MISSION

The mission of St Vincent's Institute (SVI) is to carry out the highest quality laboratory based biomedical research, in order to make discoveries that will improve the health of the community by prevention or better treatment of common diseases that cause premature death or reduced quality of life. The mission is based on the values of excellence, ethics, innovation, creativity, collaboration, teamwork, individual drive, persistence and integrity.

Job Title: Research Assistant

Location: Human Immunology

Classification: SVI RA2 – RA4

Superannuation: Plus Employer Contribution of 9.5%

Salary Packaging: Up to $15,900 FBT exempt

Reports to: Laboratory Head - Dr Stuart Mannering

Hours: Full time (38 hrs per week)

MAIN JOB PURPOSE

The Research Assistant position exists to support research activities in the Human Immunology Laboratory at SVI. The incumbent will be responsible for carrying out a range of experiments of a supervised research project, and to support the senior scientist in their scientific experiments.

Depending on capabilities and interest, there is scope and opportunity to tackle more advanced research efforts of the laboratory, and to learn a variety of new skills.

KEY RESPONSIBILITIES

Participate in research at St Vincent’s Institute towards a better understanding of how human T cells lead to autoimmune diabetes (also known as type 1 diabetes) and provide high level technical expertise in the undertaking of laboratory tasks.

Key elements of this role will be to:

- Isolate and grow large numbers of human T-cell clones.
- Perform functional assays (ELISA, ELISpot, CFSE-based proliferation) to determine the specificity of human T cell clones.
- Perform functional assays with immune cells isolated from human blood.
- Assist with collect of human tissue samples.
- Generate recombinant lentiviruses and use lentiviruses to transduce cell lines.
- Analyse cell lines by flow cytometry.
- RT-PCR analysis of human T-cell receptors, including cloning and sequencing.
- Prepare plasmids, sequencing and conducting transfection experiments.
- Assist with genotyping transgenic and knockout mouse lines performed by either PCR of genomic DNA or by analysis of cell surface marker expression on peripheral blood lymphocytes using flow cytometry.
• Laboratory experiments with, mouse and human tissue, in particular isolation of spleen or blood cells and performing in vitro experiments with these cells, including flow cytometry, ELIspot/ELISA assays, \(^3\)H-thymidine proliferation assays, western blotting, and RNA isolation/PCR amplification.
• Maintain stocks of cells stored in liquid nitrogen and stocks of laboratory consumables (buffers, culture media, serum etc)
• Provide training and assistance with experiments to other members of the laboratory, as well as external collaborators as required.
• Support the work of students in the laboratory.
• Participate in other experiments that arise from time to time within the Unit, including preparation of tissue extracts from human pancreas, spleen or other tissues.
• Order and maintain stocks of laboratory reagents
• Maintain databases of lab reagents and samples.
• Analyze the results of experiments and keep records of experimental results.
• Present data at lab meetings
• Meet regularly with Dr Mannering to discuss results and plan future work.

QUALIFICATION, SKILLS, EXPERIENCE

• Honours Degree, in relevant scientific discipline (Immunology, microbiology, biochemistry, genetics, medical sciences).
• Experience in cloning, culturing and analysing human T cells
• Experience in molecular biology; including RT-PCR, cloning, sequencing and transfection
• Experience with, and knowledge of, flow cytometry
• Knowledge of immunology
• Expertise in tissue culture, cell biology, protein/peptide chemistry, and related research laboratory experience would be advantageous, though not essential.

SELECTION CRITERIA

• Good interpersonal and communication skills.
• Ability to work within a team cooperatively and confidently.
• Excellent record keeping and organisational skills.
• Ability to work independently, with minimal supervision.
• Ability to use initiative and a proactive approach to problem solving.
• Able to exercise appropriate judgement and seek advice and support.

I understand and agree to undertake the requirements of the role, as described above:

Incumbent Name……………………………………Signature……………………………… Date……………