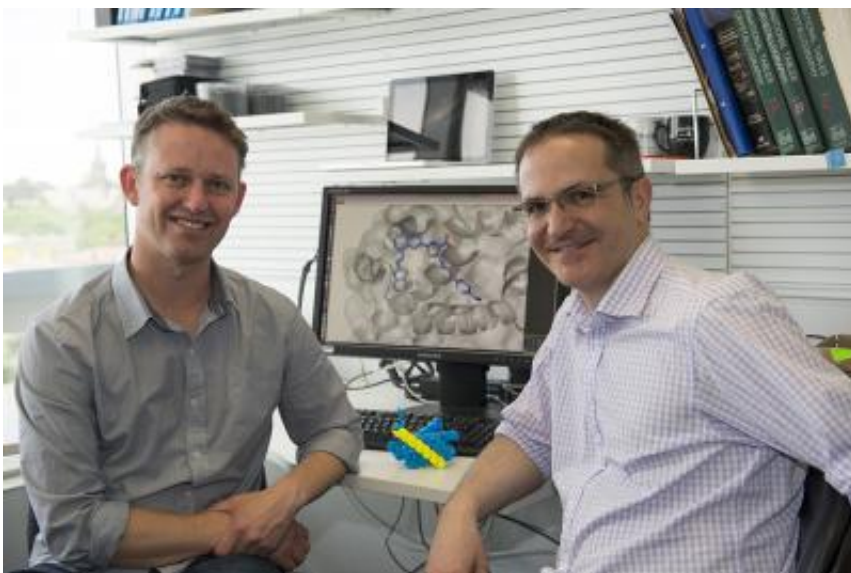


Duo searching for new cancer drugs win 2013 Burnet Prize

December 2 2013



Dr Peter Czabotar (L) and Dr Guillaume Lessene have been jointly awarded the 2013 Burnet Prize. Credit: Walter and Eliza Hall Institute

Medicinal chemist Dr Guillaume Lessene and structural biologist Dr Peter Czabotar have been jointly awarded the Walter and Eliza Hall Institute's 2013 Burnet Prize, which is awarded annually to early career scientists who have undertaken pioneering work.

Dr Lessene and Dr Czabotar have received the prize for their work on identifying and developing new drug-like molecules that target [cancer cells](#).

The pair played a key role in the development of a tailor-made chemical compound, called WEHI-539, that blocks a protein linked to poor responses to treatment in cancer patients. The compound is an important step towards the design of a potential new anti-cancer agent, and was developed in collaboration with colleagues at the institute, biotech company Genentech, a member of the Roche group; and AbbVie.

Cells have a limited life span that is dictated by a process known as programmed cell death, which is controlled using a delicate balance of pro-survival and pro-death proteins inside the cell. Dr Czabotar said that the WEHI-539 compound targeted a pro-survival protein called BCL-XL, which, when produced at high levels by cancer cells, can prevent the cancer cells from dying, even after chemotherapy treatment.

"Cancer cells can avoid programmed death by producing high levels of one or more 'pro-survival' molecules, known as the BCL-2 family of proteins," Dr Czabotar said. "BCL-XL is one member of the BCL-2 family that is known to be overproduced in some cancers, such as some breast and lung cancers.

Dr Lessene said he and Dr Czabotar were humbled to receive the Burnet Prize. "Many great scientists within the institute have won this award in the past and it is an honour to be recognised among them," Dr Lessene said. "It is gratifying to be named as a joint recipient with Peter, without whom I could not imagine completing this research."

Although the Burnet Prize has been jointly awarded before, this is the first time the [prize](#) has been given for collaborative research. "This joint award demonstrates the importance of collaboration within the institute," Dr Lessene said. "We have continued to explore cell death mechanisms that were pioneered by others. Our work would not have been possible without the significant input and support from our numerous colleagues and forbears."

Although there are other compounds that block BCL-2 family proteins, Dr Czabotar said WEHI-539 was the first and only molecule that specifically targeted BCL-XL. "Previous compounds bind to and block more than one protein from the BCL-2 family," he said. "The challenge in our work was to create a compound that only blocked BCL-XL while leaving the other proteins untouched. This means that any future therapeutic drug that is developed from WEHI-539 will be useful in targetting tumours that rely on BCL-XL for survival."

Institute director Professor Doug Hilton said Dr Lessene and Dr Czabotar were worthy recipients of the Burnet Prize. "Guillaume and Peter have set a high standard for collaborative research at the institute," Professor Hilton said. "Their combined efforts have resulted in outstanding results that will have a broad impact on biomedical researchers across the world."

Provided by Walter and Eliza Hall Institute

Citation: Duo searching for new cancer drugs win 2013 Burnet Prize (2013, December 2) retrieved 25 April 2024 from <https://medicalxpress.com/news/2013-12-duo-cancer-drugs-burnet-prize.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--