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12:00pm

in LSC3

**Life Sciences Centre
2350 Health Sciences Mall**

"A role for microRNAs in human platelets?"

Platelets play a crucial role in the maintenance of hemostasis as well as in thrombosis and vessel occlusion that underlie stroke and acute coronary syndromes. Released into the blood stream from bone marrow megakaryocytes and having a circulating life of 8-10 days, platelets need to preserve and/or restore their content in order to maintain their functions. Unable to turn to gene transcription, anucleate platelets nevertheless contain a diversified messenger RNA (mRNA) transcriptome as well as rough endoplasmic reticulum and ribosomes that can mediate de novo protein biosynthesis, thereby raising the issue as to how platelet mRNAs are regulated.

One of the most important regulator of mRNAs are microRNAs. Encoded in our genome, this family of small, 19- to 24-nucleotide (nt) RNA species is generated by the ribonuclease III Dicer. MicroRNAs are known to guide Argonaute 2 effector ribonucleoprotein (RNP) complexes for the regulation of specific mRNAs through the recognition of binding sites usually located in their 3' untranslated region. MicroRNAs are predicted to regulate ~60% of the genes in humans, suggesting that every cellular processes may be under microRNA control in our body! MicroRNAs are thus expected to play a significant role in human health and disease.

We reported that human platelets harbor a diverse and particularly abundant array of microRNAs, as well as a functional microRNA pathway (Landry et al., 2009). Offering a new perspective to the control of gene expression in these anucleate elements of the cardiovascular system, our recent advances on platelet microRNAs will be discussed.

This Seminar is sponsored by:



Host: Dr. Dana Devine, Vice President, Medical, Scientific & Research Affairs, Canadian Blood Services



Refreshments will be served 10 minutes before the seminar
Seminar information: 604 822 7407

