CANCER SCIENCE INSTITUTE OF SINGAPORE

SEMINAR ANNOUNCEMENT

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Nuclear Hormone Receptor and Epigenetic Signalling in Breast Cancer: Understanding Endocrine Resistance

Date: **Thursday 8 February 2018**

Time: **11am - 12pm**

Venue: **CeLS Auditorium**

Level 1, 28 Medical Drive, Centre for Life Sciences, Singapore 117456

Host: **Prof. Daniel Tenen**

Abstract:

Breast cancer, a heterogeneous disease with >20 subtypes, is one of the most common causes of cancer-related death in women. Diagnosis involves measuring the expression of two nuclear hormone receptors (NRs), the estrogen and progesterone receptors (ER and PR) that has underpinned disease management for decades. However, hormone resistant, triple-negative breast cancers, basal and other subtypes are resistant to endocrine therapies, highlighting the need for new therapeutic targets. Our previous analysis of the entire NR superfamily (in addition to ER and PR), NR-associated coregulators and epigenetic enzymes (including protein arginine methyltransferases 2 and 6 (PRMT2 &6) in breast cancer relative to normal breast, has highlighted the therapeutic and prognostic potential of the other NR superfamily members, and many epigenetic enzymes. We will present evidence on another NR, RORγ1 (also denoted as RORC), and the epigenetic enzyme, PRMT6, that regulate: (i) breast cancer survival outcomes, (ii) critical pathways controlling carcinogenesis (for example, TGFβ signalling/ EMT, DNA repair, stem cell growth, and cell cycle progression), and (iii) resistance to endocrine/hormonal therapies. Moreover, we will provide and discuss data addressing the pharmacological and translational utility of targeting other NRs and novel epigenetic enzymes as adjuvant therapeutic targets for (aggressive and metastatic) breast cancer, and controlling endocrine resistance.

Biography:

Currently, a Professorial and an NHMRC Principal Research Fellow (2014-18) at the Institute for Molecular Bioscience, and an affiliate appointment in the Faculty of Medicine, The University of Queensland. He completed: (i) undergraduate training at the University of Sydney (1977-80), (ii) PhD program at the Childrens Medical Research Institute, Sydney (1981-85) and (iii) Postdoctoral Research at Stanford University, CA. (1985-88). Subsequently appointed as an Assistant Professor of Research at the University of Southern California, Los Angeles (1989). He joined the University of Queensland in 1990, and focused his research on understanding the molecular role of Nuclear Hormone Receptor signalling in cancer, metabolic disease and exercise. He was a visiting scientist/sabbatical visitor at X-Ceptor Therapeutics, San Diego (2001), involved in a scientific collaboration with Metabolex, and a Guest Professor, Sahlgrenska Academy, University of Gothenburg, (2014-15). He has served/serves as a member of: (i) the editorial boards of J. Biol. Chem., Endocrinology and Molecular Endocrinology, (ii) NHMRC Assigners Academy, NHMRC GRPs, NHMRC Research Fellowships Peer Review Panels and (iii) National Breast Cancer Foundation Research Advisory Council (2016-). He has graduated 19 PhD, 6 MSc and 12 BSc (Hons) students as primary supervisor.