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OF TROPICAL HEALTH & MEDICINE



JAMES COOK
UNIVERSITY
AUSTRALIA

Cairns
Singapore
Townsville

Seminar Series

A protective role for TRAIL in ischaemia

Mary Kavurma

The Heart Research Institute

Date: Tuesday 2nd May 2015

Time: 1:00pm to 2:00pm

Venue: JCU Townsville, Padua Theatre Room 40-103

video linked to

Venue: JCU Cairns, A3.2 Crowther Theatre



TNF-related apoptosis-inducing ligand (TRAIL) not only inhibits angiogenesis via inducing endothelial cell death, but also promotes pro-angiogenic activity including proliferation, migration and tubule formation in vitro. These seemingly opposite effects make its role in ischemic disease unclear.

Using Trail-/- and wildtype mice, we sought to determine the role of TRAIL in angiogenesis and neovascularisation following hindlimb ischemia. Here, we show that TRAIL promotes angiogenesis following ischemic injury in vivo and this involves NOX4, and nitric oxide signalling. These suggest that TRAIL plays an adaptive and protective role following ischemia-induced injury in the vessel wall and has significant therapeutic implications such that TRAIL may improve the angiogenic response to ischemia and increase perfusion recovery in patients with CVD and diabetes

Dr. Mary Kavurma received her PhD (2003) from the Centre for Vascular Research, UNSW, Australia. In 2004, under a NHMRC CJ Martin Fellowship she undertook research at the University of Cambridge UK. Here she developed an interest in the survival actions of TNF-related apoptosis-inducing ligand (TRAIL) in atherosclerosis. In 2007, Mary came back to UNSW and established her independence research program. In 2013, Mary relocated to the Heart Research Institute. Her current research is addressing critical questions concerning the impact of TRAIL in obesity, diabetes, CVD and kidney disease.