CAR T Cell Therapy

Chimeric Antigen Receptor T cell therapy, or CAR T cell therapy, is an immunotherapy approach to treat cancer.

CAR T Cell Therapy Production

The production of CAR T cell therapy involves a number of steps.¹²

1. T cells, a type of white blood cell, are collected from a patient or a donor's blood.

2. The collected T cells are then sent to a laboratory where they are engineered to produce chimeric antigen receptors (CARs) on their surface. The engineered T cells are now called CAR T cells.

3. CAR T cells are multiplied in the lab and infused into the patient's bloodstream.

4. CAR T cells are intended to recognize and kill the cancerous cells that have the targeted antigen on their surface while also continuing to multiply within the body.

Approaches to CAR T Cell Therapy Development

There are two approaches to the production of CAR T cell therapy. More research is needed to better understand the potential benefits and disadvantages of each approach.

- **Allogeneic**
  - Allogeneic CAR T cells are engineered using T cells from a single donor that are utilized in multiple patients.
  - Healthy donor → CAR T cells → Patients

- **Autologous**
  - Autologous CAR T cells are engineered using a patient's own T cells.
  - Patient → CAR T cells

Pfizer is Actively Pursuing Allogeneic CAR T Cell Therapy

Through collaborations with Cellectis and Servier, Pfizer is actively investigating allogeneic CAR T cell therapies across several targets.

Cellectis’s CAR T platform technology provides a proprietary, allogeneic approach to developing CAR T cell therapies that seeks to make genetically-engineered immunotherapy treatments that could potentially be used by multiple patients.

The collaboration with Servier enables us to co-develop and potentially commercialize UCART19, an investigational allogeneic CAR T cell therapy.
