

Media Release

International collaboration to fund breakthrough research to shape the future of precision medicine

Groundbreaking research aiming to overcome acquired resistance to anti-cancer cellular immunotherapies, such as CAR T-cell therapy, is the latest Australian research to be funded through the prestigious Translational Research Program (TRP). This international collaboration between the Leukemia & Lymphoma Society (LLS), Snowdome Foundation and the Leukaemia Foundation has supported eleven Australian researchers, over five years, across the world.

The TRP recipients undertake innovative research projects that propose novel approaches to the prevention, diagnosis, or treatment of blood cancers and which show high promise for translating basic biomedical knowledge to clinical application.

This year's TRP recipient, Professor Mark Dawson, is a clinician-scientist based at the Peter MacCallum Cancer Centre in Parkville, Melbourne.

New anti-cancer cellular immunotherapies, such as CAR T-cell therapy, are revolutionising cancer treatment by providing durable, and in some cases curative responses for patients who have not responded to or have relapsed after conventional treatments. Such therapies are now firmly established as major pillars of anti-cancer therapy, particularly in the treatment of B-cell blood cancers.

B-cell acute lymphoblastic leukaemia (B-ALL) can occur at any age, yet the majority of those affected are children (aged 0-14). Whilst there has been extraordinary progress in the management and treatment options available in inducing clinical remission, including CAR T-cell therapy, there is a subset of B-ALL patients who have poor prognosis to the current standard of care therapies.

Research indicates that most of these patients who relapse after an initial clinical response do so within the first 12-18 months of treatment. Cellular therapies such as CAR T-cell therapy provide the most effective curative options, however, to improve their efficacy and outcomes for B-ALL patients who don't respond to first-line treatment therapies and with poor prognoses, greater understanding of the immune cell mechanisms mediating response to this treatment is needed.

Professor Dawson's team has developed cutting-edge, pre-clinical models that simulate resistance to CAR T-cell therapy. By harnessing the power of the models, Professor Dawson aims to uncover the intrinsic properties of cancer cells that enable them to evade new cellular therapies, paving the way for the design and development of novel therapeutic approaches.

Leukaemia Foundation CEO Chris Tanti welcomed the opportunity to unite with LLS and Snowdome Foundation for the fifth year to co-fund the work of leading Australian blood cancer researchers to undertake innovative work that could transform treatment on a global scale.

Media Release

"Accelerating research to achieve rapid advancements in blood cancer treatment is a key priority of the Leukaemia Foundation. We are pleased to be able to fund these projects and look forward to seeing their research translate into improved results for Australians living with blood cancer," Mr Tanti said.

"Investment in researchers is key to Australians surviving blood cancer, leading their best possible quality of life and achieving our goal of zero lives lost to blood cancer by 2035."

Snowdome Foundation Chief Executive, Kirstee Macbeth said the Foundation was proud to support the next generation of Australian researchers.

"We are thrilled for Professor Dawson, whose submission has been internationally recognised as one of the top global blood cancer research projects of 2023. His research investigating immune evasion of CAR T-cells, has the potential to further enhance the effectiveness of immunotherapy, now recognised as a key pillar of cancer treatment and one that can benefit Australian blood cancer patients," Ms Macbeth said.

"The TRP grants are highly coveted, with exceptional research projects submitted, and once again Australian blood cancer researchers are acknowledged as world-class. We are incredibly proud to fund these translational research grants for the fifth year with the LLS and the Leukaemia Foundation and to make hope real for Australian blood cancer patients."

LLS Chief Scientific Officer Lee Greenberger said the international collaboration had the potential to benefit blood cancer patients on a global scale.

"The Leukemia & Lymphoma Society is delighted to continue funding novel research through its Translational Research Program. For the past five years, LLS has collaborated with Snowdome Foundation and Leukaemia Foundation to support the work of so many talented investigators looking for innovative ways to improve the lives of patients living with blood cancer. It is through collaborations such as this that we can broaden the scope of research we are able to fund."

The special Australian stream of the TRP program funds up to two projects focused on blood cancer research from investigators working in Australia, Australian investigators working in other countries, or to Australian and non-Australian researchers jointly applying. The three-year grant will commence from July 1, 2023, through June 30, 2026.

The Leukaemia Foundation's investment in research focuses on innovation in diagnosis, treatment and quality of life, right across the blood cancer spectrum. More on the Translational Research Program [here](#).

Media Release

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For all media enquiries please email media@leukaemia.org.au.

About the Leukaemia Foundation: The Leukaemia Foundation stands with Australia to help cure and conquer blood cancer – with care. Together we are attacking every blood cancer, from every direction, in every way we can. We stand beside every Australian to be their voice and their someone-to-turn to, fighting to get them access to the best care. We also accelerate research that is delivering rapid advancements in blood cancer diagnosis and treatments. Plus, we provide services and support that empower people living with any blood cancer to live well after diagnosis. You can learn more about the Leukaemia Foundation and blood cancer at leukaemia.org.au.

About Snowdome Foundation: Snowdome has a singular vision to give every Australian blood cancer patient the best opportunity for a cure. We do this by funding world-best, Australian and international translational research, accelerating patient access to next-generation treatments so that those diagnosed with blood cancer can live longer, better lives.

About Prof Mark Dawson:

Professor Dawson is a clinician-scientist at the Peter MacCallum Cancer Centre and Centre for Cancer Research University of Melbourne. He is the co-program head of the Cancer Biology and Therapeutics Program, Group leader of the Cancer Epigenetics Laboratory and Consultant Haematologist in the Department of Haematology. His research interest is studying the role of epigenetic regulators in the initiation, maintenance and progression of cancer.

He is a fellow of the Royal Australasian College of Physicians and Royal College of Pathologists of Australasia. After completing his clinical training in Melbourne, Australia he was awarded the prestigious General Sir John Monash Fellowship and Cambridge Commonwealth Trust Fellowship, which he used to complete his PhD at the University of Cambridge. Following his PhD, he was awarded the inaugural Wellcome Trust Beit Prize Fellowship to pursue his research into epigenetic regulation of leukaemia stem cells.

His research has identified new therapeutic strategies for a range of cancers and has helped set the platform for clinical trials with first in class epigenetic therapies.

He is currently a Professor in the Sir Peter MacCallum Department of Oncology and Centre of Cancer Research at the University of Melbourne. He is the Sir Edward Dunlop Fellow for the Cancer Council of Victoria and a Howard Hughes Medical Institute International Research Scholar.

In recognition of his research achievements, he has been elected to the Australian Academy of Science, the Australian Academy of Health and Medical Sciences and as an EMBO member. He

Media Release

has received several prestigious awards including the McCulloch & Till Award from the International Society of Experimental Haematology, the Jacques Miller Medal from the Australian Academy of Science and the Prime Minister's Prize as Life Scientist of the year in 2020.