CSCB Virtual Seminar Series

Profiling of GPCR Complexes.

Date: 4th May 2021 (Tuesday)
Time: 12noon-1pm (SGT)

Venue: *via* **Zoom**
https://nus-sg.zoom.us/j/84471255928

Meeting ID: 844 7125 5928
Password: 343974

Abstract:
It is highly advantageous to be able to measure GPCR ligand binding and receptor function in live cells and in real time, and this can be achieved through biophysical detection via such technologies as bioluminescence resonance energy transfer (BRET). BRET utilizes a donor luciferase enzyme fused to a protein of interest that transfers non-radiative energy to an acceptor, such as a derivative of green fluorescent protein or a small fluorescent moiety such as BODIPY. This only occurs if donor and acceptor are within close proximity, within 10 nm of each other. We have used the BRET system to monitor ligand binding, G protein coupling, arrestin recruitment and receptor trafficking. We have done this both with transient transfection, as well as through the luciferase-tagging of endogenous receptors using CRISPR/Cas9 gene editing technology. We have also characterised a number of heteromer complexes using Dimerix's Receptor Heteromer Investigation Technology. Our focus has been on inflammation, especially with respect to kidney, lung and cardiovascular disorders, as well as cancer. We have also had a particular focus on complexes involving angiotensin and/or chemokine receptors.

Speaker:



Professor Kevin Pfleger

Director, Biomedical Innovation, The University of Western Australia
Head, Molecular Endocrinology and Pharmacology
Deputy Director, the ARC Centre for Personalised Therapeutics Technologies

Professor Pfleger combines leadership roles fostering biomedical innovation at The University of Western Australia and more broadly across the State of Western Australia, with leading his scientific research on receptor profiling. He is also President Elect of the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists, a member of the British Pharmacological Society International Advisory Group, Chief Scientific Advisor to Dimerix, and co-founder of RAGE Biotech.

Host:

Patrick Casey
Senior Vice Dean
Professor
Programme in Cancer & Stem Cell Biology
Duke-NUS Medical School
Singapore

No registration is required.
All are welcome.