015

A new class of drug that reduces cancer recurrence and spread may soon be available, with South Australian biopharmaceutical company Bionomics having passed review by the US Food and Drug Administration (FDA) with their product BNC101.

The [drug targets](#) hard-to-treat colorectal and pancreatic cancers, but may also prove suitable to treat breast, lung and other tumours.

Bionomics CEO Dr Deborah Rathjen said the drug has the potential to be a breakthrough therapy because of the way it stops cancers growing.

"BNC101 targets a molecule called LGR5 on [cancer stem cells](#), and prevents cell proliferation," said Dr Rathjen.

"No other drugs currently in the market or in development work through this mechanism."

Cancer stem cells are the primary source of the many cell types that constitute each type of cancer. They are also the cells responsible for cancers spreading via metastasis.

"Cancer stem cells are very difficult to kill – they don't respond to chemotherapy to the same degree as other [cancer cells](#), and they're resistant to radiation treatment as well," explained Dr Rathjen.

"Our studies show that treatment with BNC101 depletes stem cells from cancer cell populations, and can prevent tumours from re-establishing."

Working in hospitals in Australia, USA and Europe, Bionomics is preparing to commence clinical trials with BNC101 before the end of 2015. Patients with metastatic colorectal or [pancreatic cancer](#) will be treated with the new product either alone or in combination with standard chemotherapy.

"Unfortunately in these patients the time to relapse

is often very short with current treatment options," said Dr Rathjen.

"We're conducting the trial very robustly so as to see early indications of efficacy by monitoring remission and time to progression."

"We will also be looking at cancer biomarkers as a way to closely follow whether BNC101 is working," she explained.

Drug safety will also be assessed.

BNC101 was identified as a potential cancer treatment agent through Bionomics' CSC Rx Discovery platform, which is a laboratory-based approach for discovering new therapeutic molecules that target cancer stem cells.

BNC101 is an antibody that binds and causes internalisation of the LGR5 molecule on [cancer stem cells](#), preventing their expansion and growth for tumour progression.

Provided by The Lead Australia

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