Antibodies That Stimulate Nk Cell-Mediated Cytotoxicity

Tech ID: 33603 / UC Case 2021-220-0

TECHNOLOGY DESCRIPTION

Current cancer therapies often have limitations such as off-target effects, development of resistance, and limited efficacy against certain cancer types. There is a pressing need for therapies that can specifically target cancer cells and enhance the body's natural immune response against these malignant cells.

The inventors have developed a bispecific antibody therapy that targets Natural Cytotoxicity Triggering Receptors (NCR1, NCR3) or CD-16 on Natural Killer (NK) cells and a specific antigen on the cancer cell. This therapy will enhance the cytotoxic response of NK cells towards the cancer cells, leading to targeted cell death. Bispecific targeting of NCR3 presents a novel opportunity to potently activate NK cells, thereby enhancing the antitumor immune responses.

RELATED MATERIALS

- A functional mammalian display screen identifies rare antibodies that stimulate NK cell-mediated cytotoxicity - 08/03/2021

DATA AVAILABILITY

The inventors have developed a functional screen to identify antibodies that can activate NK cells. From this screen, antibodies specific for NCR1, NCR3, and CD-16 were identified. These antibodies bound with high affinity to NK cells, and the subsequent development of bispecific antibody constructs showed successful redirection of NK cell-mediated cytotoxicity towards CD20+ B cell lymphomas and HER+ breast cancer cells.

PATENT STATUS

Country	Type	Number	Dated	Case
Japan	Published Application	2024-522180	06/11/2024	2021-220

CONTACT

Gemma E. Rooney

Gemma.Rooney@ucsf.edu

tel: 415-625-9093.

OTHER INFORMATION

KEYWORDS

NK Cell, Bispecific Antibody, NCR1, NCR3, CD16

CATEGORIZED AS

- Medical
  - Disease: Cancer
  - Therapeutics

RELATED CASES

2021-220-0

Additional Patents Pending

ADDRESS

UCSF

Innovation Ventures

600 16th St, Genentech Hall, S-272,

San Francisco,CA 94158

CONTACT

Tel:

innovation@ucsf.edu

https://innovation.ucsf.edu

Fax:

CONNECT

Follow Connect