RMB CVRC Seminar

The Robert M. Berne Cardiovascular Research Center Presents

H Llewelyn (Llew) Roderick, B.Sc., PhD

Affiliation: Professor (Hoogleraar) in the Laboratory of Experimental Cardiology, Department of Cardiovascular Sciences, KULeuven, Leuven, Belgium.

Targeting the epigenome to increase cardiomyocyte proliferation and cardiac regeneration

Epigenomic remodelling during cardiomyocyte maturation serves to suppress fetally expressed genes and promote the expression of genes necessary for adult function. Genes involved in cell cycle activity that are expressed in the fetus and early neonate are similarly silenced contributing to the lack of substantial proliferation in the adult and the associated poor regenerative capacity of the adult heart that underlies the poor prognosis of patients following the massive loss of cardiomyocytes during myocardial infarction. Through profiling the epigenome and transcriptome during neonate to adult, we have identified a pivotal role for histone methylation by the euchromatic histone methyl transferase Ehmt2 in silencing expression of cell cycle during cardiomyocytes. Suppressing Ehmt2 activity in the neonate extends the proliferative window of cardiomyocyte proliferation and enhances cardiac function post MI. Importantly, Ehmt2 loss of function in the adult reduces MI scar and cardiac function post MI. We thus propose epigenetic rejuvenation as a strategy to augment cardiac repair.

Thursday June 15th, 2023
11:00 AM-12:00 PM

MR5 Room 3005
Hosted by: Jeff Saucerman

Refreshments served

Contact:

Mary Sheffer
Program Administrator

CVRC, UVA
MR5 1010
PO Box 801394
Charlottesville, VA 22908
434-243-9943

Mt3kx@virginia.edu