The Goodman Cancer Research Centre
Seminar Series 2016-17

Invited Seminar Speaker

Wednesday, March 1, 2017
4:00 PM – 5:00 PM
McIntyre Medical Building
Martin Amphitheatre, Room 504

Maxim Artyomov, PhD
Department of Pathology & Immunology,
Washington University School of Medicine,
St. Louis, USA

Systems immunology approach to understanding metabolic regulation of macrophage activation

Understanding that metabolites can have regulatory roles has changed the way we think about cellular metabolism. Recently, the critical regulatory potential of the metabolic rewiring for the innate and adaptive immune responses has also been recognized. Still, only a handful of natural metabolites have been unequivocally shown to play regulatory role in immune cells and overall fundamental understanding of the mechanisms regulating metabolic rewiring during immune response is still lacking. Our group was among the first to adopt a systems biology approach to study global metabolic rewiring in immune cells. We developed a method for network-based integration of high-throughput transcriptional and metabolic data, which proved to be a valuable tool both in macrophages and in cancer cells. Using this approach, we have identified the mechanistic basis of LPS-induced mitochondrial dysfunction (Immunity, 2015) and in our most recent work (Cell Metabolism, 2016), we followed up on our global reconstruction of metabolic remodeling and discovered a novel immunoregulatory role for the LPS-inducible metabolite itaconate.

STUDENTS: If you would like to attend a lunch with Dr. Artyomov, please send an email to: leah.donnelly@mcgill.ca

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