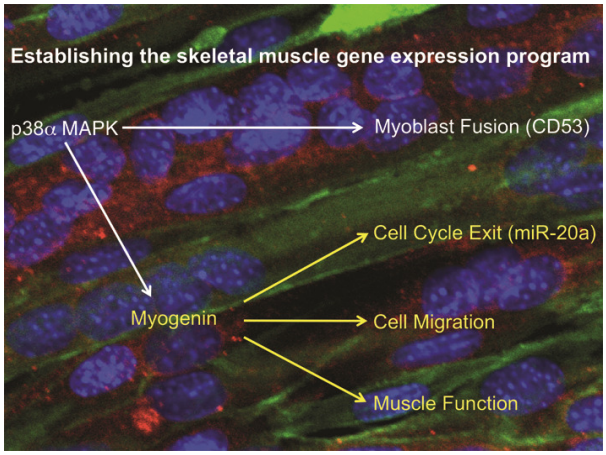
GUEST SPEAKER SEMINAR

Molecular Genetics
UNIVERSITY OF TORONTO

Epigenetic regulation of muscle regeneration



MyoD is a master regulator of the skeletal muscle gene expression program. High throughput studies have shown that MyoD binds ~25,000 genomic loci in differentiating myoblasts, yet only activates transcription at a small subset (~400) of these genes. Furthermore, these muscle genes can be activated with different kinetics during the differentiation process. Here I will present our data demonstrating the role for the ubiquitously expressed Mef2 proteins in regulating the activation of MyoD-dependent gene expression. Our work has identified PKA and p38 MAPK signalling as key pathways that modulate the ability of Mef2 proteins to target Trithorax group proteins to muscle-specific genes. Based on these findings, a model is proposed where muscle-specific splicing of the Mef2d protein modulates the spatial and temporal activation of muscle genes during skeletal myogenesis.

Dr. F. Jeffrey Dilworth
University of Ottawa

Host: Dr. Ian Scott

Date: Wednesday August 21, 2013
Time: 2:00 p.m.
Place: Medical Sciences Building
1 King's College Circle
Room 4171