

Clinical Trials Program

Interrogation of Biomarkers in Patient Samples from a Phase Ib Trial of the Immune **Checkpoint Inhibitor, Avelumab, in Combination with SMAC Mimetic Debio1143**

April 23rd, 2018 to March 31st, 2021

Highlights

- The immunological impact of Debio1143 and Avelumab combination therapy has never been studied
- This combinatory clinical approach will introduce a new cancer treatment option for patients
- The results from this study will provide a deeper understanding of tumor biology, and result in identification of biomarkers for a more logical and scientific patient selection for Phase II and III trials





Understanding the immune mechanisms at play prior to and after exposure to the SMAC Mimetic Debio1143 with the anti-PD-L1 antibody Avelumab combination therapy to identify sensitive populations and biomarkers of efficacy that will drive further development.

from BioCanRx acilitia

\$19,867,177

Immunogenomics Core Facility

About the project

Recently, immunotherapy with immune checkpoint inhibitors (ICI) has profoundly impacted the management of many different cancers. While there is substantial clinical data to support ICI's efficacy in extending survival, this efficacy is variable across and within tumor types. Combination immunotherapy is an accepted future direction for improving outcomes but without appropriate predictive biomarkers, testing combinations of agents remains empiric with little chance of success. Furthermore, given the very high cost of approved ICIs, tailoring them to patients who will benefit is of utmost importance; especially in the context of a Canadian public health care system. Therefore, research characterizing the molecular and immunological profiles of tumors to identify the relevant indicators of efficacy will be clinically, scientifically, and economically beneficial.

Debio 1143 (SMAC

antibody)

Mimetic) and Avelumab

(checkpoint inhibitor

To execute the above strategy, the investigators have initiated a Canada-wide collaboration of scientists and clinicians, who each contribute expertise to the focus areas of immunology, genetics and programmed cell death. Collaborators include network investigators in three BioCanRx core facilities dedicated to genomic sequencing and immune cell characterization. Within these three fields of interest, we intend to characterize tumours, interrogate efficacy biomarkers and evaluate changes in biology upon exposure to drug in tumour samples from an ongoing Phase I clinical trial of SMAC mimetic Debio1143 with ICI Avelumab in patients with solid tumors and nonsmall cell lung cancer (NSCLC). Our assembled team of internationally renowned researchers have the experience and drive to guarantee this project's success.

Certainly, support from BioCanRx for this project will lead to improved cancer outcomes for Canadians

Molecular and **Cellular Immunology** Core (MCIC)

Human Immune Testing Suite (HITS)









Proiect lead: Dr. Glenwood GOSS

> **Co-Principal Investigators:** Dr. Harmanjatinder **Sekhon** Dr. Bryan Lo Dr. Jonathan **Bramson** Dr. Brad **Nelson**

> > Dr. Rob Holt

Clinical trial sites and investigators **Ottawa** The Ottawa Hospital Research Institute Vancouver/Victoria Dr. Glenwood Goss CHEO Research Institute BC Cancer Agency Dr. Robert Korneluk Dr. Robert Holt The Ottawa Hospital Dr. Brad Nelson Dr. Bryan Lo Dr. Janessa Laskin Dr. Daniel Renouf University of Ottawa Dr. Harmanjatinder Sekhon Hamilton McMaster University Dr. Jonathan Bramson **Edmonton** Dr. Rosalyn Juergens University of Alberta; Cross Cancer Institute **Montreal** McGill University **Partner contributions Debio** 1143-NSCLC-105 **Debiopharm International SA** Pfizer, EMD Serono, Merck KGaA Delivered \$17,737,400 \$1,350,000 June 16th, 2017 Aim 2 Assessment and evolution of neoantigen burden Aim 1 Immune profiling Aim 3 · Validation of identified biomarkers from human trial companion studies in murine models of cancer (including PDX tumors in humanized mice) The power to kill cancer lies within us. Let's tell our bodies how. Biothérapies pour le traitement du cancer