

The overlooked X and Y factor in osteoarthritis development

Project Code:

Faculty: Faculty of Medical and Health Sciences

Department: Pharmacology

Main Supervisor: Dr Raewyn Poulsen

Application open date: 25 January 2023

Application deadline: 1 June 2023 (applications from students still completing their Honours or Masters degree will be accepted)

Enrolment information: NZ Citizens, NZ Permanent Residents, International

Introduction

Osteoarthritis (OA) is a leading cause of physical disability in adults worldwide. With no disease-modifying drugs to treat OA, patients typically suffer the pain and disability of disease for almost half their adult life. Women are more susceptible to OA than men and typically experience more severe symptoms, yet the opposite is true in animal models where OA shows a substantial male bias. This has meant that a considerable amount of current knowledge regarding OA pathogenesis comes from studies in male rodents. In our lab group, we study tissue from patients with OA. Novel preliminary data from our lab indicates that some of the key pathways involved in OA pathogenesis differ between male and female patients with OA. This has important implication for understanding why women are more at risk of OA than men and for helping develop effective treatments for OA, potentially implying that different treatments may be required for females compared to males.

What we are looking for in a successful applicant

We are looking for a high-achieving, motivated student with excellent organisational and time management skills. The successful applicant will have excelled in their Honours or Masters studies and have experience in one or more of the following: cell culture, molecular pharmacology techniques (e.g alphaLISA), real time PCR, western blotting, reporter assays or transfection/viral vector-mediated transduction.

Objective

The objective of this project is to determine how the activity and function of key pathways involved in osteoarthritis pathogenesis differ between males and females. This is a first-in-kind study using a unique combination of molecular pharmacology and biomedical techniques

Other information

This project is at the intersect of biomedical science and pharmacology and will suit a student wanting to undertake a PhD in either discipline. The project will involve primary human cell culture from tissue obtained from patients with osteoarthritis as well as use of a range of molecular pharmacology and molecular biology techniques providing you with excellent training for your future research career.

This is a Royal Society of New Zealand Marsden-funded project providing a personal scholarship of \$35,000 p.a (tax free). In addition, all compulsory fees for enrolment in the doctoral programme are covered for the three year period.

Application details

Please send a CV, academic record and the names and contact details of two Referees to r.poulsen@auckland.ac.nz. Please note only short-listed candidates will be notified.