

'Next Generation' cancer treatment ready for clinical trials

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(Medical Xpress) -- A new class of anti-cancer drugs which control the growth and spread of cancers and do so with minimal side effects is being developed by researchers at the University of Sydney.

"These new agents attack a fundamental characteristic of [cancer cells](#) while leaving normal cells alone," said Professor Des Richardson, from the Bosch Institute in Sydney Medical School.

"They work by binding the iron in [tumor cells](#), preventing them from growing. We believe they have the potential to be an effective new strategy, to be 'next generation' drugs, for a range of cancers including highly aggressive [pancreatic cancer](#).

Because they do not act on non-cancerous cells these new agents dramatically reduce a range of distressing side effects familiar to people undergoing cancer treatments such as chemotherapy and radiotherapy.

Professor Richardson is the head of the [Iron Metabolism](#) and Chelation Program at the University and has been conducting research in this area since the early 1990s.

The latest research on the chelators is led by post-doctoral researcher and NHMRC Early Career Fellow, Dr. Zaklina Kovacevic.

In the [Journal of Biological Chemistry](#), published today, the researchers outline how these new agents increase the levels of a molecule (NDRG1)

which inhibits the spread of cancer, including prostate and colon cancers.

"Together with a recent article in the journal, *Antioxidants and Redox Signaling*, these studies advance our knowledge of cancer cell biology and how we can target specific molecules to stop cancer progressing," Dr. Kovacevic said.

Professor Richardson is currently in advanced discussions on a licensing deal with an American company for developing the compound to the stage of clinical trials.

"This will present a significant step forward in the fight against cancer and provide cancer sufferers new hope for a better outcome," Professor Richardson said.

"It is a difficult step to go from the often quoted bench to bedside, but it has been greatly helped by the Bosch Institute's Translational Grants program, and by an NHMRC Development Grant."

The Executive Director of the Bosch Institute, Professor Jonathan Stone stated: "For anyone who has been through, or cared for a cancer sufferer through, the purgatory of chemotherapy, the prospect of anti-cancer drugs which are broadly effective but with few side effects is immensely welcome."

Provided by University of Sydney

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