St Vincent's Clinic Foundation
2004 Research Grant Recipients

During 2004, 10 Research grants were awarded totalling $283,000.

The Ladies' Committee Sr Mary Bernice Grant - $100,000

Prof Michael Feneley - Principal Investigator

"Mechanisms of induction of hypertrophy in left ventricular pressure overload"

Increased muscle bulk (hypertrophy) of the major heart chamber, the left ventricle, occurs as a compensatory mechanism in many cardiovascular diseases, such as hypertension. However, it is associated with an increased risk of death. Consequently the prevention of reversal of hypertrophy is one of the major goals of the treatment of cardiovascular patients. We aim to understand the chemical messengers in the heart muscle that initiate the development of hypertrophy in order to design specific preventative drug treatments.

Research undertaken at St Vincent's Hospital Department of Cardiology

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K & A Collins Cancer Grant - $50,000

Dr Bryce Vissel - Principal Investigator

"Identifying new molecular targets for treating brain tumours"

Brain tumours result from rapid uncontrolled proliferation of replicating cells in the brain. Neural stem cells also replicate in the brain, but they do so in a controlled manner. However, there appear to be common mechanisms that affect the proliferation rates of both. We will use pharmacological and proteomic approaches to identify intracellular signalling molecules that regulate the proliferatio rates of neural stem cells and brain tumours. We hope to identify new approaches for treating brain tumours.

Research undertaken at Garvan Institute of Medical Research

Di Boyd Cancer Grant - $20,000

Dr Ian Cole - Principal Investigator

"Identification of novel genes of disease progression in head and neck squamous cell carcinoma"

This project aims to study the molecular basis of head and neck squamous cell carcinoma (HNSCC) involving identification of novel genes and their effects upon disease outcome and treatment. Current treatment can often have morbid consequences and significantly impair quality of life. We will focus on molecules central to the development of HNSCC and attempt to establish their roles as prognostic markers as well as markers of therapeutic outcome. As a consequence, we hope to impact on survival and better directed therapeutic strategies.

Research undertaken at Garvan Institute of Medical Research

Annual Grant I - $20,000

Dr Diane Fatkin - Principal Investigator

"Molecular Genetic Evaluation of Familial Atrial Fibrillation"

Atrial fibrillation (AF) is the most common heart rhythm disorder and promotes heart failure, stroke and death. AF often occurs as a complication of various heart and systemic diseases. Recent studies suggest, however, that AF can also result from inherited gene defects in families. There is very little known about what these genes might be or how defects in these genes cause AF. The main purpose of our study is to identify disease-causing genes in families with AF.

Research undertaken at Victor Chang Cardiac Research Institute

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Annual Grant II - $20,000

Prof Peter McCluskey/Prof Denis Wakefield - Principal Investigators

"The role of iris pigment epithelium in the pathogenesis of anterior uveitis"

The layer of pigmented cells that form the back surface of the iris release chemical messengers when the eye becomes inflamed that produce damage to important structures in the eye such as the lens and retina that results in loss of vision.

Research undertaken at St Vincent's Clinic, University of New South Wales: Laboratory of Ocular Immunology & School of Medical Sciences

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Annual Grant III - $20,000

Prof Terence Campbell - Principal Investigator

"Drug binding to HERG K+ channels"

Occasionally, some prescription drugs have the unwanted side-effect of causing potentially fatal disturbances of the heart rhythm. Recent work has identified a particular protein, the HERG potassium channel, as the primary target for drugs that can cause serious arrhythmias. We aim to identify the chemical basis of drug binding to HERG potassium channels. This should allow us in the future to predict which drugs may have this potentially fatal side-effect before the drugs are ever use in patients.

Research undertaken at Victor Chang Cardiac Research Institute

Annual Grant IV - $20,000

Assoc Prof Phillip Stricker - Principal Investigator

"Investigation of the role of wnt signalling pathway in prostate cancer - is secreted Frizzled-related protein 4 (sFRP4) an inhibitor of prostate cancer growth?

Our group has already shown that localised prostate cancers from patients treated with surgery which have a high expression of sFRP4 protein at the plasma membrane of cells have a better outcome than patients with a low level of sFRP4 expression. In addition, when sFRP4 is over expressed in a prostate cancer cell line the growth rate of these cells is decreased. Based on these results, we hypothesize that sFRP4 may inhibit prostate cancer cell growth in other cell lines (in particular androgen-sensitive) and mouse models of prostate cancer. Consequently, we plan to assess the effect of sFRP4 expression on prostate cancer growth in both these systems. In addition, we propose to examine the detailed biology of the Wnt signalling pathway in order to establish how sFRP4 exerts its effects and potentially identify other therapeutic targets and outcome markers.

Research undertaken at Garvan Institute of Medical Research Cancer Research Program

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Annual Grant V - $20,000

Dr John Moore - Principal Investigator

"In-vitro studies of the haemopoietic stem cell in rheumatoid arthritis"

Rheumatoid arthritis (RA) is an inflammatory disease that causes life-long debility and in severe cases a decreased life expectancy. One of the only known cures for the disease is bone marrow transplantation which has been performed in RA patients often when they have had another disease. This suggests that if you can replace the blood stem cell then you can cure the disease. In this study, we would like to determine if the stem cells of RA patients give rise to the abnormal cells of the disease and hopefully discover new options for therapy in this disease.

Research undertaken at St Vincent's Hospital Haematology & Immunology Research Laboratories

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Travelling Fellowship - $10,000

Dr Kris Rasiah

"The Identification of Novel markers of Prognosis in High Grade Prostatic Intrepithelial Neoplasia (HGPIN) and Early Prostate Cancer"

Clinical Fellowship in Uro-Oncology with the Department of Urology Addenbrooks Hospital in Cambridge working with Professor D.E.Neal.

Medical Student Award - $3,000

David Skalicky

"New developments in the molecular pathology of pancreatic cancer"

The mortality rate of pancreatic cancer is among the worst of all cancers, with less than 5% of patients surviving the illness to 5 years. Molecular biomarkers have been found to be clinically applicable prognostic indicators and act as therapeutic targets in other tumour types, for example *her-2/neu* in breast cancer. In this project, I have investigated expression of novel genes in tumour samples from 120 patients with pancreatic cancer in order to determine whether they may be useful predictors of prognosis. Aberrations of cell cycle control or cell signalling pathways are a feature of most human cancers, including pancreatic cancer, and provide candidates for investigation. We have shown that cyclin E over expression is a predictor of shortened survival in our cohort of pancreatic cancer patients.