



Research We Fund



Project:

Understanding how our immune system can keep melanoma cells in check and prevents disease

Research team:

A/Prof Thomas Gebhardt

Institution: University of Melbourne

Cancer type: Melanoma

Years funded: 2019–2021

What is the project?

New cancer therapies aimed at stimulating the body's immune defence have shown remarkable clinical success, although the mechanisms on how they work remain largely unknown. We will study a particular type of immune cells, which we believe are key players in the protection from skin cancer and have a particularly important role in preventing disease. We will use a new melanoma model to test how cancer immunotherapies affect interact with melanoma cells and how these interactions can be harnessed for cancer control.

What is the need?

Immunotherapies harnessing the body's immune defences against cancer, such as adoptive T cell therapy and checkpoint blockade, have shown remarkable clinical success. However, so far only about half of the patients benefit from these emerging therapies and there can be adverse side-effects, so we need a better understanding of

the therapy. We hope that by identifying the immune cells that respond to immunotherapies and how they actually work to fight cancer will enable the development and improvement of innovative cancer therapies.

What are you trying to achieve?

We want to improve our understanding of how immunotherapies work at the cellular level to achieve benefits at a clinical level. This knowledge will be important for the improvement of current therapies and the development of new treatment strategies.

Project timeline

Timeline	2019	2020	2021
Identify the expression patterns of immune-modulatory proteins by cells in controlling melanomas.			
Reveal the distribution of immune cells in long-term controlled melanoma.			
Understand how currently used and new candidate immune-modulators impact on the interactions between cells.			
Continuing our investigations into how immunotherapies impact on cells.			

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