



Team Progress Updates

SU2C Meg Vosburg T-cell Lymphoma Dream Team: “Tailoring CAR-based Immunotherapy Strategies to T-cell Lymphoma”



Cancer immunotherapy—enabling the body's immune system to detect and destroy cancer cells—has had a tremendous impact on a wide range of cancers, including B-cell lymphomas. However, it has not yet been effective in those lymphomas that originate primarily from T cells. The scientific challenge is in finding a therapy that can attack the cancerous T cells while leaving normal cells intact, since T cells are essential to the body's immune system.

The SU2C Meg Vosburg T-cell Lymphoma Dream Team is testing engineered cells that carry molecules known as chimeric antigen receptors, or CARs, which can lock onto proteins on the surface of cancerous T cells and destroy them. Finding the best combination of CARs and engineered cell types is a key goal of the Dream Team. In addition, the team is working to modify the CAR-carrying cells so that they are not hindered by immune cells. This will help reduce the cancer and prepare patients for potential stem cell transplants to contain or cure the cancer. CAR therapy is usually custom-built for each patient. The team is trying to find a way to develop CAR cells on an “off-the-shelf” basis so the therapy will be more available to patients and less expensive.

This team is named in honor of Mary Margaret (Meg) Moretti Vosburg, a lifelong learner, educator and humanitarian, who died on May 26, 2018, after a hard-fought battle with lymphoma at the age of 51.

The team has reported the following progress:

January 2021

- The Team continued to accrue to CD30 CAR-T cells studies targeting T cell lymphoma at Baylor College of Medicine and at the University of North Carolina.
- The Team continued to accrue to a first-in-human study of CD30.CAR.CAR-T cells that also express CCR4 in patients with cutaneous T cell lymphoma at UNC.
- The Team opened a new study at Baylor where we are evaluating banked allogeneic EBV-specific cells genetically modified with a CD30 CAR that will be immediately available to patients.
- The Team discontinued the CPI 613 studies on the advice of their advisory board.

June 2020

- The Team confirmed the in vivo antitumor activity of 8 different CAR5 constructs containing different signaling and transmembrane domains in our NSG mouse model of CD5 lymphoma.
- The Team is further optimizing the CAR T-cell structure and developing a platform to enable manufacturing of banked CAR T-cells targeting both CD5 and CD7 antigens for the “off-the-shelf” therapy of T-cell lymphoma.
- The Team is beginning to investigate the effect of CPI-613 on CAR T-cell proliferation and cell-mediated cytotoxicity.

January 2020

- The Team performed testing required by the FDA for a study targeting CD7 that included gene editing.
- The Team started to develop banked allogeneic lines that might be immediately available to patients.
- The Team has collaborated to harmonize correlative studies in the trials and several preclinical studies to evaluate strategies to overcome tumor evasion strategies

June 2019

- The Team opened a new arm of a CD30 CAR-T cells study targeting T cell lymphoma at Baylor College of Medicine and submitted a new protocol targeting CD30 at the University of North Carolina.
- The Team performed laboratory studies to choose an optimal construct to target CD5 and evaluated strategies to overcome ways in which tumors can escape T cell responses.

