Chimeric Antigen Receptors (CARs) for Treating Lymphoma and Other Cancers

Summary (1024-character limit)

The National Cancer Institute seeks licensees for a chimeric antigen receptor (CAR) that recognizes human tumor necrosis factor receptor superfamily member 8 (TNFRSF8, also known as CD30).

NIH Reference Number

E-001-2016

Product Type

- Therapeutics

Keywords

- CAR
- adoptive cell therapy
- CD30

Collaboration Opportunity

This invention is available for licensing and co-development.

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Description of Technology

Chimeric antigen receptors (CARs) are hybrid proteins that consist of two major components: a targeting domain and a signaling domain. The targeting domain allows T cells which express the CAR to selectively recognize and bind to diseased cells that express a particular protein. Once the diseased cell is bound by the targeting domain of the CAR, the signaling domain of the CAR activates the T cell, thereby allowing it to kill the diseased cell. This is a promising new therapeutic approach known as adoptive cell therapy (ACT).

Researchers at the NCI Experimental Transplantation and Immunology Branch developed a CAR that recognizes human tumor necrosis factor receptor superfamily member 8 (TNFRSF8, also known as CD30). The expression of CD30 is deregulated in a variety of human cancers, including many lymphomas. By creating a CAR that recognizes CD30, it may be possible to treat these cancers using adoptive cell therapy.

NCI Technology Transfer Center   https://techtransfer.cancer.gov/pdf/e-001-2016.pd
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Potential Commercial Applications

- Treatment of human cancers associated with expression of CD30 or variants thereof
- Specific cancers include: Non-Hodgkins Lymphomas, Hodgkin's Lymphomas, several solid malignancies

Competitive Advantages

- Human components are less likely to cause adverse or neutralizing immune response in patients
- Targeted therapies decrease non-specific killing of healthy cells and tissues, resulting in fewer off-target side-effects and healthier patients

Inventor(s)

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Development Stage

- Pre-clinical (in vivo)

Patent Status

- **U.S. Patent Filed:** U.S. Patent Application Number 62/241,896, Filed 15 Oct 2015

Therapeutic Area

- Cancer/Neoplasm