

Overcoming Metabolic Reprogramming by Non-Hodgkin Lymphoma to Improve Adoptive Cellular Immunotherapies

Project Description

Project duration:	PhD (3-4 Years Full Time)
Description:	<p>Metabolic reprogramming of cancer cells is an established hallmark of malignancy. It is increasingly recognised that these metabolic alterations dramatically impact the anti-tumour immune response predisposing to treatment failure and progressive disease.</p> <p>This 3-year laboratory-based study will attempt to better characterise the metabolic alterations seen in non-Hodgkin lymphoma in both cancer and the immune environment and how this leads to immune escape. Cell based assays will then be performed to interrupt this process, restoring effective anti-tumour immunity in T cells. Finally, these findings will be implemented using ex-vivo clinical samples from an innovative clinical trial to describe novel approaches to overcome treatment failure of adoptive T-cell therapies.</p>
Expected outcomes and deliverables:	<p>This research program will provide the successful candidate with training in functional laboratory cellular biology techniques including co-culture assays, flow cytometry and cell-sparing metabolomic assays. Practical expertise in library preparation and sequencing as well as support and training in dry lab analysis of sequencing data will also be provided. The laboratory places an emphasis on development of scientific writing and presentation skills and has a strong track record of successful, high-impact publications amongst HRD students.</p>
Suitable for:	<p>Bachelor's degree with first class honours and/or Masters with an outstanding academic achievement in the field(s) of immunology, cell biology or metabolomics or an equivalent field and the potential for scholastic success.</p> <p>A background or knowledge of flow cytometry, cell culture techniques or computational biology is highly desirable.</p> <p>Motivated and organised team members to work as part of a diverse team.</p> <p>Excellent written and oral communications skills in English.</p> <p>Previous high quality research outputs (publications or conference presentations) academic prizes and awards are highly valued.</p>

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