



Research We Fund



Project:

Enhancing cell-based therapy of cancer

Research team:

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Institution: Peter MacCallum Cancer Centre

Cancer type: All cancers

Years funded: 2020-2022

What is the project?

The use of white blood cells which have been genetically engineered to eradicate cancer cells has been a major breakthrough in cancer treatment. CAR-T cells are a form of this adoptive cellular therapy and have proved highly effective against blood cancers, but their effectiveness with solid cancer has been limited. We propose to overcome this by genetically reprogramming CAR T cells to be more effective against solid cancers. This has the potential to make a significant impact.

What is the need?

While CAR T cells have proved highly effective against blood cancers, the variation and immunosuppressive nature of tumours has limited their usage. CAR T cells currently target only a single protein, which many tumours do not contain. Therefore, we hypothesise that engineering CAR T cells to promote the body’s natural, endogenous immune response is crucial for the effective treatment of solid tumours using CAR T cell therapy.

What are you trying to achieve?

We are aiming to generate a novel CAR T technology that is capable of targeting tumours which lack the protein directly targeted by the CAR T cells, which is currently a major limitation of CAR T therapy approaches. More broadly, we hope to provide a platform and generate sufficient data and interest to progress to a clinical trial.

Project timeline

Timeline	2020	2021	2022
Assess therapeutic efficacy of novel CAR T approach.			
Understand the mechanism by which this novel CAR T approach is effective.			
Complete therapeutic and safety evaluation and report findings.			

“I passionately believe that the immune system can be harness for effective cancer treatments. Immunotherapy has made tremendous progress – major breakthroughs are possible.”

