Victoria

The Walter and Eliza Hall Institute of Medical Research

DP0881615 Mr M Dowling

Approved Project Title **Quantifying the adaptive immune response**

2008 : $ 78,648
2009 : $ 78,648
2010 : $ 78,648

Primary RFCD 2399 OTHER MATHEMATICAL SCIENCES

APD Mr M Dowling

Administering Organisation The Walter and Eliza Hall Institute of Medical Research

Project Summary

The aim of this project is to develop mathematical models and computer software capable of predicting immune responses in infection and disease. The ability to predict immune responses should allow better vaccine design and better understanding of what causes the immune system to attack its own body, causing autoimmune disease, or fail to respond, causing immunodeficiency. The models and software will also be applicable to other areas of cell biology, such as describing growth and development. Thus, this project will lead to advances in understanding of fundamental biology, as well as potential improvements in treatments for a range of diseases.

DP0878953 Dr AG Maier

Approved Project Title **Functional Genomic Analysis of Exported DNAJ Molecules in the Malaria Parasite Plasmodium falciparum**

2008 : $ 98,643
2009 : $ 98,643
2010 : $ 98,643
2011 : $ 98,643
2012 : $ 98,643

Primary RFCD 2701 BIOCHEMISTRY AND CELL BIOLOGY

ARF Dr AG Maier

Administering Organisation The Walter and Eliza Hall Institute of Medical Research

Project Summary

Malaria is not only a global health problem, but also affects countries surrounding Australia like PNG and Indonesia, reducing the region's stability and prosperity. Environmental changes and increased mobility of people (eg. aid and security personnel) make Australia itself more prone to malaria. The project will translate recent genomic data into functional insights using frontier technology to identify new intervention targets for P. falciparum infection. Developing novel targets is mandated by humanity, and also to safeguard Australia's region against the social and economical implication of this disease. An Australian developed intervention would increase the global visibility of its science, leading to increased investments.

DP0881449 Dr T Okamoto

Approved Project Title **Control of cell survival by the Bcl-2 protein family**

2008 : $ 78,648
2009 : $ 78,648
2010 : $ 78,648

Primary RFCD 2701 BIOCHEMISTRY AND CELL BIOLOGY

APD Dr T Okamoto

Administering Organisation The Walter and Eliza Hall Institute of Medical Research

Project Summary

The control of apoptosis is essential for homeostasis. It is now realized that deregulation of apoptosis is a hallmark of many cancers. In apoptosis, the Bcl-2 protein family plays a central role in determining if a cell lives or dies. My proposal aim is to provide a deeper understanding of how cell death and survival is controlled by the Bcl-2 family. These studies have notable implications for understanding normal cell death control as well as aid in the development of therapeutic agents such as ones to overcome the resistance to apoptosis, found in many types of cancer.