

Researchers make potential breakthrough in cancer drug development

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A Victoria University of Wellington research team has developed an exciting new lead in the search for cancer treatments, creating alternative versions in the laboratory of a rare natural compound that targets some

types of cancer.

The research team, led by Dr. Joanne Harvey from the School of Chemical and Physical Sciences, successfully created several synthetic alternatives to the compound, TAN-2483B, which is found in some fungi. Previous research has shown that this compound may be effective against the development of some types of cancer and can also help with bone [degenerative diseases](#) like osteoporosis, but researchers haven't been able to find or create it in big enough quantities for it to be useful in drug development, Dr. Harvey says.

"TAN-2483B has previously only been isolated in small quantities or as mixtures, so it's very exciting that we've been able to create synthetic alternatives in larger quantities in the lab," Dr. Harvey says.

Now they've created the alternative compounds Dr. Harvey and her team plan to recreate the natural compound in the laboratory as well, which will mean that the therapeutic potential of TAN-2483B can be fully explored.

"Our alternatives and the original compound target different cancer enzymes, so if we can create all of them in good quantities in the lab we will have even more avenues for cancer drug development," Dr. Harvey says.

As well as creating larger quantities in the laboratory, Dr. Harvey and her team have been working to make the production process affordable and more accessible. They used a cheap and readily available sugar as the main building block of the alternatives they have developed and are investigating how to make the rest of the production process more efficient as well, Dr. Harvey says.

"If we can cheaply and easily produce large quantities of these

[compounds](#), it will enable us to perform the thorough tests needed to take them to the next stages of [cancer drug development](#)," Dr. Harvey says.

This work was published in *Chemistry—An Asian Journal*.

More information: Kalpani K. Somarathne et al. Synthesis of Bioactive Side-Chain Analogues of TAN-2483B, *Chemistry – An Asian Journal* (2019). [DOI: 10.1002/asia.201801767](https://doi.org/10.1002/asia.201801767)

Provided by Victoria University of Wellington

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