MONTREAL HEART INSTITUTE

AFFILIATED WITH Université de Montréal

Press release

UNDER EMBARGO: TUESDAY JUNE 4th 2019

The Montreal Heart Institute stands out for its excellence in research and receives a 15.4M$ grant from the Government of Quebec for two major projects in precision medicine

Montreal, June 4, 2019 – Pierre Fitzgibbon, Québec Minister of Economy and Innovation, announced today at the BIO International Convention held in Philadelphia (PA, USA), that Dr. Jean-Claude Tardif, Director of the Research Centre at the Montreal Heart Institute (MHI), received two grants from the Government of Quebec's *Fonds d'accélération des collaborations en santé* (FACS). Totalling $15.4 million, these grants will be used to lead two major projects worth more than $36.6 million to fight cardiovascular diseases, the number one cause of death worldwide. These grants dedicated to accelerating and strengthening Quebec partnerships will foster innovation in the strategic field of cardiovascular precision medicine and underline MHI's international recognition and leadership in this field.

More than $36.6 million investment thanks to impressive public-private partnerships

"We are very proud at the MHI to mobilize such a strong pan-Quebec and global network of renowned private and academic partners to bring to fruition these two innovative projects in precision medicine. The implementation of these projects has huge potential of benefits for patients, the healthcare system and the population of Quebec, as well as consolidating our position as world leaders in research and development in precision medicine. In addition, these projects will train the next generation of highly qualified personnel and researchers and create high-skilled jobs in cutting-edge sectors." said Dr. Jean-Claude Tardif, Director of the Montreal Heart Institute's Research Centre and full professor at Université de Montréal.

Other than the $15.4 million grant from the government, these major projects led by Dr. Tardif and his high-profile team of researchers were made possible thanks to investments from private partners totalling more than $21.2 million, including DalCor Pharmaceuticals, a company based in Quebec, global biopharmaceutical giants AstraZeneca and Bayer, biotechnological start-ups Monogenic Pharmaceuticals and JCT Biotechnologies and the MHI Foundation.

"The MHI and its dedicated team of physicians, researchers and professionals all contribute to our reputation of excellence which has allowed us to stand out as world leaders in the fight against cardiovascular diseases. The projects made possible by the FACS program will play a significant role in supporting our efforts to improve the health of patients living with or at risk of developing cardiovascular diseases. In addition, these projects attest of our international leadership in precision medicine research," said Mélanie La Couture, President and CEO of the Montreal Heart Institute.

Dr. Fouzia Laghrissi-Thode, CEO of DalCor Pharmaceuticals, praised these ambitious and innovative projects. “As a leader of cardiovascular precision medicine, DalCor is thrilled by this new partnership with the MHI. We owe the underlying discovery of our first dalcetrapib (CETP inhibitor) development program to the MHI’s Dr. Tardif and Dr. Dubé. Their research have demonstrated that patients with a specific genetic profile who presented an acute coronary syndrome responded very positively to dalcetrapib, with a 39% reduction in the risk of cardiovascular events. This discovery and the ongoing international clinical study (Dal-GenE) have the potential to pave the way to a new era of precision medicine drugs for cardiovascular diseases. We believe that this partnership with the MHI will also create major scientific breakthroughs that will have long-lasting and substantial effects on the public’s health,” she said.

Two innovative projects in precision medicine integrating artificial intelligence

Cardiovascular diseases remain the world’s leading cause of death and hospitalization and causes several significant extracardiac complications (dementia, for instance) in addition to sharing similar risk factors to multiple cancers.

The “ ***International Leadership in Precision Medicine Clinical Studies ”*** project holds great potential to make Quebec a global hub for clinical studies in precision medicine. The project aims to reinforce Quebec’s role as an international leader in clinical studies in cardiovascular precision medicine and extend this expertise to precision medicine studies in the fields of oncology (cancers) and neurology (cognitive impairment). Several analytical approaches will be used in this project, including pharmacogenomics and artificial intelligence. “These analyses will allow us to identify or confirm the value of therapeutic targets, assess their expected clinical benefits and guide the development of new, more personalized therapeutic treatment,” explained Marie-Pierre Dubé, Director of the Université de Montréal Pharmacogenomics Centre at the MHI.

The “ ***Curbing Atherosclerosis Through Precision Medicine*** ” project proposes to use precision medicine approaches to curb atherosclerosis and identify patients who better respond to future therapies making precision medicine more tangible. Genetic, pharmacogenomic, metabolomic and proteomic analyses will be performed to identify genetic markers and other biomarkers associated with the effects of treatments in subgroups of responding patients or those with a high risk of cardiovascular diseases. Molecular pathways responsible for these results will also be studied. Given that the main mediators of atherosclerosis vary across patients, our project proposes multifaceted precision medicine approaches to therapies targeting its major underlying mechanisms/components, like HDL lipoproteins, vascular inflammation, LDL lipoproteins and type 2 diabetes.

About the Montreal Heart Institute

Founded in 1954 by Dr. Paul David, the Montreal Heart Institute constantly aims for the highest standards of excellence in the cardiovascular field through its leadership in clinical and basic research, ultra-specialized care, professional training and prevention. The Montreal Heart Institute is one of the three best cardiology centres in the world. It has the first Prevention Branch in Canada, a cardiovascular genetics centre, and Canada’s first simulation-based education program focused on cardiology. The Institute is affiliated with the Université de Montréal and has more than 2,000 employees, including 245 CMDP doctors and more than 85 researchers. We practise more than 2,200 surgeries each year.

- 30 -

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