



Enabling Studies for a First-in-Human Clinical Trial of BCMA-directed TAC-T Cells

Duration: 11/1/2024 to 4/1/2026

Targeted Cancer:

Multiple myeloma

Researchers are developing BCMA-directed TAC-T cells for the treatment of multiple myeloma. This therapeutic promises to be better tolerated by patients, reducing the cost and toxicity of cell therapy and potentially lengthening remission.

BioCanRx Funded Core Facility

> **The Ottawa** Hospital's **Biotherapeutics Manufacturing Centre**

Project value:

\$2,894,729

BioCanRx Contribution:

\$766,997

Biotherapeutic: Adoptive Cell Therapy

Partners

Key Investigators:

Project Lead:

Dr. Jennifer Quizi





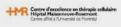
Dr. Jean-Sébastien **Delisle**



Jonathan Bramson





























About the project:

A promising new treatment strategy has emerged where white blood cells are removed from patients with multiple myeloma and modified in the laboratory to augment the white blood cells' ability to attack myeloma tumors. The modified white blood cells are administered back to the patient where they can mediate destruction of the myeloma leading to long-term remission of the disease and reduced treatment frequency. Two such white blood cell therapies are approved by Health Canada (ide-cel, cilta-cel). Enthusiasm for the approved cell therapies has been

tempered by severe toxicities, high cost of treatment and a variable duration of remission. This research team has developed a novel form of the modified white blood cells, called T cell antigen coupler (TAC) receptorengineered T cell (TAC T cell), which promises to be better tolerated by the patient. The team hypothesizes that the TAC T cells will offer patients a therapeutic option with reduced toxicity and provide an option for patients who cannot receive the approved white blood cell therapies. To test this hypothesis, the team has developed the "TACtful" early-phase

clinical trial which will be led by the Canadian Cancer Trials Group, and will involve clinics in Montreal, Ottawa, Hamilton and Calgary. With the BioCanRx funding, they will produce the clinical-grade reagents that are required to modify the white blood cells, develop a protocol for producing the clinical-grade modified white blood cells and prepare the documentation for approval to test this novel therapy in humans. These critical steps must be completed to deliver this promising new treatment to myeloma patients in Canada.



Partners:

C3i/CETC

Canadian Cancer Trials Group
Juravinski Research Institute
Kingston Health Sciences Centre
Lonza

Myeloma Canada/ Leukemia and Lymphoma Society Queen's University

Samuel Family Foundation

The Ottawa Hospital's Biotherapeutics Manufacturing Centre

Triumvira Immunologics

Total Pledged Partner Contribution: \$1,278,810

Total Pledged Matched Controbutions: \$1,278,810

Key Deliverable

- 1. GMP BCMA TAC Lentivirus manufacture
- Developed GMP protocol for manufacturing autologous BCMA TAC-T cell products
- 3. Safety and pharmacokinetic data sets for BCMA TAC-T cell products manufactured
- 4. CTA Submission (including CMC documents and Investigator Brochure): The ultimate deliverable will be the successful filing of the TACtful CTA to Health Canada

