A Novel Approach to Overcome T Cell Exhaustion for Enhanced Anti-Tumor Activity

Tech ID: 34375 / UC Case 2023-075-0

TECHNOLOGY DESCRIPTION

Our cutting-edge therapeutic platform utilizes CRISPR/Cas gene-editing technology to engineer modified T-cells with superior cytotoxicity and endurance, even under chronic tumor stimulation. This innovative approach addresses the critical challenge of T-cell exhaustion, which limits the efficacy of conventional immuno-oncology therapies. The platform is highly versatile, enabling the modification of various T-cell subtypes, including CD8+ T cells, CD4+ T cells, gamma delta T cells, and memory T cells, to create a robust and adaptive anti-tumor response.

Competitive Advantages

- **Enhanced Functionality:** Modified T-cells exhibit improved effector function and persistence, overcoming the limitations of T-cell exhaustion in chronic tumor environments.
- **Precision Gene Editing:** Leveraging CRISPR/Cas technology ensures precise, efficient, and targeted modifications, optimizing T-cell performance.
- **Versatile Platform:** The ability to modify multiple T-cell subtypes allows tailored therapies for diverse tumor profiles and indications.
- **Preclinical Proof-of-Concept:** Demonstrated increased tumor killing and persistence in HER2 and BCMA CAR-T in vitro models, along with enhanced multiple myeloma burden control in BCMA CAR-T in vivo models.

STAGE OF DEVELOPMENT

Preclinical proof of concept

RELATED MATERIALS

PATENT STATUS

Patent Pending

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OTHER INFORMATION

KEYWORDS

T Cells, CAR T, Multiple Myeloma

CATEGORIZED AS

- Medical
  - Disease: Cancer
  - Therapeutics

RELATED CASES

2023-075-0

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