

Summary of Discovery Projects Proposals for Funding to Commence in 2010

Victoria

The Walter and Eliza Hall Institute of Medical Research

DP1096092 Dr ME Blewitt

Approved Project Title **An RNA interference based genetic screen for novel epigenetic modifiers involved in mammalian X inactivation**

2010 : \$ 119,594

2011 : \$ 119,594

2012 : \$ 119,594

2013 : \$ 119,594

2014 : \$ 119,594

Primary RFCD 2702 GENETICS

QEII Dr ME Blewitt

Administering Organisation The Walter and Eliza Hall Institute of Medical Research

Project Summary

All the information required to form an adult human is contained in the DNA of the fertilized egg. Development is achieved by a complex orchestration of genes being switched on and off, controlled by proteins called epigenetic modifiers. Sometimes this goes awry, leading to disease. Despite their vital role, only around ten percent of the potential epigenetic modifiers have been characterized in humans, making it impossible to interpret how they work together, or when they fail. We will develop a novel screen-based technology to find hundreds more true epigenetic modifiers. This technology will aid us and other Australian scientists to understand the role of epigenetics in normal development and disease, ultimately leading to better public health.

DP1094854 Dr B Croker

Approved Project Title **Pathogen sensing in systemic inflammatory disease**

2010 : \$ 119,594

2011 : \$ 119,594

2012 : \$ 119,594

2013 : \$ 119,594

2014 : \$ 119,594

Primary RFCD 3210 CLINICAL SCIENCES

QEII Dr B Croker

Administering Organisation The Walter and Eliza Hall Institute of Medical Research

Project Summary

The initiation, amplification and quenching of an immune response is a carefully orchestrated process that eliminates invading pathogens while minimising collateral damage to host tissues. This research focuses on proteins that restrict immune responses to prevent inflammatory diseases such as rheumatoid arthritis, psoriasis and inflammatory bowel disease. This work will also explore the role of a potassium channel that protects the host from organ failure during an infection, by coupling the energy requirements of mounting an immune response, and organ function. This may have important implications for the management of sepsis, a systemic immune response associated with infection and the leading cause of death in critically ill patients.

DP1097112 Mr MT Inouye

Approved Project Title **Comprehensive transcriptional mapping of emergent division-linked cell fate decisions**

2010 : \$ 80,182

2011 : \$ 80,182

2012 : \$ 80,182

Primary RFCD 3202 IMMUNOLOGY

APD Mr MT Inouye

Administering Organisation The Walter and Eliza Hall Institute of Medical Research

Project Summary

This project proposal will lead to a better understanding of the molecular mechanics that drive certain cellular behaviors. To do this, we will use a frontier technology, RNA sequencing, which we think has the potential to revolutionise Australian science and make Australia an even more attractive place for young researchers. The community at large benefits from novel technologies as they create new opportunities for university research and attract young minds to the challenges of maths and science.

Summary of Discovery Projects Proposals for Funding to Commence in 2010

DP1096988 Dr MC Labat

Approved Project Title **Identification of genes regulating breast cancer progression and metastasis**

2010 : \$ 119,594
2011 : \$ 119,594
2012 : \$ 119,594
2013 : \$ 119,594
2014 : \$ 119,594

Primary RFCD 2702 GENETICS

QEII Dr MC Labat

Administering Organisation The Walter and Eliza Hall Institute of Medical Research

Project Summary

Breast cancer is the most common cause of cancer-related death in women in Australia. Although the treatments have improved over the last thirty years, many women still die from relapse of the disease. Our goal is to identify genes involved in the regulation of breast cancer progression and metastasis. This may lead to the discovery of druggable molecules for better targeted therapies for patients.