

CAR T-Cell Therapy

CAR T-cell therapy engineers your body's immune cells to target cancer cells.

Highlights

- **Chimeric Antigen Receptor (CAR)** T-cell therapy is a new type of treatment for some blood cancers.
- CAR T uses your own immune cells (T-cells) to detect and kill cancer cells.
- CAR T-cell therapy is effective in some blood cancers that have not responded to other treatment.

Introduction - Your Immune System and Immunotherapy

CAR T-cell therapy is a type of immunotherapy. Immunotherapy uses agents that trigger your own immune system to fight cancer. CAR T-cells are only available if you meet certain

criteria and have not responded to other treatment. Your health care team will determine whether you are a candidate for CAR T-cell therapy.

Your immune system is your body's first defence against infection and cancer. It defends your body from foreign materials including bacteria, viruses and blood cancer cells. Your immune system recognizes when materials are foreign because they contain markers called antigens.

Your immune system is a network of different cell types. They work together to find and destroy infected or cancerous cells. Your lymphocytes are one part of this system. They are a type of white blood cell that fights foreign material and kills cancer cells.

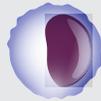
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There are three major types of lymphocytes:



T lymphocytes
(T-cells)

Different T-cells have different functions. Some T-cells help signal to your immune system that foreign materials are present. Some T-cells kill invading or infected cells in your body.



B lymphocytes
(B-cells)

B-cells are found in your lymph nodes, bone marrow and other parts of your lymphatic system. Your immune system signals B-cells to make antibodies that recognize and target antigens. When an antibody binds to an antigen on the surface of a cell, this also flags the cell for detection and destruction by other components of the immune system, like NK cells.



Natural killer
(NK cells)

NK cells also attack cancer cells and eliminate viruses.

Chimeric Antigen Receptor (CAR) T-Cell Therapy

The CAR T-Cell Therapy Process



Possible Side Effects of Treatment

Most side effects can be managed with medication. Careful monitoring of your condition after CAR T-cells are infused is important to minimize potentially severe side effects.

Cytokine-Release Syndrome (CRS) is a potential inflammatory response to CAR T-cell therapy. Symptoms typically look like mild to moderate flu symptoms. CRS can typically be treated with intravenous (IV) fluids and medication.

Neurological toxicities have been observed in the CAR T-cell treatment for some types of blood cancer. Common symptoms include speech impairment, confusion, delirium, involuntary muscle twitching, hallucinations or unresponsiveness.

Tumour Lysis Syndrome (TLS) happens when a large number of cancer cells die within a short period of time, such

as during chemotherapy. The cancer cells release their contents, such as uric acid, into the bloodstream. If you have a high white blood cell count when you start treatment, you may be at higher risk for TLS. Your medical team will monitor and identify your risk for TLS.

The Future of CAR T-Cell Therapy

CAR T-cell therapy is effective in some blood cancers that have not responded to other treatment options. Further research is underway to improve CAR T-cell therapy to advance cancer treatment and personalized medicine. Clinical trials are ongoing to expand the use of CAR-T therapy in more types of blood cancers. Talk to your doctor about whether CAR T-cell therapy is a good option for you.

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