



THERAPEUTIC FOR KIDNEY CANCER

Immunotherapy for Renal Cell Carcinoma

Brief Technology Description

Cellular immunotherapy targeting 5T4 to treat renal cell carcinoma.

BUSINESS OPPORTUNITY

Exclusive license
Sponsored research

TECHNOLOGY TYPE

Engineered TCR
Immunotherapy
Therapeutic
Oncology
Immunology

STAGE OF DEVELOPMENT

Preclinical *in vitro*

PATENT INFORMATION

Patent pending

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Tech ID: 17-040
partnering@fredhutch.org
206-667-4304

Technology Overview

Researchers at Fred Hutch are focused on developing novel kidney cancer immunotherapies. One of the main targets of this research is 5T4, a well-characterized kidney cancer marker that is found on the surface of almost all kidney cancer cells and rarely in a healthy cell. Work has been completed to validate 5T4 as a potential target. The team is now developing genetically engineered T cells that recognize and attack 5T4-bearing cancer cells using an optimized T-cell receptor [TCR]. Their final goal is to provide a TCR-based immunotherapy for infusions of autologous T cells to treat kidney cancer. A recent clinical trial for a 5T4-based vaccine has shown no safety concerns from 5T4 being targeted by the immune system. The team's TCR immunotherapy approach offers an improvement to the vaccine approach. A vaccine will only work in a minority of patients that already possess T cells that recognize the specific markers in the vaccine, whereas the TCR immunotherapy approach provides all treated patients with an arsenal of properly-targeted T cells.

Applications

- Treatment of renal cell carcinoma

Advantages

- Provides all treated patients with an arsenal of properly-targeted T cells to fight their cancers

Market Overview

Kidney cancer is diagnosed in over 62,000 Americans each year and is the cause of 14,000 deaths. It is very difficult to cure once it has spread outside the kidneys. In 2016, the kidney cancer diagnostics and therapeutics market was valued at \$3.11 billion and expected to grow with a CAGR of 5.64% over the next five years.

Investigator Overview

Scott Tykodi, MD, PhD and **Edus Warren, MD, PhD**, Clinical Research Division