

A DHA Omega-3 Fatty Acid Transporter at the BBB Essential for Brain Growth and Function

ABOUT THE LECTURE

The omega-3 fatty acid docosahexaenoic acid (DHA) is essential in mammals. Epidemiological and clinical data strongly indicate that DHA is the major omega-3 fatty acid linked to normal brain development, cognitive function, visual function, and cardiovascular health. In line with its importance in the brain, DHA is highly enriched in brain phospholipids. Despite being the most abundant fatty acid in brain, DHA cannot be de novo synthesized by brain. Evidence from in vivo studies suggested that dietary DHA is delivered to brain via lipoproteins, albumin, and phospholipids. Importantly, the mechanism by which DHA is transported through the blood-brain barrier, a physical barrier restricting diffusion of blood-borne molecules to the central nervous system, has remained unknown. In this seminar I will present our recent findings that definitively identify the DHA transporter at the blood-brain barrier and demonstrate its physiological role in brain accumulation of DHA.

Speaker: **Assoc Prof David Silver, PhD.**

*Associate Professor, Cardiovascular and Metabolic Disorders Program,
Duke-NUS Graduate Medical School*

Host: Professor Shirish Shenolikar

*Interim Director of Neuroscience and Behavioral Disorders Program
Duke-NUS Graduate Medical School*

Date: Tuesday, 20 May 2014

Time: 12.00 PM — 1.00 PM

(Light refreshments will be served at 11.30 AM)

Venue: Duke-NUS Graduate Medical School
Amphitheatre, Level 2

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ABOUT THE SPEAKER

Prof. Silver is currently an Associate Professor in the Program in Cardiovascular & Metabolic Disorders and serves as the Director of Graduate Studies in Integrated Biology and Medicine, Duke-NUS Singapore. Prof. Silver obtained a Ph.D. in Genetics from Michigan State University, and postdoctoral training at Columbia University specializing in biochemistry and lipid metabolism. Prof. Silver's research interests are in the areas of mechanisms of triglyceride storage in cells, lipid transporters and blood-brain barrier function.

