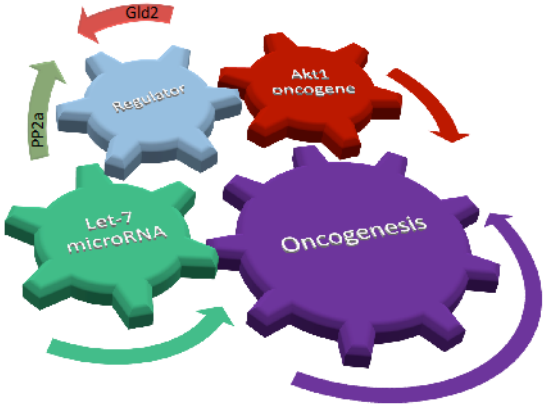
GUEST SPEAKER SEMINAR

Molecular Genetics
UNIVERSITY OF TORONTO

A novel feedback loop connects oncogenic signaling to miRNA metabolism.



The two well-known contributors to oncogenesis, the let-7 miRNA and Akt1 kinase signaling were previously regarded as separate entities in cancer research. The oncogenic kinase Akt1 is a central transducer of growth and survival signaling and the Akt pathway is the most commonly activated signaling pathway in human cancers. On the other hand, the miRNA let-7 suppresses tumor proliferative activities and cell survival by negatively regulating oncogenic signaling pathways. We recently discovered a novel link between oncogenic signaling and miRNA let-7 metabolism. We showed that Akt1 activity responds to let-7 levels, reducing oncogenic kinase activity. We also showed an opposing mechanism, where Akt1 activity drives oncogenesis via miRNA destabilization. In summary, oncogenic kinase signaling and miRNA metabolism are tightly linked and regulated in a previously unrecognized feedback mechanism. rom non-chromosomal DNA to prevent the propagation of the later, and how they do so.

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Host: Dr. Julie Claycomb

Date: Thursday, May 10, 2018
Time: 10:30 AM
Place: MaRS 1622