

SÉMINAIRES ET CONFÉRENCES



Janusz Rak

The Research Institute of the McGill University Health Centre

« Oncogenes and extracellular vesicles »

Extracellular vesicles (EVs) constitute a unique form of cellular and intercellular regulation. EVs are membrane bound cellular fragments produced by a wide variety of cells through increasingly defined biogenetic pathways. These pathways are implicated in physical diversity of EVs and their molecular composition (lipids, proteins, RNA and DNA). In cancer, EVs play a role in several key processes including angiogenesis, regulation of myeloid and immune cells, blood clotting, metastasis and several others. Cancer EVs are unique in that oncogenic driver events influence all aspect of the EV-mediated cell-cell communication (biogenesis, heterogeneity, release, molecular content, uptake by target cells). This includes packaging of oncogenic proteins and nucleic acids into cancer EVs (oncosomes), which may result in new activities and in transfer of mutant macromolecules to target cells triggering quasi-transformation. Circulating EVs and their educated blood cells (platelets, leukocytes) carry oncogenic signals and are emerging as a liquid biopsy platform for molecular diagnosis of cancer. EVs are also actively pursued as carriers of anticancer drugs, biological modulators, therapeutics and targets in their own right. Thus, the ‘nanosecretome’ of cancer cells reflects and mediates the non-cell autonomous (interactive) consequences of oncogenic transformation and represents an emerging area of biological, diagnostic and therapeutic interest.



Le lundi 25 novembre 2019, 11h30

Faculté de médecine
Département de biochimie
et médecine moléculaire

Université 
de Montréal

Pavillon Roger-Gaudry

Salle : G-415

Gerardo Ferbeyre

Tél : (514) 343-7571 courriel G.ferbeyre@umontreal.ca

SÉMINAIRES ET CONFÉRENCES



Janusz Rak

The Research Institute of the McGill University Health Centre

« Oncogenes and extracellular vesicles »

Extracellular vesicles (EVs) constitute a unique form of cellular and intercellular regulation. EVs are membrane bound cellular fragments produced by a wide variety of cells through increasingly defined biogenetic pathways. These pathways are implicated in physical diversity of EVs and their molecular composition (lipids, proteins, RNA and DNA). In cancer, EVs play a role in several key processes including angiogenesis, regulation of myeloid and immune cells, blood clotting, metastasis and several others. Cancer EVs are unique in that oncogenic driver events influence all aspect of the EV-mediated cell-cell communication (biogenesis, heterogeneity, release, molecular content, uptake by target cells). This includes packaging of oncogenic proteins and nucleic acids into cancer EVs (oncosomes), which may result in new activities and in transfer of mutant macromolecules to target cells triggering quasi-transformation. Circulating EVs and their educated blood cells (platelets, leukocytes) carry oncogenic signals and are emerging as a liquid biopsy platform for molecular diagnosis of cancer. EVs are also actively pursued as carriers of anticancer drugs, biological modulators, therapeutics and targets in their own right. Thus, the ‘nanosecretome’ of cancer cells reflects and mediates the non-cell autonomous (interactive) consequences of oncogenic transformation and represents an emerging area of biological, diagnostic and therapeutic interest.



Le lundi 25 novembre 2019, 11h30

Faculté de médecine
Département de biochimie
et médecine moléculaire

Université 
de Montréal

Pavillon Roger-Gaudry

Salle : G-415

Gerardo Ferbeyre

Tél : (514) 343-7571 courriel G.ferbeyre@umontreal.ca