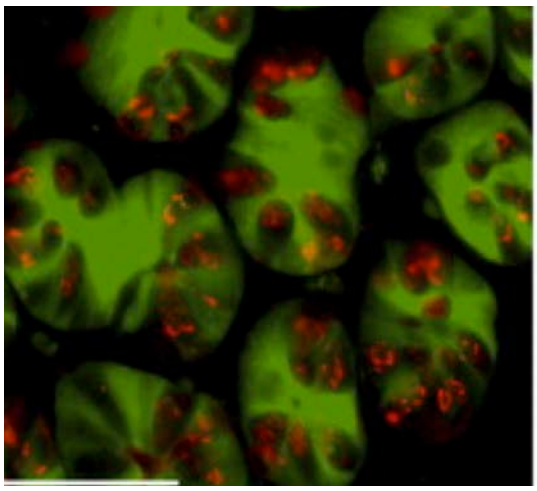
GUEST SPEAKER SEMINAR

Molecular Genetics
UNIVERSITY OF TORONTO

Mechanisms of Gut Epithelial Stem Cells and Plasticity



Notch signaling is essential for gut stem cell proliferation. Surprisingly, ectopic Notch activation in stomach parietal cells induces their dedifferentiation. Intestinal stem cells (ISC) differentiate into the absorptive or secretory lineage by Notch mediated lateral inhibition, in which distinct cell fates remain reversible. However, the mechanisms underlying gut epithelial cell plasticity have been unclear. Epigenetic analyses of ISCs and lineage-specific progenitors demonstrate that broadly permissive chromatin, established in ISCs and maintained throughout distinct intestinal lineages, is responsible for this plasticity. Furthermore, single cell analyses of ISCs have identified bi-potential progenitors, providing additional insight into lateral inhibition and the immediate progeny of ISCs.

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Host: Dr. Howard Lipshitz

Date: Wed September 10th, 2014
Time: 4PM
Place: Medical Sciences Building
1 King's College Circle
Room 4171