



## Research Assistant – Immune Tolerance Group POSITION DESCRIPTION

<b>Research Group:</b>	Immune Tolerance group
<b>Status:</b>	Full-time, initially for 12 Months. An extension will be subject to the availability of funds
<b>Hours:</b>	38 hours per week
<b>Days:</b>	Monday to Friday
<b>Salary:</b>	\$60,000-\$70,000 per annum, negotiable depending on experience, plus super. Salary packaging is available
<b>Reports to:</b>	Firstly, to Dr Nirupama Verma and then A/Prof Suzanne Hodgkinson and / or Professor Bruce Hall and for non-clinical matters to the Institute's Human Resources Manager

### Background

The **Ingham Institute for Applied Medical Research** (the Institute) is a not-for-profit organisation located in Sydney's South West that conducts world-class medical research that is rooted in and driven by the needs of the local community and wider Australia.

The Institute is the pre-eminent research institute for South Western Sydney. It is home to 360 staff, over 40 research groups, and five (5) research streams that are committed to its vision of Inspiring Health and Transforming Care.

The Institute is integral to a unique collaboration with the South Western Sydney Local Health District, Western Sydney University and the UNSW Sydney. Through these collaborations the Ingham Institute is working to radically transform health outcomes both locally and globally.

The Immune Tolerance Research Laboratory is located at the Ingham Institute and is associated with Liverpool Hospital. The laboratory focuses on T regulatory cells and how to enhance natural immune regulation mediated by these cells.

The Group has identified two pathways of activation of antigen specific Treg based on the novel cytokine receptor expression in rodent models. We are now focussing on:

1. The comprehensive characterization and further refinement of culture conditions; and
2. Extending our animal work to humans, specifically how to activate antigen-specific T regulatory cells in culture and in the host.

The Group is developing methods to monitor antigen specific T regulatory cells in patients. It is also focussing on therapy and monitoring for Multiple Sclerosis and organ transplants. Studies are underway looking at these cells in Multiple Sclerosis and newer therapies.

## Purpose of Position

The appointee will be responsible for performing experiments under the direction of senior members of the team. Studies in human T regulatory cells will aim to Treg monitoring in blood samples of multiple sclerosis patients and also their isolation and culture from healthy human blood and analyzing them by flow cytometry and PCR. The work could include rodent experiments and will aim for isolation of T regulatory cells from rat tissues and their characterization and function in in vitro culture experiments or in preclinical models of graft rejection and autoimmunity.

The appointee will assist in performing studies using cellular, molecular and flow cytometry techniques. He / she will be expected to work as a part of the team and also be able to perform experiments independently following experimental protocols. The role will also be responsible to perform other basic laboratory duties as assigned.

The appointee will also analyse data and make illustrations for presentations, Manuscripts, grant submissions and reports.

### Laboratory and analytical:

The successful applicant will be trained to undertake and / or assist with:

- Flow cytometry on human blood and possibly rat samples to analyse T regulatory cells
- Isolation of T regulatory cells from human blood and rat tissues
- Analysis of T regulatory cells by PCR.
- Analysis of data using statistical programs and preparation of illustrations.

### OH&S and PC2 OGTR requirements.

- To follow OH&S guidelines and PC2 laboratory guidelines.

### Administration

- Prepare reports and illustrations,
- Maintain complete and accurate research records,
- Maintain inventories of reagents,
- Handle samples and information in accordance with privacy legislation and ethical guidelines.

## Criteria

### ESSENTIAL:

- A bachelor qualification in Biology or related discipline.
- Experience in basic laboratory techniques for cell biology such as flow cytometry and sterile techniques for cell culture.
- Experience in basic molecular techniques such as RNA isolation from cells and tissues, and PCR.
- A demonstrated ability for careful and accurate approach to follow protocols
- Excellent record keeping ability for written and electronic experimental records
- Experience with basic computer programs such as MS word, excel, power point
- Demonstrated ability to work as part of team.
- Ability to problem solve and quickly respond to situations as they arise

### DESIRABLE:

- Experienced in analysing flow cytometric and PCR data
- Flexibility with time and willingness to work on weekends occasionally

Key Accountabilities	Key Performance Indicators
Process blood samples and Perform Flow Cytometry experiments.	Successfully performs FAC experiments.
Perform cell culture experiments.	Successfully cultures T regulatory cells from rat and human.
Process samples for RNA isolation and perform PCR.	Successfully examines gene expression using PCR.
Help in T regulatory cells culture experiments.	Effectively executes experimental work with provided directions.
Assist in preparation of cells for clinical trials.	Effectively assists in preparation of human cells for clinical trials.
Prepare reports and illustrations.	Reports and illustrations are prepared as required.
Statistical and basic bioinformatics analyses.	Effectively undertakes statistical and basic bioinformatics analyses
Maintaining complete and accurate research records.	Maintains complete and accurate research records.
Maintaining inventories of reagents.	Maintains inventories of reagents.
Handle samples and information in accordance with privacy legislation, ethical guidelines	Follows privacy legislation, ethical guidelines.
Ability/willingness to assist in preclinical rat model experiment.	Ability/willingness to assist in preclinical rat model experiment.
Work as an Institute team member.	<ul style="list-style-type: none"> <li>▪ Is an effective team-member</li> <li>▪ Attends Institute staff meetings and, where applicable, shares information available at these meetings with unit staff</li> <li>▪ Complies with Ingham Institute Code of Conduct</li> <li>▪ Contributes to the research culture at Ingham Institute</li> <li>▪ Participates in Ingham Institute supporting activities.</li> </ul>

<p>Understand and uphold WHS requirements and responsibilities.</p>	<ul style="list-style-type: none"> <li>▪ Complies with the Institute's WH&amp;S Statement and WH&amp;S Policy and Procedures</li> <li>▪ Is always mindful of workplace safety as it pertains to self</li> <li>▪ Reports all accident within 24 hours</li> <li>▪ Makes proper use of relevant safety equipment</li> <li>▪ Attends training programs as directed.</li> </ul>
<p>Comply with relevant State and Federal Privacy Legislation for the access, use, handling and storage of health data.</p>	<ul style="list-style-type: none"> <li>▪ Adheres to legislative requirements</li> <li>▪ Complies with legislative requirements regarding access and reporting.</li> </ul>