ARMI EXTERNAL SEMINAR SERIES 2024

MONASH University | ARMI AUSTRALIAN REGENERATIVE MEDICINE INSTITUTE

Eosinophils in thermogenic beige fat

Professor Kate Quinlan

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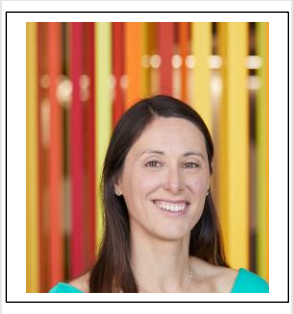

Abstract

Beige adipocytes residing within white adipose tissue burn fuels to generate heat by a process called thermogenesis. Therapeutic induction of beige adipocytes may be able to be harnessed to reduce obesity by burning rather than storing excess fuels. Cells of the immune system – including eosinophils – appear to be essential in the beiging of white adipocytes. Using a genetic mouse model, we recently uncovered gene regulatory mechanisms in mice that allow adipose tissue eosinophils to secrete molecules important for beige fat activation and prevention of weight gain. We are now testing whether novel secreted proteins we have identified are able to induce beiging and energy expenditure and may present novel targets for obesity. We are also exploring how the gene expression programs in adipose tissue-resident eosinophils differ from eosinophils residing in other tissues in the body and the transcription factors that drive this niche specification.

Bio

Kate Quinlan is a Professor at the School of Biotechnology and Biomolecular Sciences (BABS), UNSW Sydney. She received her PhD from the University of Sydney in 2006 and, following postdoctoral appointments at the Children's Hospital at Westmead and the University of Cambridge, established her research group at UNSW Sydney in 2018. Having spent her research career studying gene regulation and metabolism, she has brought these interests together in her current program of research. Along with a dedicated team of postdocs, PhD students and honours students, Kate is exploring how adipose tissue resident immune cells, in particular eosinophils, play a role in the regulation of thermogenic beige fat. She hypothesises that signalling between immune cells and adipocytes may be able to be manipulated to drive adipose tissue beiging and weight loss.

EVENT DETAILS

DATE:

Tuesday 9th April 2024

TIME:

12:30pm

VENUE:

G19, 15 Innovation Walk
Monash University
Clayton Campus

HOST:

Professor Nir Eynon

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