The Centre for Blood Research

Wednesday, Jan 11, 2012
12:00pm
in LSC3

Life Sciences Centre
2350 Health Sciences Mall

Dr. Cheryl Wellington
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Child & Family Research Institute

"From concussion to dementia: A key role for apolipoprotein E"

Apolipoprotein E (apoE) is the lipoprotein expressed in the central nervous system (CNS). ApoE is also the best validated genetic risk factor for Alzheimer's Disease (AD) and outcome following a wide a variety of acute neurological insults. The cholesterol transporter ABCA1 moves lipids onto apoE as the rate-limiting step in brain HDL biosynthesis. In AD mice, ABCA1 deficiency exacerbates amyloidogenesis, whereas selective overexpression of ABCA1 ameliorates amyloid burden. Liver X Receptor (LXR) agonists such as GW3965, which stimulate ABCA1 and apoE expression, reduce Aβ levels and rescue cognitive deficits in AD mice. We show that ABCA1-mediated lipidation of apoE is a crucial mechanism underlying the beneficial effects of LXR agonists on cognition and Aβ metabolism and highlights ABCA1 and apoE as a potential therapeutic targets for AD. We also show that the ability of GW3965 to promote motor and cognitive recovery after mild concussive brain injury is reduced in apoE-deficient mice. Together, these observations support a central role for apoE function in mediating the beneficial effects of LXR agonists for both chronic and acute CNS damage.

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Host: Dr. Ed Conway, CBR Director, Professor of Medicine, UBC

Refreshments will be served 10 minutes before the seminar
Seminar information: 604 822 7407