

Comparing NKX019 CAR NK Cells and CAR T Cells

NKX019 is an investigational CAR NK cell therapy, which is short for “chimeric antigen receptor natural killer cell therapy.” You may have heard of different types of CAR cells before, like CAR T cells.

CAR NK cells and CAR T cells are types of investigational treatments that are currently being researched for several autoimmune diseases. CAR NK cells and CAR T cells work differently in the body, as explained below.

Key Differences Between NKX019 and Autologous CAR T Cells

	NKX019 (Allogeneic CAR NK Cells)	Autologous CAR T Cells
 What is it?	Donated NK cells* are modified to fight against specific cells that cause disease. The modified cells (CAR NK cells) are then given to the patient as an intravenous (IV) infusion. <i>*A type of white blood cell in the immune system that naturally attacks harmful things in the body.</i>	A patient's own T cells* are modified to fight against specific cells that cause disease. The modified cells (CAR T cells) are then given to the patient as an IV infusion. <i>*A type of white blood cell in the immune system that can be activated to attack harmful things in the body.</i>
 Is apheresis necessary? <i>Apheresis is the process where your blood is drawn, and then the blood is separated into its components (e.g., plasma, platelets, white blood cells, red blood cells). This is done so that specific cells can be collected, and then the rest of the blood is returned back into your bloodstream.</i>	No. NKX019 cells are made from the blood of healthy adults who have donated their blood. The donor NK cells are then engineered to target harmful cells in the body.	Yes. After your blood is drawn, the T cells are removed. The T cells are then engineered to target harmful cells in the body.
 How long does it take to receive the cells?	NKX019 is available off-the-shelf and on-demand. It is being developed for outpatient (no hospital stay) administration.	The process of collecting and engineering your T cells typically takes several weeks and requires an inpatient hospital stay.
 What are some of the possible side effects? <i>A full list of potential side effects can be discussed with your doctor.</i>	Manageable infusion-related side effects may occur after receiving the cells.	There is a significant risk of CRS and ICANS. <i>Cytokine release syndrome (CRS) is a serious side effect that can cause fever, low blood pressure, and hypoxia (low oxygen levels in the body).²</i> <i>Immune effector cell-associated neurotoxicity syndrome (ICANS) is a serious side effect that can cause neurological symptoms such as confusion, speaking and language difficulties, and impaired motor skills.³</i>
 What else is involved?	Before receiving NKX019 or CAR T cells, you typically undergo a process called lymphodepletion. Lymphodepletion prepares your body for NKX019 or CAR T cells by reducing the number of immune cells in your body. This process may also have some risks, which should be discussed with your study team.	

References:

1. Dickinson, M., et al. “First in Human Data of NKX019, an Allogeneic CAR NK for the Treatment of Relapsed/Refractory (R/R) B-Cell Malignancies.” Frankfurt and Virtual, June 6, 2023. <https://www.nkartatx.com/file.cfm/75/docs/nkarta%20oha2023%20onkx019%20presentation%20s261%20dickinson.pdf>
2. pubmed.ncbi.nlm.nih.gov/30586620
3. ncbi.nlm.nih.gov/books/NBK584157

Nkarta is evaluating NKX019 for the treatment of multiple autoimmune diseases in their Ntrust-1 and Ntrust-2 clinical studies.

- **Ntrust-1** is enrolling patients with lupus nephritis or primary membranous nephropathy
- **Ntrust-2** is enrolling patients with systemic sclerosis, idiopathic inflammatory myopathy, or anti-neutrophil cytoplasmic antibody (ANCA)-associated vasculitis

Compensation: If you are eligible and choose to participate, you will receive NKX019 and health assessments from a team with expertise in caring for people living with autoimmune disease. Costs for travel, lodging, and meals will be covered when you and your care partner go to the study clinic. Compensation for study participation may also be available.

To learn more about these studies, visit NtrustStudy.com.