Fred Hutch Cancer Center

NKG2D Biologic to Reduce Immune Cell Activation

Business Opportunity

Exclusive license
Non-Exclusive License
Sponsored research

Technology Type

Therapeutic, Biologic, Protein, Oncology, Gynecology, Ovarian Cancer

State of Development

Pre-Clinical In Vivo

Patent Information

Issued US patent 10,815,290

Investigator

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Tech ID

16-006

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Brief Description

A multimeric decoy to block activation of NKG2D and treat autoimmune and inflammatory diseases, and for use in vaccine development.

Technology Overview

Dr. Roland Strong and Dr. Martin Prlic have developed a multimeric NKG2D decoy that will bind all NKG2D ligands and block the NKG2D pathway. NKG2D is a receptor expressed by immune cells which activates the immune cell upon ligand binding. While stimulation of NKG2D can be beneficial in some circumstances, its activation is associated with several autoimmune and inflammatory diseases such as rheumatoid arthritis, inflammatory bowel disease, and graft versus host disease (GVHD). NKG2D stimulation can also dampen the effectiveness of vaccine administrations. Blocking NKG2D stimulation can reduce immune cell activation as a treatment for autoimmune diseases, and for increasing vaccine efficacy.

Applications

- Therapeutic for autoimmune and inflammatory diseases
- Vaccine development

Advantages

- Blocks NKG2D immune response
- Pan-NKG2D ligand masking through multiple ligand binding positions allows for lower dose with single therapeutic, in contrast with antibody-based therapeutics.

Market Overview:

- The market for ovarian was valued at USD $2 billion in 2021, and is predicted to grow upto USD 11.8 billion by 2029.