



Making life better
for Albertans facing cancer



Alberta Cancer
FOUNDATION


Immunotherapy



Next year, almost
17,000 new patients
will be diagnosed with
cancer in Alberta.

Despite advances in traditional
treatment—surgery, radiation
and chemotherapy—about
one-third of those patients
will still die from the disease.

**More must be done.
Together, we can help.**



Scientists and clinicians are realizing the solution to better survival rates will be a combination of traditional techniques with novel treatments. One of the most exciting developments in the last few years in the field of cancer is immunotherapy.

**Thanks to a world-class
immunotherapy partnership borne
here in Alberta, we can transform
treatment and improve outcomes
for patients.**

Together, with the Li Ka Shing Virology Institute, we have invested \$5.4 million in one of the most promising new cancer treatments in decades. The Alberta Cancer Foundation has committed \$2.4 million towards the overall goal and we invite you to be part of this opportunity.



Within 15 weeks of being on the clinical trial... Lorne received the news that his tumours had disappeared.

Lorne's Story

Cancer cells are good at playing tricks on the body's immune system in order to avoid attack. With immunotherapy, antibodies are used to supercharge the body's immune system which then suppresses a tumour's ability to evade detection.

Lorne Cochrane understands that science well. Diagnosed with Stage 4 lung cancer at the age of 53, Lorne thought he had run out of options when his body stopped responding to chemotherapy treatment.

With over 20 tumours filling his lungs, Lorne's oncologist delivered grave news: he likely had a year to live. Naturally, Lorne and his wife were devastated.

They started planning for the end of Lorne's life.

But just when he needed it most, Lorne was chosen to take part in a clinical trial at the Cross Cancer Institute in Edmonton, testing a new immunotherapy drug called nivolumab. This was the first immunotherapy drug to be approved for lung cancer treatment, and was different than any other treatment at the time. It gave his body a tool.

It didn't treat the cancer, but worked with his body's immune system to attack cancer cells that would normally be mistaken for healthy cells. Within 15 weeks of being on the clinical trial, and showing no side effects, Lorne received the news that his tumours had disappeared.

Thankfully, that was four years ago and Lorne has now been deemed cancer free. Lorne is healthy today, and living every day to its fullest with his family.

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Success of Immunotherapy

Lorne is one example of how well immunotherapy can work in some cancers, but there is so much more research to be done so we can have many success stories in different tumour types.

Immunotherapy is the leading edge of a wave of sophisticated new directions in cancer treatment that attack the disease with remarkable precision. It has led to an explosion in the number of options that are available, or soon might be.

To get those breakthroughs to patients faster, the Alberta Cancer Foundation has invested in a partnership that will allow researchers to harness the power of the immune system.

These drugs are also expected to be much more cost efficient than current alternatives.



The Team

Led by Dr. Khaled Barakat, this research team is developing novel small molecule drugs that will enable the body's own immune system to fight against their cancer.

Malignant tumours are smart. They disable the body's immune system by deactivating the T cells, which normally circulate in the blood, detect bad cells and then destroy them.

The research team will stimulate the T cells into naturally attacking the tumours with less risk of side-effects for the patient,

partly because the molecules are in the body for less time.

This work will unleash new, effective treatments that can target several cancer types and will have several advantages over current therapies, such as lower side effects. They will also be able to be taken orally, lowering the need for inconvenient and expensive hospital visits, and improving the quality of life for patients and families.

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We need your help to make it happen.

We need your help to make it happen. Together with researchers at the University of Alberta and world-renowned leaders in virology at the Li Ka Shing Virology Institute, Alberta is uniquely poised to make an impact in this field.

We invite you to be part of our \$2.4 million opportunity to transform research and accelerate the development of novel therapies towards improved patient outcomes.



How it Works

Another key player in the research is one of the world's fastest computers. This supercomputer will screen through millions of chemical compounds to identify the ones most likely to create the best response.

Then, the research team will develop these drugs so they work at their maximum capacity while lowering potential side effects. They will continue this cycle of computer modelling and lab testing until the drug reaches the best possible performance before testing in animal models.

Your Impact

Your investment will transform the way we treat Albertans facing cancer and those around the world. Here's how:

- Help identify potential drug compounds to be used
- Test the drugs in the lab
- Find the best possible therapy for patients, while lowering toxicity and side effects
- Start clinical trials to determine the best dosage and toxicity



Thank
you for
changing
lives.

We know we can't take on cancer with a single line of therapy.
We need multiple lines of treatment to make a real change.

**Join us in this transformational
investment where we can make
life better for Albertans facing cancer.**

When any Albertan hears the words you have cancer,
we offer three in return: We will help.



The Alberta Cancer Foundation is proud to be the official fundraising partner of all 17 Alberta Health Services cancer centres across Alberta.

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Cancer Centres

Cross Cancer Institute, Edmonton
Tom Baker Cancer Centre, Calgary

Regional Cancer Centres

Central Alberta (Red Deer), Grande Prairie, Jack Ady Cancer Centre (Lethbridge), Margery E. Yuill Cancer Centre, (Medicine Hat)

Community Cancer Centres

Barrhead, Bonnyville, Bow Valley, Camrose, Drayton Valley, Drumheller, High River, Hinton, Lloydminster, Fort McMurray, Peace River

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