

BioCanRx, and partners, announce funding to manufacture first made-in-Canada CAR-T cells

Development of promising engineered T cell therapy part of \$11 million investment in 16 collaborative research projects in novel therapies to cure cancer

OTTAWA, ON – Wednesday, February 15, 2017, 10 a.m. ET - BioCanRx, and its partners, today announced funding for 16 collaborative research projects in novel therapies to cure cancer including research aimed at developing clinical Chimeric Antigen Receptor modified T cell (CAR-T) manufacturing capabilities in Canada. CAR-Ts are a powerful new tool for treating cancer and have begun to provide hope to patients without other therapeutic options to treat and cure their disease.

CAR-T cell therapy is on the cutting edge of cancer therapeutics and has shown promise in paediatric and adult patients with certain blood cancers such as acute lymphoblastic leukemia and lymphoma.

CAR-T is a promising technology, involving sophisticated manufacturing and expertise. Canada has the basic laboratory infrastructure in place and this new funding will help to fully develop the expertise and capacity required to deliver this technology. BioCanRx is investing in research projects advancing several innovative engineered T cell designs, which will further benefit from this infrastructure and capacity investment, and accelerate delivery of these novel concepts into clinical testing in Canada.

This Canadian capacity development will pave the way to enable Canadian patients to access this new technology, and will give Canadian researchers the necessary resources to deliver on their innovations in CAR-T and other engineered T cell platforms. This CAR-T manufacturing initiative is unique in that the Canadian academic community recognized a gap and stepped up to drive Canadian solutions to meet grassroots efforts taking place in the U.S., China and Europe.

BioCanRx has established an extensive network of investigators and core facilities across the country and is well positioned to bring CAR-T cell treatment to patients in Canada who are in dire need. Leading this capacity building for CAR-T therapies in Canada are Dr. Robert Holt, distinguished scientist, BC Cancer Agency, Head of Sequencing and Head of Quality Systems, Canada's Michael Smith Genome Sciences Centre, Professor, Medical Genetics, University of British Columbia and Professor, Molecular Biology and Biochemistry, Simon Fraser University; Dr. John Bell, Sr. Scientist, Centre for Innovative Cancer Research, Ottawa Hospital Research Institute, Professor, Departments of Medicine and Biochemistry, Microbiology & Immunology, University of Ottawa and Scientific Director, BioCanRx; John Webb, Scientist and Project Leader, BC Cancer Agency Deeley Research Centre and Adjunct Associate Professor, University of Victoria; Brad Nelson, Director, Deeley Research Centre, BC Cancer Agency among other researchers.



To help ensure CAR-T cell therapy is brought to patients safely and effectively, BioCanRx is funding a companion Clinical, Social, and Economic Impact project. It will review the existing base of knowledge and involve patient consultation to design a rigorous CAR-T clinical trial protocol ready to implement once the products are ready for a phase 1 clinical trial. Leading this project are Dr. Manoj Lalu, Associate Scientist, Assistant Professor, Clinical Epidemiology and Regenerative Medicine Programs, Ottawa Hospital Research Institute (OHRI), Department of Anesthesiology and Pain Medicine, University of Ottawa; Dr. Dean Fergusson, Director and Senior Scientist, Clinical Epidemiology Program, OHRI; Dr. Natasha Kekre, Assistant Professor, Associate Scientist, Hematologist, Blood and Marrow Transplant Program, OHRI, The Ottawa Hospital, University of Ottawa among other researchers.

Cancer is the leading cause of death in Canada and is responsible for 30% of all deaths. Two out of five Canadians (45% of men and 42% of women) are expected to develop cancer during their lifetimes. One out of four Canadians (29% of men and 24% of women) is expected to die from cancer. ([Canadian Cancer Society](#))

Biotherapeutics – including oncolytic viruses, adoptive cell therapy and therapeutic antibodies - are among the most promising cancer therapies to emerge in the last decade and are often referred to as a fourth pillar for cancer treatment. BioCanRx is building a research portfolio of these immunotherapies but what sets it apart is its commitment to combination therapies. Combining biotherapeutics approaches can amplify effectiveness and result in significantly better outcomes compared to the benefits of an individual biotherapy used on its own.

Today's funding announcement will support 16 national research teams comprised of researchers, clinicians and trainees working to find improved treatment options and outcomes for cancer patients. BioCanRx's funded partnerships will strengthen the coordination of research and resources in Canada to further develop a variety of cancer immunotherapy platforms. The research proposed could lead to significantly better outcomes for cancer patients and, potentially, curative approaches to their cancer.

Quick Facts:

- The teams receiving funding are successful applicants in BioCanRx's open funding call.
- Research projects funded by BioCanRx are evaluated through a rigorous peer review process conducted by the [Research Management Committee](#), which includes international academics and Canadian industry experts.
- Projects are selected based on their scientific excellence and their alignment with the network's collaborative mission.
- BioCanRx's research program invests in late-stage preclinical and translational research projects that will develop the most promising cancer biotherapies — therapies that are cost-effective, less toxic and, most importantly, potentially curative. BioCanRx also supports research into the social and economic issues surrounding the development of biotherapeutics.
- Since its inception in January 2015, BioCanRx is funding a total of 30 projects including three clinical trials. More information about these projects can be found on the [BioCanRx website](#).

- The next deadline for BioCanRx's open funding call is March 1, 2017. Full details can be found at BioCanRx's [Apply for funding](#) page.

Quotes:

"CAR-T technology is a new and exciting development that's really taken the world by storm. We know now that by taking T cells out of patients, and reengineering them as it were in a test tube, we can get them to have dramatic responses in some kinds of cancer patients. Unfortunately, in Canada, we don't have this technology available to us to be used widely across the country. So this funding will allow us to be in a position to manufacture this kind of product ourselves, get our own scientists engaged in being able to actually test their ideas, exploiting this new technology and, we hope, to bring something to the Canadian people much faster than it would be otherwise."

Dr. John Bell

Scientific Director, BioCanRx

"BioCanRx is committed to investing in collaborative research projects aimed at improving the health and lives of thousands of Canadians currently living with cancer. Collaboration is critical to ensuring better use of study results and providing a measurable difference. We are confident that this research will address existing gaps in moving this platform forward."

Ken Newport

Chair, BioCanRx Board of Directors

"The impact cancer is having on our population is devastating. While we have made enormous progress in treating cancer, much more needs to be understood about better ways to fight this disease and ultimately cure those afflicted. BioCanRx is committed to supporting research excellence and its translation into health benefits for Canadians. We hope to one day announce that there has been a significant reduction in deaths related to cancer thanks to research support by our network and partners."

Dr. Stéphanie Michaud

President and CEO, BioCanRx

"My congratulations to the sixteen national teams receiving funding through BioCanRx's research program. By advancing the field of immunotherapies, your work will ultimately be able to support innovative and promising new cancer treatments for Canadians."

The Honourable Jane Philpott

Canada's Minister of Health

"Canadian scientists are world-renowned for their research into how the body's immune system can be used to treat cancer. This emerging field of medical research has the potential to save lives as well as improve them. It also creates better jobs and opportunities for Canadians working in the life-sciences sector. The funding being allocated to Canadian research teams through BioCanRx will allow this promising research to move beyond laboratories and into clinics, where it can actually make a difference in people's lives. That's how innovation makes a better Canada."

The Honourable Navdeep Bains

Canada's Minister of Innovation, Science and Economic Development

"The use of CAR-T cells represents a significant and very recent advancement in cancer treatment and has become a powerful tool for converting incurable into curable. Unfortunately, the use of this therapy in Canada has been limited by our access to the product, forcing cancer patients to travel far and wide, usually outside Canada, to access this therapy in US clinical trials. A home grown Canadian solution is long overdue- BioCanRx has taken a bold step in ensuring this innovative new therapy is available for Canadians in Canada."

Patrick Sullivan

Childhood cancer advocate, President, Team Finn Foundation and founding member of Ac2orn (Advocacy for Canadian Oncology Research Network)

Link for fact sheets, video clips and photos:

<https://biocanrx.com/press-page>

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About BioCanRx – Biotherapeutics for Cancer Treatment

The BioCanRx network is accelerating to the clinic Canada's most promising and innovative cancer biotherapeutics designed to save lives and enable a better quality of life. BioCanRx invests in Canadian innovations and the best the field has to offer, always looking for a clear path to the clinic for the benefit of patients. BioCanRx works in partnership with industry, charities and other agencies to translate immune-based technologies from the lab into early phase clinical trials, and addresses socio-economic considerations necessary for their adoption by health-care systems. The network is developing and attracting the talent needed for a thriving health biotechnology sector in Canada. BioCanRx is provided funding from the federal government's [Networks of Centres of Excellence](#), and support from industry, the provinces and many national charities.