



POSITION DESCRIPTION

Position Title:	Research Assistant
Program (or DSG Organisation):	Diabetes & Metabolism
Reports to (Title):	Dr. Jiming Ye
Job Classification & Grade:	RA2-3
Approved By:	Prof Ted Kraegen
Date:	Updated April 2008

SUMMARY

The *Research Assistant, Diabetes Group* is accountable for assisting with research involving the identification of lipid-related factors which influence insulin action in the body by undertaking physiological and biochemical studies of rodents and performing associated laboratory work. A particular aspect of the work is to help with studies involving in vivo expression of genes of interest in rodents.

ESSENTIAL DUTIES and RESPONSIBILITIES

- The *Research Assistant, Diabetes Group* is responsible under direction for:-
- assisting with research involving cell-based identification of new drugs and drug targets, undertaking physiological and biochemical studies of rodents and performing associated laboratory work.
- evaluating and applying alternative methodologies to optimise sensitivity and reproducibility
- developing and applying other methodologies as the need arises
- collating experimental data, writing up experimental procedures and contributing to interpretation of experimental results
- meeting weekly with Dr Jiming Ye and/or Professor Kraegen to discuss current and planned experiments
- making presentations (on a rostered basis) each two months to all members of the Diabetes and Obesity Program
- contributing to the preparation of abstracts and publications (under joint authorship) in relevant scientific journals
- attending, when requested, appropriate local and interstate conferences and seminars in field of expertise
- assisting with the guidance and technical support of scholars within the Diabetes Group as assigned
- ordering small quantities of experimental equipment and consumables from Purchasing
- making recommendations to the Head of the Diabetes Group about ways of improving techniques, quantitative methods and quality control, and

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- undertaking any other duties as assigned by the Head of the Diabetes Group or the Director of the Diabetes and Obesity Program.

KEY COMMUNICATIONS

Internal: All Diabetes and Obesity Program staff including the Head of the Diabetes Group (Professor Ted Kraegen), Dr Greg Cooney, the Program Director (Professor David James), Post-doctoral Research staff, Research Assistants, Technical Officers, Purchasing staff and, occasionally, members of the Development and Support Group

External: Equipment and consumable suppliers

DECISION MAKING AND PROBLEM SOLVING

The *Research Assistant, Diabetes Group* is responsible for making those decisions which have an impact on the performance of experiments. Matters outside the limited decision making authority of the Research Assistant should be referred to Dr Jiming Ye or the Head of the Diabetes Group.

Problems that the *Research Assistant, Diabetes Group* is likely to encounter are those of a technical nature which arise from developing new techniques, applying these techniques experimentally and maintaining quality control.

ORGANISATIONAL ENVIRONMENT

The Diabetes Group of the Garvan's Diabetes and Obesity Program is a multi-disciplinary group studying the effects of the pancreatic hormone insulin, its control of glucose and carbohydrate metabolism. This work has identified factors which are critical in determining the effectiveness of insulin action in the body.

In particular, it has defined a major interaction between lipid metabolism and insulin action, indicating that increased levels of triglyceride in the liver or muscle block the effect of insulin (ie: create "insulin resistance"). The latter findings have led to major studies of the important nutritional factors, especially fats, in determining insulin resistance, and therefore predisposing to maturity onset diabetes. This work has significantly advanced understanding of diet and exercise and their influence on diabetes treatment. The studies of insulin resistance have included work to identify the mechanism of action of a newly-developed group of drugs, "glitazones" in the past and more recently potential novel therapeutics such as berberine and triterpenoids. These compounds have a powerful effect in improving insulin action, via effects on lipid metabolism, and they are now in clinical use or hold potential for therapy of Type 2 diabetes.

In recent years it has been recognised that insulin resistance also has an important relationship with hyperlipidemia, hypertension, and cardiovascular disease. The Diabetes Research Group's work has demonstrated targeting insulin resistance is an effective treatment for Type 2 diabetes and cardiovascular disease.

EXPERIENCE, KNOWLEDGE and SKILLS REQUIRED

The *Research Assistant, Diabetes Group* should have a BSc (Hons) degree with experience in either cell culture, physiology, biochemistry, or pharmacology together with laboratory biochemical and/or molecular biochemical experience. Willingness to perform rodent experiments is required.

PERSONAL ATTRIBUTES

The *Research Assistant, Diabetes Group* should also possess the following personal attributes and qualities:-

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- Be capable of carrying out duties under minimal supervision
- Have some basic administrative abilities
- Be capable of routinely high quality work
- Have a strong commitment to quality
- Have adequate communication skills for written reports and oral presentations
- Demonstrate capacity to work co-operatively with other team members
- Be well organised and a good time manager

GENERAL

All staff:

- are required to exercise Occupational Health Safety and Rehabilitation responsibility, accountability and authority as outlined in the Garvan OHS Roles and Responsibilities Document (located on the Garvan Intranet) to ensure a safe working environment for self and others;
- are required to cooperate with and adhere to all health and safety policies, procedures and programs of the Garvan and take all reasonable care that their actions or omission of actions do not impact on the health and safety of others in the Institute;
- have a responsibility to co-operate with management and staff with nominated or elected OH&S functions;
- not misuse, damage, refuse to use, or interfere with anything provided in the interest of occupational health and safety;
- must immediately report any unsafe work conditions or equipment to management; and
- must participate in compulsory safety training.