

# A Review on CAR T-Cell Therapy

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**Abstract:** Chimeric Antigen Receptor (CAR) T-cell therapy is an innovative treatment strategy that involves modifying a patient's T-cells to better recognize and attack cancer cells. This therapy begins with the collection of T-cells from the patient's blood. These cells are then genetically engineered in the laboratory to express a chimeric antigen receptor that specifically targets antigens found on the surface of cancer cells. Once modified, the CAR T-cells are infused back into the patient, where they can proliferate and mount a robust immune response against the cancer. This approach has shown significant success, particularly in hematologic malignancies such as certain types of leukemia and lymphoma. However, CAR T-cell therapy is not without challenges. Patients may experience side effects, including cytokine release syndrome and neurotoxicity. Ongoing research aims to improve the efficacy and safety of this treatment, expand its use to solid tumors, and understand the long-term effects of CAR T-cell therapy. In summary, CAR T-cell therapy represents a ground breaking advancement in cancer treatment, harnessing the power of the immune system to fight cancer more effectively.

**Keywords:** Chimeric Antigen Receptor