Cancer Council Victoria | Venture Grants Scheme

Project Updates

First Year Donor Report

April 2015 - April 2016

New treatments for multiple myeloma

Cancer type: Multiple myeloma
Lead researcher: Professor Ricky Johnstone
Research team: Dr Jake Shortt, Dr Philip Thompson, Professor Miles Prince
Project location: Peter MacCallum Cancer Centre and Monash Institute of Pharmaceutical Sciences

Aims:

We will use genetic technology to reduce the levels of individual proteins that play a role in switching on or switching off gene expression (called epigenetic regulators) to assess if this impairs the survival of leukaemia stem cells and lead to new treatment options.

What your support has made possible:

We have established the systems necessary to perform a genetic screen and have conducted an initial 'small-scale' pilot screen.

Excitingly, we have already identified two genes that are important for the creation of multiple myeloma cells, including a new target of high therapeutic significance known as BRD4.

We have also addressed the core technical challenges of the research and confirmed the feasibility of the synthetic chemistry in our broader plan to identify new proteins that could be used as treatments for multiple myeloma. We have also conducted preliminary control experiments to assess the ability to perform the central proposed experiments to see how switching on or off gene expression impacts the survival of the stem cells.

What are our plans for the second year?

With your continued support, we can carry out more screening to identify genes that are important for the creation of multiple myeloma cells.

What is your definition of success?

The identification of genes that multiple myeloma cells are addicted to for their continued growth and survival. The proteins encoded by these genes will then serve as new targets for future drug development.

"Thanks to our supporters, we are now able to begin our second year of research where we hope to discover more about these stem cells in the hope they can be used to treat multiple myeloma."

Photo: Peter MacCallum Cancer Centre.

If you have any questions for our researchers please email us at venturegrants@cancervic.org.au