

New leukemia treatment outperforms standard chemotherapies

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Credit: Stuart Hay, ANU

Researchers at ANU are working on a new treatment for an aggressive type of leukemia that outperforms standard chemotherapies.

Lead researcher Dr Nadine Hein from The John Curtin School of Medical Research at ANU said researchers have successfully treated highly aggressive [acute myeloid leukemia](#) (AML) in mice using the new

treatment.

"Not only have we been able to reduce the number of [cancer](#) cells, we have been able to reduce the number of [cancer stem cells](#) that tend to develop or be resistant to chemotherapy and are thought to be responsible for disease relapse in patients," Dr Hein said.

Dr Hein said researchers used a compound known as CX-5461 to target the protein-making process within the [cancer cells](#).

"We are working towards a treatment that will improve on the current chemotherapy options and improve the patient's prognosis," Dr Hein said

Around 1,000 people are diagnosed with AML in Australia each year and, depending on the patient's age, there is a high rate of mortality with only about 30 percent surviving long term.

Canberra haematologist and ANU Senior Lecturer Dr James D'Rozario said the standard approach to treating AML hasn't changed in over 30 years.

"Novel agents such as CX-5461 with more sophisticated mechanisms of action are desperately required to improve outcomes in patients with this group of illnesses," Dr D'Rozario said.

Professor Ross Hannan, Head of the ACRF Department of Cancer Biology and Therapeutics at JCSMR, said that based on the promising preclinical results, a Phase 1 clinical trial for the treatment of patients with blood cancer has just been completed in Australia. Results are expected to be published later this year.

"Another Phase 1/ Phase 2 clinical trial is underway in Canada for the [treatment](#) of patients with solid tumours," Professor Hannan said.

The research has been published in *Blood*.

More information: Nadine Hein et al. Inhibition of Pol I transcription treats murine and human AML by targeting the leukemia-initiating cell population, *Blood* (2017). [DOI: 10.1182/blood-2016-05-718171](https://doi.org/10.1182/blood-2016-05-718171)

Provided by Australian National University

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