



Project Title: Neuronal inflammasome activation in Parkinson's disease		Code: CCS11
Host School / Institute: Central Clinical School/Brain and Mind Centre	Address: Brain and Mind Centre	
Certificates & Clearances required: No		
Primary Supervisor: Dr Nicolas Dzamko		
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Co-Supervisor/team: Other laboratory researchers under the supervision of Dr Dzamko.		
Project Type: Laboratory based		
Project Category: Neuroscience; Immunology & Infection		
Skills / Attributes of a successful student: Attention to detail, ability to listen to instructions, ability to accurately record experimental results, ability to work in a team, ability to work safely, basic computing skill, basic statistical analysis skills, dedication and curiosity.		
Project Keywords: Neurodegeneration; Biomedical; Cell culture; Inflammation		
<p>Project Description: The Forefront Neurodegeneration team at the Brain and Mind Centre combines global research leaders in the search for the causes and cures of neurodegenerative disorders such as dementia and Parkinson's disease. This project aims to extend on our recent exciting discovery, that activation of immune signalling pathways in neurons can cause Parkinson's disease pathology. This is exciting as very little is known about immune function in neurons, with immunity in the brain largely thought to be regulated by glial cells such as astrocytes and microglia. The project will focus on a particular immune pathway called the inflammasome. The aim will be to determine if the inflammasome pathway can be activated in neurons, and the extent to which any inflammasome pathway activation contributes to Parkinson's disease pathology.</p> <p>Students will learn how to grow human neuron cells, activate the inflammasome pathway and how to analyse, interpret and present the results. All methods are currently used in the lab and full training and supervision will be given. The project is suitable for those interested in immunology, biochemistry, cell biology and neurodegenerative brain diseases. The project is particularly suited to students who may be considering a career as a biomedical research scientist and which to gain experience in a large, dynamic and internationally successful research group.</p>		